

**SPECIFICATIONS FOR
WHARF REHABILITATION
GROS CAP, ON**



Department of Fisheries & Oceans
Small Craft Harbours Branch
Burlington, ON

2021

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
01 11 05 – General Instructions	3
01 35 29 – Health and Safety Requirements.....	8
01 35 43 – Environmental Protection - Dredging	12
01 52 00 – Temporary Facilities	15
01 45 00 – Quality Control	17
01 77 00 – Closeout Procedures.....	19
02 41 13 – Selective Site Demolition.....	21
05 55 00 – Metal Fabrications	23
06 05 73 – Wood Treatment	26
31 23 33 - Excavating, Trenching And Backfilling.....	28
31 32 19 - Geotextiles.....	31
31 53 13 – Timber wharf work	33
35 20 23 – Dredging	37
35 59 11 – Floating Wharf Fabrication.....	43

Appendices

A – Lab results Sediment Sampling

01 11 05 – GENERAL INSTRUCTIONS

Part 1 General

1.1 DESCRIPTION OF WORK

- .1 The work site described in this specification is Gros Cap, ON. Gros Cap is located at the east end of Lake Superior approximately 15 kilometres West of Sault Ste. Marie, Ontario (See Chart of Location on Drawing MA-01).
- .2 The work under this contract covers the following:
 - .1 Timber Wharf Repairs
 - .1 Select removal of timber decking, pilings, curbing, risers, blocking, stringers and fenders as indicated on drawings from:
 - .1 Loading Dock
 - .2 Wharf Extension
 - .3 Main Wharf between stations 0+000 and 0+032.78
 - .2 Supply and installation of new timber decking, curbing, blocking, select stringers, and fenders.
 - .3 Dredging of the existing harbour basin. Area A and optional Area B
 - .4 Excavation adjacent to the inshore portion of Main Wharf, installation of geotextile, and filling of sinkholes.
 - .2 Wharf Replacement
 - .1 Selective Removal of all timber cribwork, decking, curbing, riser blocks, stringers from
 - .1 Main Wharf between stations 0+032.78 and 0+056.85.
 - .2 Salvage of existing ballast rock for reuse.
 - .3 Supply and install new timber cribwork, stone mattress, ballast, stringers, decking, fenders etc.
 - .3 Floating Dock Replacement (Optional Item)
 - .1 Removal and Disposal of Existing Floats
 - .2 Supply and Installation of New Floating Docks including new moorings and reconnection to existing anchors
 - .3 Replacement of Timber Decking on Float Anchor Cribs
- .4 The work to be done by the Contractor under this Contract shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, insurance, and all things necessary for and incidental to the satisfactory performance and completion of all work as specified herein. All work to be done in accordance with details shown on the accompanying plans as specified herein.

1.2 DEFINITIONS

- .1 The word, "provide", means "supply and install".
- .2 For purposes of this contract, "Departmental Representative", "Architect/Engineer" and "Engineer" shall have the same meaning.

1.3 **WORK SCHEDULE**

- .1 Provide within 10 working days after Contract award, schedule showing anticipated progress stages and final completion of work within time period required by contract documents.
- .2 Interim reviews of work progress based on work schedule will be conducted as decided by Engineer and schedule updated by Contractor in conjunction with and to approval of Engineer.
- .3 Work under this contract is to be performed to completion in a timely manner. Commence planning and preparatory work immediately upon receipt of official notification of acceptance of Contract and schedule the work so that the project will be complete within the specified time frame.
- .4 Work sequence:
 - .1 Before work is undertaken, ensure that all materials and trades required are available to finish work in as short a period as possible.
 - .2 No area to be renovated shall be placed out of service until it is confirmed that there shall be no need to stop the work waiting for receipt of materials, equipment or labour.

1.4 **CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.

1.5 **FEES, PERMITS AND CERTIFICATES**

- .1 Provide authorities having jurisdiction with information requested.
- .2 Pay fees and obtain certificates and work permits required.
- .3 Furnish certificates and permits when requested.

1.6 **MEASUREMENT FOR PAYMENT**

- .1 Notify Engineer sufficiently in advance of operations to permit required measurements for payment.
- .2 Submit to Engineer, at least 14 days before Information for first application for payment; cost breakdown, Progress Payment in detail as directed by Engineer, for parts of Work, aggregating total amount of Contract Price, so as to facilitate evaluation of applications for payment. After approval by Engineer, cost breakdown will be used as basis for progress payments.

1.7 **INTERPRETATION OF DOCUMENTS**

- .1 In the event of discrepancies or conflicts in interpreting the Plans (drawings) and Specifications, Specifications take precedence over drawings bound with specifications.
- .2 Drawings and specifications are complementary. When work is shown or mentioned on the drawings but is not indicated in the specifications, or when work is indicated in the specifications but is not shown or mentioned on the drawings, it shall nevertheless be included in the Contract.
- .3 The sub-division of the Specification into sections, identified by title and number, is for convenience only and does not modify the singularity of the document, nor does

it operate to make or imply that the Engineer is an arbiter to establish the limits or extent of contract between Contractor and Subcontractors or to determine the limits or extents of work that may be decided by trade unions or contractors' organizations. Extras to the Contract will not be considered on the grounds of differences in interpretation of the Specification and/or Drawings as to which trade performs the work.

- .4 Do not scale off drawings.

1.8 **CONTRACTOR'S USE OF SITE**

- .1 Co-ordinate use of premises under direction of the Engineer.
- .2 Do not unreasonably encumber the site with materials and equipment.
- .3 Assume full responsibility for protection and safekeeping of products under this Contract.
- .4 Move stored products or equipment which interferes with operations of Engineer or other harbour users.
- .5 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .6 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .7 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Engineer.
- .8 At completion of operations condition of existing work: equal to or better than that which existed before new work started.
- .9 Hoard-off construction site with suitable safety fences and signage to prevent access to the construction area by public.

1.9 **EXISTING SERVICES – (MAY NOT BE APPLICABLE)**

- .1 Establish location and extent of service lines in area of work, if there are any services (none anticipated) before starting work. Notify Engineer of findings.

1.10 **DOCUMENTS REQUIRED**

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

1.11 **CODES AND STANDARDS**

- .1 Perform work in accordance with National Building Code of Canada (NBC) and any other code of provincial or local application. In any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Work to meet or exceed requirements of contract documents, specified standards, codes and referenced documents.

1.12 **PROJECT MEETINGS**

- .1 Engineer will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

1.13 **SETTING OUT OF WORK**

- .1 Engineer will provide only those survey control points and set such stakes as necessary to define general location, alignment and elevations of work. Give engineer reasonable notice of requirements for such control points and stakes.
- .2 Set grades and lay out work in detail from control points and grades established by Engineer.
- .3 Provide devices needed to lay out and construct work.
- .4 Supply such devices needed to lay out and construct work.
- .5 Supply such devices as straight edges and templates required to facilitate Engineer's inspection of work.
- .6 Supply stakes and other survey markers required for laying out work.

1.14 **ADDITIONAL DRAWINGS**

- .1 Engineer may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in Contract documents.
- .2 When additional drawings and instructions are required by the Contractor, provide reasonable notice in writing to the Engineer in advance of the date they are required.

1.15 **EXAMINATION**

- .1 Before submitting tender, examine existing conditions and determine conditions affecting work.
- .2 Obtain all information which may be necessary for proper execution of Contract.

1.16 **SITE INSPECTION**

- .1 The submission of a tender is deemed to be a confirmation of the fact that the Tenderer has inspected the site and is fully conversant with all the conditions under which the work is to be carried out.

1.17 **MATERIAL AND EQUIPMENT**

- .1 Use new products unless otherwise specified.
- .2 Deliver and store material and equipment to manufacturer's instructions with manufacturer's labels and seals intact.

- .3 When material or equipment specified by standard performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.

1.18 **SECURING WORK AREA**

- .1 Secure the work areas in each stage in an approved manner. This includes fencing or barricades to prevent public access to any areas where construction activities occur and construction materials are stored.

1.19 **DRAWINGS**

- .1 The following drawings are to be read in conjunction with this specification:
 - .1 MA-01 to MA-06

1.20 **DATUM**

- .1 Chart datum for Lake Superior is 183.20 metres I.G.L.D. (1985).

1.21 **OVERLOADING**

- .1 No part of Work shall be loaded with load which will endanger its safety or will cause permanent deformation.
- .2 Repair to original condition any part of work damaged due to overloading at no cost to Engineer.

1.22 **TAXES**

- .1 Pay applicable Federal, Provincial and Municipal taxes.

Part 2 Products

2.1 **NOT USED**

- .1 Not Used.

Part 3 Execution

3.1 **NOT USED**

- .1 Not Used.

END OF SECTION

01 35 29 – HEALTH AND SAFETY REQUIREMENTS

Part 1 General

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
 - .1 The Occupational Health and Safety Act and Regulations for Construction Projects, revised statues of Ontario 1990, Chapter 0.1 as amended, O.Reg. 213/91 as amended by O.Reg. 631/94, O.Reg. 143/99, O.Reg. 571/99, O.Reg. 145/00, O. Reg.527/00. R.R.O. 1990, Reg. 834, 0. Reg. 278/05 (Asbestos – Construction), O. Reg. 845/90 (Silica) as amended by O. Reg. 521/92 and O. Reg. 391/00.
 - .2 Workplace Safety and Insurance Act, 1997.
 - .3 Municipal statutes and authorities.

1.2 SUBMITTALS

- .1 Submit site-specific Health and Safety Plan: Within 10 days after date of Notice to Proceed and prior to commencement of Work. Plan 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 Measures and controls to be implemented to address identified safety hazards and risks.
 - .4 Provide a Fire and Safety Plan in accordance with NBC, subsection 8.2.3 prior to commencement of work. Deliver two copies of the Fire Safety Plan to the Engineer not later than 14 days before commencing work.
 - .5 Contractor's and Sub-contractors' Safety Communication Plan.
 - .6 Contingency and Emergency Response Plan addressing standard operating procedures specific to the project site to be implemented during emergency situations.
- .2 Submit copies of incident and accident reports to Engineer.
- .3 Engineer will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor after receipt of plan. Revise plan as appropriate and resubmit plan to Engineer within 5 days after receipt of comments from Engineer.
- .4 Engineer's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .5 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
- .6 Submit records of Contractor's Safety Meetings when requested.
- .7 Submit 2 copies of the Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative, when requested.

- .8 Submit copies of reports or directions issued by safety inspectors of authority having jurisdiction.
- .9 Submit names of personnel and alternatives responsible for site safety and health.
- .10 Submit WSIB – Workplace Safety and Insurance Board, Experience Rating Report for Province of Ontario.
- .11 Submit Material Safety Data Sheets (MSDS) to Engineer.

1.3 **FILING OF NOTICE**

- .1 File of Notice of Project with Provincial authorities prior to commencement of work.

1.4 **SAFETY ASSESSMENT**

- .1 Perform site specific safety hazard assessment related to project.

1.5 **MEETINGS**

- .1 Pre-construction meeting: schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of work.

1.6 **GENERAL REQUIREMENTS**

- .1 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. Health and Safety Plan must address project specifications.
- .2 Observe and enforce construction safety measures required by Canadian Construction Safety Code, Provincial Government, Worker’s Compensation Board and municipal statutes and authorities.
- .3 In the event of a conflict between any provisions of above, authorities having the most stringent provision will apply.

1.7 **REGULATORY REQUIREMENTS**

- .1 Comply with Acts and regulations of the Province of Ontario.
- .2 Comply with specified standards and regulations to ensure safe operations at site.
- .3 In event of conflict between any provisions of specified standards and regulations, the most stringent provision governs.

1.8 **COMPLIANCE REQUIREMENTS**

- .1 Comply with Ontario Occupational Health and Safety Act. R.S.O. 1990 Chapter 0.1, as amended.

1.9 **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 Plan.

1.10 **UNFORESEEN HAZARDS**

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, immediately stop work and advise Departmental Representative verbally and in writing.
- .2 Follow procedures in place for Employees Right to Refuse Work as specified in the Occupational Health and Safety Act for the Province of Ontario.

1.11 **HEALTH AND SAFETY CO-ORDINATOR**

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

1.12 **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 Departmental Representative verbally and in writing.

1.13 **CORRECTION OF NON-COMPLIANCE**

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

1.14 **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 Assign responsibility and obligation to Competent Supervisor to stop or start Work when, at Health and Safety Coordinator's Competent Supervisor's discretion, it is necessary or advisable for reasons of health or safety. Departmental Representative may also stop Work for health and safety considerations.

1.15 **BLASTING**

- .1 Blasting or other use of explosives is not permitted.

Part 2 Products

2.1 **NOT USED**
 .1 Not Used.

Part 3 Execution

3.1 **NOT USED**
 .1 Not Used.

END OF SECTION

01 35 43 – ENVIRONMENTAL PROTECTION - DREDGING

Part 1 General

1.1 MEASUREMENT FOR PAYMENT

- .1 No separate measurement will be for work of this section. Work is incidental to the project cost.

1.2 GENERAL

- .1 The material to be dredged is classified as course sands, cobbles, gravels and is not contaminated. Results are attached in Appendix A.
- .2 Conduct Work in accordance with the Letter of Advice issued by the Department of Fisheries and Oceans Canada.

1.3 DISPOSAL OF MATERIALS

- .1 Dispose of dredged material upland and off Site.

1.4 DREDGING SCHEDULE RESTRICTIONS

- .1 Due to Fisheries' concern in this area, no dredging will be permitted at this location between March 31st and June 30th.

1.5 FIRES

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

1.6 DRAINAGE

- .1 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .2 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.7 WORK ADJACENT TO WATERWAYS

- .1 Construction equipment may not enter the lake unless the lake is frozen. If construction equipment will be located on the frozen surface of the lake, it will be removed from the lake each night if the on-ice component of the project spans more than one day.
- .2 Construction equipment will enter and leave the lake at such a location and in such a manner that disturbance to the lakeshore is minimal.
- .3 Every effort will be made to minimize the introduction of sediment to the lake during on ice work activities. Any sediment tracked onto the ice during the project must be cleaned off at the end of the project. This includes any ice that needs to be removed from the shoreline to accommodate stabilization works. All material used for shoreline stabilization will be clean and free of silt and clay.

- .4 Do not use waterway beds for borrow material.
- .5 Waterways to be free of excavated fill, waste material and debris.
- .6 Design and construct temporary crossings to minimize erosion to waterways.
- .7 Do not skid logs or construction materials across waterways.
- .8 Avoid damage to shoreline.
- .9 Supply, install, and maintain approved erosion control blankets to unprotected slopes until re-vegetation is established.
- .10 Any impacts below ordinary high water mark that are not shown on the site plan are not permitted without written approval from the Engineer. Up to 30 days may be required for approval.
- .11 Protect shoreline with a build-up of snow.
- .12 Reclaim and restore disturbed areas to previous or better condition.
- .13 Areas used for stockpiling construction materials, including fill or other equipment storage will be well back from the edge of the water body and, if possible, in areas which have already been disturbed or are devoid of vegetation.
- .14 All required machinery should be supplied with appropriate spill containment kits as a precaution in the event of accidental fuel spills or hydraulic leaks. Additional kits should be available on site with the capacity to contain any spills of deleterious substances that may be reasonably expected to occur. Contractors should ensure that all personnel are familiar with the spill kits.
- .15 The Contractor shall report spills of fuels or other contaminants to the Engineer.
- .16 The Contractor shall not remove, destroy or disturb species pursuant to Provincial Threatened Endangered and Extirpated Species regulation, or species listed in the federal Species At Risk Act.
- .17 The Contractor shall not disturb migratory bird nests.

1.8 **POLLUTION CONTROL**

- .1 Control emissions from equipment and plant to local authorities' emission requirements.
- .2 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.
- .4 Locate temporary fuel storage 100 metres from shore and comply with Provincial Environmental Legislation, as well as Land Owner's express approval in writing.
- .5 Refueling, servicing, or cleaning of equipment on ice or within 100 metres of shore is prohibited. Contractor to ensure all equipment operating on project is free of external fluid leaks, grease, oil, and mud.
- .6 Contractor to contain all oil leaks from equipment working adjacent to waterways.
- .7 No maintenance of vehicles or equipment in construction areas.
- .8 Use drip pans to catch leaking oil from compressors, pumps, etc.

1.9 **DISPOSAL OF WASTES**

- .1 Do not bury rubbish and waste materials on site unless approved by Engineer.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways. Hazardous wastes including fuels, oils and lubricants to be disposed of by a licensed hazardous waste carrier/handler in accordance with Provincial Environment Legislation.
- .3 Collect all rubbish and waste material and dispose of in accordance with applicable governing authorities.
- .4 Do not allow debris of any type to enter waterway.

1.10 **PLANT PROTECTION**

- .1 Protect trees and plants on site and adjacent properties.
- .2 Avoid disturbance of topsoil and vegetation unless otherwise specified. Contractor is responsible to restore all impacted areas to original state.

1.11 **VERTICAL SILT CURTAIN**

- .1 Contractor to isolate the work area from the lake with an approved silt curtain to prevent the drift of sediment from the work area into the lake as required. The silt curtain must extend from the top of the ice/water to within 300mm of the lake bottom. The silt curtain must be left in place until all suspended sediments are settled out. On completion of the project carefully remove silt curtain to ensure settled sediment is not disturbed. An acceptable product is "Tough Guy" Type 1E Turbidity Barrier or approved equivalent. Costs for supply, installation, maintenance, and removal to be included in lump sum costs for the project.
- .2 Construction shall be monitored to ensure that the mitigation measures are effective at containing the sediment to the construction area. Adjustments may have to be made to get the containment to function properly.

Part 2 Products

2.1 **NOT USED**

- .1 Not Used.

Part 3 Execution

3.1 **NOT USED**

- .1 Not Used.

END OF SECTION

01 52 00 – TEMPORARY FACILITIES

Part 1 General

1.1 ACCESS

- .1 Provide and maintain adequate access to and exit from project site.
- .2 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.
- .3 Make good damage to any existing land, roads, vegetation or structures resulting from Contractor's equipment and operations. Restore to original condition at no additional cost to Engineer.

1.2 CONSTRUCTION STAGING AND PARKING

- .1 One permanent construction staging area has been identified and illustrated on the Contract Drawings.

1.3 OFFICES

- .1 Provide a climate controlled office for use by the Departmental Representative complete with lighting and ventilation, of sufficient size to accommodate site meetings, and furnished with desk, chairs and laydown table.
- .2 Subcontractors may provide their own offices as necessary.

1.4 SITE POWER

- .1 Power is currently fed to the site at a local hydro pole. A previous service to the Building has been disconnected. Temporary service for site trailers could be accommodated by the local power authority.
- .2 Contractors will be responsible for their power needs.

1.5 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in Facilities accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.6 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site upon completion of work unless otherwise directed by Engineer

1.7 MEASUREMENT PROCEDURES

- .1 Providing and maintaining access and exits to the project site, site offices, site enclosures and sanitary facilities for work force will not be measured separately for payment, but shall be considered included in the general project costs.

Part 2 Products

2.1 **NOT USED**

.1 Not used.

Part 3 Execution

3.1 **NOT USED**

.1 Not used.

END OF SECTION

01 45 00 – QUALITY CONTROL

Part 1 General

1.1 INSPECTION

- .1 Allow Engineer access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Engineer.
- .3 Engineer will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.2 INDEPENDENT INSPECTION AGENCIES

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

1.3 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

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

1.5 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage - whether incorporated in Work or not - which has been rejected by Engineer as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Engineer it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Engineer.

Part 2 Products

2.1 **NOT USED**

- .1 Not Used.

Part 3 Execution

3.1 **NOT USED**

- .1 Not Used.

END OF SECTION

01 77 00 – CLOSEOUT PROCEDURES

Part 1 General

1.1 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: Contractor to conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .2 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Engineer.
 - .2 When Work is deemed incomplete according to Engineer, complete outstanding items and request re-inspection.
 - .3 Final Payment:
 - .1 When Engineer considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .4 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.2 FINAL CLEANING

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

1.3 RECORD DRAWINGS

- .1 Maintain project “as-built” record drawings and record accurately significant deviations from Contract documents caused by site conditions and changes ordered by Engineer.
- .2 Mark “as-built” changes in red coloured ink.
- .3 Record the following information:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by Change Order or Field Order.
- .4 At completion of project and prior to final inspection, neatly transfer “as-built” notations to second set and submit both sets to Engineer.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

02 41 13 – SELECTIVE SITE DEMOLITION

Part 1 General

1.1 DESCRIPTION

- .1 Removal and disposal of wharf timber superstructure components and complete areas of cribwork timbers as indicated on the contract documents.
- .2 During deck removals existing stringers and cribwork will be inspected for reuse and replacement locations will be determined.
- .3 Carefully remove and store mooring cleats, and designated timber stringers in serviceable condition.
- .4 Separate salvage and store ballast rock from outer cribs after removal, and from surrounding lakebed.
- .5 Excavate areas to grade adjacent to marginal section of Main Wharf. Stockpile native fill for reinstallation.

1.2 MEASUREMENT FOR PAYMENT

- .1 Mobilization, demobilization, all materials and work required for the demolition, removal and disposal of all components identified on the drawings and as specified are considered part of the lump sum arrangement. The items to be demolished, removed, and disposed of or reinstated, but not limited to, are as follows unless specified otherwise:
 - .1 Timber Components: Cribwork, Pilings, decking, stringers, fenders, curbing, riser blocks, pile cap, fascia and all associated metal fasteners
 - .2 Ballast rock from demolished cribs and surrounding lakebottom.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Storage and Protection.
 - .1 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Engineer and at no cost to Engineer.
 - .2 Remove and store materials to be salvaged, in manner to prevent damage.
 - .3 Store and protect in accordance with requirements for maximum preservation of material.
 - .4 Handle salvaged materials as new materials.

1.4 SITE CONDITIONS

- .1 Site Environmental Requirements.
 - .1 Ensure that selective demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
 - .2 Ensure proper disposal procedures are maintained throughout the project.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 PREPARATION

- .1 Inspect site and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3 Notify and obtain approval of utility companies before starting demolition if any services are found at the site (not anticipated).

3.2 REMOVAL OPERATIONS

- .1 Remove items as indicated.
- .2 Do not disturb items designated to remain in place.
- .3 Salvage existing ballast rock. Contractor will be responsible for storage of stone until it is reinstalled.

3.3 REMOVAL FROM SITE

- .1 Dispose of materials not designated for salvage or re-use in work, off-site at location acceptable to Engineer.

3.4 RESTORATION

- .1 Remove debris, trim surfaces and leave work site clean, upon completion of Work.
- .2 Reinstate areas and existing works outside areas of demolition to conditions that existed prior to commencement of work.

END OF SECTION

05 55 00 – METAL FABRICATIONS

Part 1 General

1.1 MEASUREMENT FOR PAYMENT

- .1 Supply and installation of new mooring cleats Type A and Type B will be measured by each unit installed and shall include all labour, equipment and materials necessary to complete the work.
- .2 Steel angles and fasteners required for the stringer replacements shall be considered included in the Stringer Replacement item, and shall include all labour, equipment and materials necessary to complete the work.
- .3 Supply and installation of new float moorings and chain attachments shall be included in the floating dock replacement item and shall include all labour, equipment and materials necessary to complete the work.
- .4 Supply and installation of new safety ladders will be measured by each unit installed and shall include all labour, equipment and materials necessary to complete the work.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM A53/A53M-02, Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - .2 ASTM A269-02, Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
 - .3 ASTM A307-02, Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.40-97, Anti-corrosive Structural Steel Alkyd Primer.
 - .2 CAN/CGSB-1.181-92, Ready-Mixed, Organic Zinc-Rich Coating.
- .3 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-G40.20/G40.21-98, General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA-S16.1-01, Limit States Design of Steel Structures.
 - .4 CSA W48-01, Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).
 - .5 CSA W59-1989(R2001), Welded Steel Construction (Metal Arc Welding) (Imperial Version).
- .4 The Environmental Choice Program

- .1 CCD-047a-98, Paints, Surface Coatings.
- .2 CCD-048-98, Surface Coatings - Recycled Water-borne.

Part 2 Products

2.1 MATERIALS

- .1 Steel sections and plates: to CAN/CSA-G40.20/G40.21, Grade 350W.
- .2 Steel pipe: to ASTM A53/A53M standard weight, painted finish.
- .3 Welding materials: to CSA W59.
- .4 Welding electrodes: to CSA W48 Series.
- .5 Bolts and anchor bolts: to ASTM A307.

2.2 FABRICATION

- .1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Where possible, fit and shop assemble work, ready for erection.
- .3 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 FINISHES

- .1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m² to CAN/CSA-G164.
- .2 Chromium plating: chrome on steel with plating sequence of 0.009 mm thickness of copper 0.010 mm thickness of nickel and 0.0025 mm thickness of chromium.
- .3 Shop coat primer: to CAN/CGSB-1.40.
- .4 Zinc primer: zinc rich, ready mix to CAN/CGSB-1.181.

2.4 ISOLATION COATING

- .1 Isolate aluminum from following components, by means of bituminous paint:
 - .1 Dissimilar metals except stainless steel, zinc, or white bronze of small area.
 - .2 Concrete, mortar and masonry.
 - .3 Wood.

2.5 SHOP PAINTING

- .1 All steel components, bolts, nuts, washers, and drift-bolts are to be galvanized, unless noted otherwise.
- .2 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7 degrees C.
- .3 Clean surfaces to be field welded; do not paint. Remove all burrs and sharp edges.

Part 3 Execution

3.1 ERECTION

- .1 Perform welding work in accordance with CSA W59 unless specified otherwise.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .3 Provide suitable means of anchorage acceptable to Engineer such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.
- .4 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .5 Provide components for building by other sections in accordance with shop drawings and schedule.
- .6 Make field connections with bolts to CAN/CSA-S16.1, or weld.
- .7 Touch-up rivets, field welds, bolts and burnt or scratched surfaces after completion of erection with primer.
- .8 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.

3.2 MOORING CLEATS

- .1 Reinstall salvaged mooring cleats Type 'A' on new timber deck using two 12mm diameter bolts.
- .2 Provide new Type 'B' new mooring cleats as indicated on the drawings in the same manner.

3.3 STRINGER REPLACEMENT ANGLES

- .1 Install new 76mm x 76mm x 6.4 x 310mm angle sections complete with bolts, plate washers and Lag screws as indicated to secure the replacement stingers to the existing wharf.

3.4 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.5 PROTECTION

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

END OF SECTION

06 05 73 – WOOD TREATMENT

Part 1 General

1.1 MEASUREMENT FOR PAYMENT

- .1 No measurement will be made under this Section.

1.2 RELATED SECTIONS

- .1 Section 31 53 13 – Timber Cribwork

1.3 REFERENCES

- .1 American Wood-Preservers' Association (AWPA)
 - .1 AWWA M2-01, Standard for Inspection of Treated Wood Products.
 - .2 AWWA M4-06, Standard for the Care of Preservative-Treated Wood Products.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA O80 Series-97(R2002) - O80S2-05, Wood Preservation.
 - .2 CSA O80.20-1.1-M97(R2002), This Standard applies to the fire-retardant treatment of lumber by pressure processes..
 - .3 CSA O80.27-1.1-M97(R2002), This Standard covers the fire-retardant treatment of Douglas Fir, hardwood, softwood, and Poplar plywood by pressure processes.
 - .4 CSA O80.201-M89, This Standard covers hydrocarbon solvents for preparing solutions of preservatives.
 - .5 CSA O322-02, Procedure for Certification of Pressure-Treated Wood Materials for Use in Preserved Wood Foundations.

Part 2 Products

2.1 MATERIALS

- .1 Preservative treatment by a pressure process to CSA O80 Series.

Part 3 Execution

3.1 APPLICATION: PRESERVATIVE

- .1 Treat timber to CSA O80 Series preservative to obtain minimum net retention of 6.4 kg/m³ of wood.

3.2 APPLICATION: FIELD TREATMENT

- .1 Comply with AWWA M4 and revisions specified in CSA O80 Series supplementary requirements to AWWA M2.
- .2 Remove chemical deposits on treated wood to receive applied finish.

3.3 **CARE OF PRESSURE-TREATED WOOD PRODUCTS**

- .1 Apply the recommended and accepted practices followed in the care and handling of all wood products to pressure-treated wood products.
- .2 Avoid damage of field fabrication causing alteration of the original pressure-treated surface.
- .3 Thoroughly saturate all cuts or injuries occurring subsequent to pressure treatment by liberal brushing, spraying, dipping, soaking or coating with preservative solution.
- .4 Fill holes necessarily bored after pressure treatment with preservative solution to allow ample soaking time for penetration of solution.
- .5 Use in any of the above the same preservative solution as that used in the original pressure treatment or a field treating solution of colour to match original treatment.

END OF SECTION

31 23 33 - EXCAVATING, TRENCHING AND BACKFILLING

Part 1 General

1.1 REFERENCES

- .1 Ontario Provincial Standard Specifications (OPSS)/Ontario Ministry of Transportation
 - .1 OPSS 1004 November 2006, Ontario Provincial Standard Specification, Material Specification for Aggregates - Miscellaneous.
 - .2 OPSS 1010 April 2004, Ontario Provincial Standard Specification, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

1.2 UTILITY LINES

- .1 Before commencing work, establish location and extent of underground if any in area of excavation. Notify Departmental Representative of findings.
- .2 Record locations, if any, of maintained, re-routed and abandoned underground utility lines.
- .3 Make good damage to existing underground utilities resulting from work.

1.3 MEASUREMENT FOR PAYMENT

- .1 Excavation for the supply and installation of all granular material is to be included as part of the Lump Sum Item.
- .2 Handling of Native Fills is part of the Lump Sum Item and shall include all labour, equipment and materials necessary to complete the excavating, stockpiling and backfilling of suitable native material.
- .3 Disposal of surplus native fill legally off site is considered included in the excavation and backfilling of Native Fill.
- .4 Supply and installation of new Granular "A" material to supplement backfilled native material will be paid for by the tonne supplied, installed, compacted and remaining in work.
- .5 Weigh all stone placed in the Work at the quarry on a scale approved and certified as correct by the Department of Consumer and Corporate Affairs Weights and Measures Inspection Branch. Prior to use, have weigh scale certified as meeting requirements of Statutes of Canada, Chapter 36, Weights and Measures Act 1971 and subsequent amendments. Provide the Departmental Representative with a copy of the certificate and display certificate in prominent location. Costs for maintenance and operation of scale shall be considered incidental to the work.
- .6 Provide the Departmental Representative with weigh tickets at time of delivery to site.
- .7 Contractor to make own arrangements with Provincial authorities, municipalities and owners of private properties, for the quarrying and transportation of rock materials and machinery for work over their property, roads or streets.
- .8 Supply and installation of silt fence barrier are considered incidental to the work and will not be measured separately for payment.

1.4 **SUBMITTALS**

- .1 Submit to Engineer for approval, two weeks before excavation, the proposed location of spoil area for excavated material.

1.5 **SOURCE SAMPLING**

- .1 Inform Engineer of proposed source of materials and provide access for sampling at least 2 weeks prior to commencing work

1.6 **DEFINITIONS**

- .1 Not used

Part 2 Products

2.1 **MATERIALS**

- .1 Contractor to provide all materials.
- .2 Granular A: to Ontario Provincial Standard Specification 1010. Maximum size 19.0 mm
- .3 Native Fill: excavated soil, free from roots and debris. Departmental Representative to approve excavated material before use as backfill.

Part 3

3.1 **EXCAVATING**

- .1 Confirm limits of area where loss of fill is producing sinkholes adjacent to Main Wharf.
- .2 Excavate within confirmed limits to lines, grades, elevations and dimensions shown on drawings.
- .3 Excavate and stockpile native fill from work area for reuse in new work.
- .4 Dispose of surplus and unsuitable excavated material off site.

3.2 **BACKFILLING**

- .1 Areas backfilled to be free from debris, snow, ice, water or frozen ground.
- .2 After installation of geotextile, backfill excavated area with suitable native fill.
- .3 Supplement native fill with new Granular A material as required to match existing ground elevation and grade.

3.3 **SITE TOLERANCES**

- .1 Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low

3.4 **PROTECTION**

- .1 Maintain finished granular surface in condition conforming to this section until granular surfacing is accepted by Engineer.

END OF SECTION

31 32 19 – GEOTEXTILES

Part 1 General

1.1 MEASUREMENT AND PAYMENT

- .1 Geotextiles will be paid for in square metres of surface area by material supplied, installed and remaining in the work. No allowance will be made for seams or overlaps. This item to include all associated fasteners.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM D4491-99a(2009), Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .2 ASTM D4751-04, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- .2 Ontario Provincial Standard Specifications (OPSS)
 - .3 OPSS 1860-November 2010, Material Specification for Geotextiles.

1.2 SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 – Submittal Procedures.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Storage and Handling Requirements:
 - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, well-ventilated area.
 - .2 Store and protect geotextiles from direct sunlight and UV rays.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 MATERIAL

- .1 Geotextile: woven or non-woven synthetic fibre fabric, supplied in rolls.
 - .1 Width: 3.6 m minimum.
 - .2 Composed of: minimum 85% by mass of polyester with inhibitors added to base plastic to resist deterioration by ultra-violet and heat exposure.
- .2 .Physical properties:
 - .1 Thickness: to CAN/CGSB-148.1, No.3, minimum 2.5 mm.
 - .2 Mass per unit area: to CAN/CGSB-148.1, No.2, minimum 400 g/m².
- .3 Tensile strength and elongation (in any principal direction): to ASTM D4595.
 - .1 Tensile strength: minimum 1100 N, wet condition.
 - .2 Elongation at break: 50 to 100%.
 - .3 Seam strength: equal to or greater than tensile strength of fabric.

.4 Mullen burst strength: to CAN/CGSB-4.2, method 11.1, minimum 3100 kPa.

- .3 .Hydraulic properties:
 - .1 Apparent opening size (AOS): to ASTM D4751, 50 to 150 micrometres.
 - .2 Permittivity: to ASTM D4491, 0.25 cm per second.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for geotextile material installation in accordance with manufacturer's written instructions.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied Departmental Representative.

3.2 INSTALLATION

- .1 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .2 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
- .3 Overlap each successive strip of geotextile 600 mm over previously laid strip.
- .4 Join successive strips of geotextile by overlapping (min 600mm).
- .5 Fasten geotextile to cribwork timbers with geotextile pins as required.
- .6 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- .7 After installation, cover with overlying layer within 6 hours of placement.
- .8 Replace damaged or deteriorated geotextile to approval of Departmental Representative.
- .9 Geotextile to be placed between native material left undisturbed, and backfilled material.
- .10 Geotextile to be place along entire length of excavated area (estimated limits: Stn. 0+006 to 0+033).

3.3 PROTECTION

- .1 Vehicular traffic not permitted directly on geotextile.

END OF SECTION

31 53 13 – TIMBER WHARF WORK

Part 1 General

1.1 MEASUREMENT PROCEDURES

- .1 Deconstruction and all removals shall be included in the lump sum and shall include disposal offsite. Salvaging existing ballast rock will also be included in the lump sum for removal, storage and reuse.
- .2 Treated decking will be paid for by the square metre of timber supplied, installed and remaining in the work. This item includes all fastenings.
- .3 Treated square sawn timber to be measured in cubic metres of all timber supplied, installed and remaining in the work, including all fastenings, posts, post caps, cribwork timbers, shims, and blocking.
- .4 Treated timber in the form of curbing, stringers and fenders shall be measured in linear metres of timber supplied, installed and remaining in the work, including all fastenings.
- .5 Existing Stringers designated for removal in serviceable condition are to be carefully salvaged from the existing structure, and stored for reinstallation. Costs for reinstallation are incidental to the project costs.
- .6 Select Stringer replacements shall be measured by each. Assume a maximum of 4.87m linear metre supply length, trimmed to suit, installed and remaining in the work, including all steel angles and fastenings.
- .7 New ballast rock will be paid for by the tonne supplied, installed and remaining in the work.
- .8 Reinstall of Mooring Cleats Type A –will be paid by each unit reinstalled and remaining in the work.
- .9 New Mooring Cleats – Type B will be paid by each unit supplied, installed and remaining in the work
- .10 New Safety Ladders – will be paid by each unit supplied, installed and remaining in the work.
- .11 Cubic measure of timber to be determined by product of actual cross-sections and length dimensions in place. The cross-section dimensions will be obtained from Table N-9 in “Metric Handbook for Canadian Softwood Lumber”.

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A307-04, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA B111-1974 (R2003), Wire Nails, Spikes and Staples.
 - .2 CSA-O80 Series-97 (R2002), Wood Preservation.
- .3 National Lumber Grades Authority (NLGA)

- .1 Standard Grading Rules for Canadian Lumber 2003 edition.

1.3 **QUALITY ASSURANCE**

- .1 Health and Safety Requirements: do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements.
- .2 Worker protection:
 - .1 Workers must wear gloves, eye protection and protective clothing when handling, drilling, sawing or cutting preservative treated wood and applying preservative materials.
 - .2 Workers must not eat, drink or smoke while applying preservative material.
 - .3 Clean up spills of preservative materials immediately with absorbent material. Safely discard of absorbent material to approved landfill.

1.4 **WASTE MANAGEMENT**

- .1 Do not dispose of preservative treated wood through incineration.
- .2 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.
- .3 Dispose of treated wood, end pieces, wood scraps and sawdust at an approved landfill.

Part 2 Products

2.1 **MATERIALS**

- .1 Timber: use timber graded and stamped in accordance with applicable grading rules and standards of associations or agencies approved to grade lumber by Canadian Lumber Standards Accreditation Board of CSA.
 - .1 Species: Group A (Douglas Fir)
 - .2 Grade: No. 1 Structural
 - .3 Grading authority: NLGA
 - .4 All timber to be rough sawn, unless specified otherwise.
 - .5 All decking to be smooth, planed sized lumber, unless specified otherwise.
 - .6 All specified treated timber and planks to be pressure treated with CCA preservative salts, incision method, to 6.4 kg/cubic metre (0.40 lb/cubic foot) retention or refusal. Treatment to conform to the latest edition of CSA specification O80.
 - .7 All end cuts, abrasions and bolt holes to be well soaked with two coats of CCA preservative acceptable to Engineer.
 - .8 Machine bolts used are to be of sufficient length to accept two washers and one fully threaded hexagonal headed nut.
 - .9 Drift bolts to have countersunk, tapered head and chisel point as manufactured by Dominion Bridge or equivalent.
 - .10 Bore holes for drift bolts 1.5 mm smaller diameter than bolt and 52 mm short of length of bolt. Bore holes for machine bolts to same diameter as bolt.
 - .11 All end cuts to be placed above high water line where possible.

- .2 Miscellaneous steel:
 - .1 Hot dip galvanized: to CAN/CSA-G164.
 - .2 Wire nails, spikes, staples: to CSA-B111.
 - .3 Bolts, nuts, washers: to ASTM A307.
 - .4 Steel straps and plates: to CAN/CSA-G40.21, Grade 300.
- .3 Ballast for filling cribs to following requirements:
 - .1 Stone, consisting of hard durable particles free from clay lumps, organic material and other deleterious materials.
 - .2 Ballast stone supplied to be well graded with maximum size not exceeding 200 mm and minimum size to be not less than 150 mm.
- .4 Rock Matress
 - .1 Crushed rock mattress: 100 mm minus.
- .5 Crushed stone to following requirements:
 - .1 Stone, consisting of hard durable particles free from clay lumps, organic material and other deleterious materials.
 - .2 Maximum size 19.0mm.

Part 3 Execution

3.1 DECONSTRUCTION AND REMOVALS

- .1 Carefully remove designated curb, riser blocks, decking, stringers, fenders, pile cap, fascia and crib timbers, and stockpile for removal to an approved sanitary landfill site.
- .2 Immediately following deck removals existing stringers and cribwork will be inspected for reuse and replacement locations will be determined.
- .3 Salvage timber stringers where indicated, and store in a safe location for reuse.
- .4 Separate existing crib rock ballast and store for reuse.
- .5 Maintain adjacent area of wharf structure not designated for removal. Restore areas damaged during removals.
- .6 Dispose of removed materials off site at an approved sanitary landfill facility.

3.2 PREPARATION

- .1 Confirm existing measurements on site and confirm materials supply is sufficient. Inform engineer of any measurement discrepancies present.
- .2 Before construction, stockpile sufficient ballast to completely fill cribs, allowing reuse of existing ballast, and ballast salvaged from lake bottom.

3.3 DECKING, CURB AND FENDERS

- .1 Decking will be 76 mm square sawn sized lumber laid heart side down. Planks will be spaced 6 mm apart and secured with two 200 mm galvanized spiral spikes per timber contact. Plank widths to be not less than 200 mm and not more than 310 mm wide. Deck planks to cross width of wharf/dock in one length.

- .2 Planks to be cut flush with outer faces of work.
- .3 All planks to be pre-drilled for the spikes to prevent splitting.
- .4 In cases where the thickness of deck planks vary due to shrinkage or swelling, planks are to be sorted and installed so that changes in elevations are kept to a minimum. Chamfer edges of plank where changes cannot be avoided.
- .5 Place curb on riser blocks and secure at each contact with two 20 mm x 203mm long drift bolts as indicated on plans.
- .6 Riser blocks are to be secured to the deck with two 200 mm galvanized spiral spikes at each end.
- .7 Reinstall salvaged mooring cleats on new riser blocks. Provide new mooring cleats as indicated.
- .8 Install new fenders of the indicated lengths at locations shown. Secure to crib timbers with lag screws, length to suit, countersunk to be flush with the exterior face of the fender. Machine bolt to be complete with nut and 2 washers.
- .9 Fascia boards to be installed vertically or horizontally on shore face of cribs 76 mm square sawn sized lumber laid heart side against cribs. Planks will be spaced 6 mm apart and secured with two 200 mm galvanized spiral spikes per timber contact. Plank widths to be not less than 200 mm and not more than 310 mm wide.

3.4 **EXISTING STRINGERS AND CRIBWORK**

- .1 Following the completion of deck removals the condition of the existing stringers will be assessed along with the Departmental Representative. Damaged Stringers and portions of cribwork will be identified for replacement and the rest shall remain in the work undisturbed.
- .2 Existing stringers and cribwork designated for removal shall either be removed and disposed or carefully removed and designated for reinstall
- .3 Reinstall salvaged stringers where indicated, secure using replacement angles and hardware.
- .4 Reinstall new cribwork using drift pins or machine bolts depending on location.
- .5 New stringers are to be installed as required, and secured in the same manner. Assume a maximum of 4.87m linear metre supply length trimmed to suit.

3.5 **WHARF REPAIRS AND CRIB CONSTRUCTION**

- .1 All new longitudinal and cross timbers shall be of sufficient length to span crib in one length or as noted on drawing. Longitudinal and cross timbers to be drifted to each other at each contact point with 20 mm x 355 drift bolts. Each longitudinal and cross timber to be fastened to vertical binder post with 20 mm machine bolt complete with nut and 2 washers. All machine bolts used to be of sufficient length to accept 2 washers and have room for fully threading a hexagonal nut. All machine bolts to be countersunk on exterior faces.
- .2 Place ballast floor on pockets on bottom or second course from bottom timbers. Secure each ballast floor timber to bottom timbers with 20 mm x 305 drift bolts.
- .3 Vertical binder posts to be in one length from bottom of cribwork to top of cribwork.

- .4 Stringers to be installed in lengths as shown on drawings. Stringers to be fastened to crib timbers with 20 mm x 355 mm drift bolts at each contact.
- .5 Maximum spacing between cross timbers and longitudinal not to exceed 215mm.
- .6 Bore holes for drift bolts 1.5 mm smaller diameter than bolt 52 mm short of length of bolt. Bore holes for machine bolts to same diameter as bolts.
- .7 If required install timber shims under new decking on Main Wharf as indicated (between stations 0+006 and 0+033), Immediately following deck removals the existing elevations will be assessed and shims may need to be modified to suit the deck elevation transition to the wharf Extension.
- .8 Install steel safety ladders in locations as shown on drawings.

3.6 **LOADING DOCK**

- .1 Cut Pile Bents #8 to #11, located at the north, offshore corner of the Loading Dock at EL 183.65 to prepare for the new crib installation. These piles should be made level to receive the pile cap level with the new deck.
- .2 Remove and dispose of 2 pilings on the south side of the dock as indicated.
- .3 Remove and dispose of designated areas of the existing structure.
- .4 Dredge under the area to receive the cribs to remove infilled sand in preparation to receive new stone mattress.
- .5 Supply and install timber components as indicated on drawings.

3.7 **HANDLING TREATED TIMBER**

- .1 Handle treated material without damaging original treatment.
 - .1 Replace treated timber with major damage to original treatment, as instructed by Engineer.
- .2 Field treatment: apply and saturate cuts, minor surface damage, abrasions, and nail and spike holes with preservative to CAN/CSA-O80 Series.

3.8 **BALLAST**

- .1 Place ballast carefully to avoid damage to timber cribwork.
- .2 Place ballast so that differential height of fill between adjacent cells, at any time, will be less than 1 m.
- .3 Ballast to be added such that cribs are fully ballasted from ballast floor to bottom of stringers.

3.9 **CRUSHED STONE**

- .1 Locate sinkholes adjacent to marginal section of Main Wharf.
- .2 Fill sinkholes with crushed stone to match grade and elevation of existing ground.

3.10 **TOLERANCES**

- .1 1 in 300 in overall dimensions.

3.11 **CLEANING**

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

END OF SECTION

35 20 23 - DREDGING

Part 4 General

4.1 DEFINITIONS

- .1 Dredging: excavating, transporting and disposing of underwater materials.
- .2 Class “A” material: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments of individual volumes 1.5m^3 ; or more.
- .3 Class “B” material: loose or shale rock, silt, sand, quick sand, mud, shingle, gravel, clay, sand, gumbo, boulders, hardpan and debris of individual volumes less than 1.5m^3 ; .
- .4 Obstructions: material other than class A, having individual volumes of 1.5m^3 ; or more.
- .5 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials.
- .6 Grade: plane above which material is to be dredged.
- .7 Estimated quantity:
 - .1 Volume of material calculated to be above grade and within specified side slopes unless otherwise specified.
 - .2 Areas in square metres of material calculated horizontally to exist above grade and within dredge limits, unless otherwise specified.
- .8 Side slope: inclined surface or plane from grade depth at side limit of dredging area to intersect original ground line outside of side limit and to be expressed as ratio of horizontal to vertical.
- .9 CPM: Cubic metres place measurement at dredging site.
- .10 CMSM: Cubic metres scow measurement.
- .11 SQM: Area in square metres projected on horizontal plane.
- .12 Box Cut: Dredging channel area with vertical side slopes and allowing side slope of excavation collapse to a natural equilibrium slope.
- .13 Cleared Area: Area of dredging accepted as complying with plans and specifications.
- .14 Mechanical Sweep: Clearing all the dredged areas to the grade depth using a mechanical device suspended from a barge.
- .15 Chart Datum: permanently established plane from which soundings or tide heights are referenced, usually Lowest Normal Tide (LNT).
- .16 Universal Transverse Mercator Projection (UTM) or Modified Transverse Mercator Projection (MTM) Co-ordinates: plane rectangular coordinates used in grid system in which grid network is applied to UTM. or MTM. projection. Horizontal control information as indicated.
- .17 Mechanical Dredging Plant: Equipment that is comprised of the following: clamshell, dragline, dipper, or backhoe dredge with dump scows.

- .18 Hydraulic Dredging Plant: Equipment that uses the movement of water to excavate and transport underwater materials such as: cutter suction dredger, suction dredger or trailing suction hopper dredger.
- .19 Lowest Normal Tide (LNT): plane so low that tide will seldom fall below it.

4.2

REFERENCES

- .1 .1 Transport Canada:
 - .1 TP 10739 Collision Regulations, Office Consolidation, 2008.
 - .2 Transportation of Dangerous Goods Act, 1992.
- .2 Department of Justice Canada:
 - .1 Explosives Act, 2009.
- .3 Department of Fisheries and Oceans, Canada:
 - .1 Wright, D.G., and G.E. Hopky. 1998. Guidelines for the use of explosives in or near Canadian fisheries waters. Can. Tech. Rep. Fish. Aquat. Sci. 2107: iv + 34p.

4.3

LOCATION

- .1 Work comprises dredging of the following areas as indicated:
Area 'A' and optional Area 'B' requires dredging the area as indicated on the attached drawings, to a depth of 2.2 metres below Chart Datum where Chart Datum is (183.2m).

4.4

INTERFERENCE WITH NAVIGATION

- .1 Navigation co-ordination:
 - .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, marina operations, construction activities at wharf sites, or access to wharves by land or water.
 - .2 Departmental Representative will not be responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in harbour or due to other Contractor's operations.
 - .3 Keep District Manager, Canadian Coast Guard, Fisheries and Oceans, informed of dredging operations in order that necessary Notices to Mariners will be issued.

4.5

REQUIREMENTS OF REGULATORY AGENCIES

- .1 Mark floating equipment with lights in accordance with International Rules of Road and maintain radio watch on board.
- .2 Comply with municipal, provincial and national codes and regulations relating to project.

4.6

SITE INFORMATION

- .1 Material to be dredged consists of Class 'B' material and is clean. Results of lab analysis of sediment samples are provided for reference in the Appendices
- .2 Gros Cap Harbour has been previously dredged to grade depth (2.2m below chart datum) Material to be dredged generally consists of silt, silty sand.

- .3 Results of prior soundings are made available for tendering purposes only. It should be noted that this information may differ from site condition. Take this into consideration when submitting tender.
- .4 Contractor to visit and inspect work site and become thoroughly familiar with extent and nature of Work and conditions affecting Work before tendering.
- .5 Take necessary steps to become fully familiar with potential inclement weather and sea conditions in this area.

4.7 **MEASUREMENT PROCEDURES**

- .1 Measurement and Payment:
 - .1 Area 'A' consists of infilled sand from the nearshore area. This material has formed a shoal inside the main wharf, extending to the launch ramp. We estimate the quantity to be roughly 888 CMPM.
 - .2 Optional Area 'B' consists of infilled sand from the nearshore area. This material has formed a shoal south of the main wharf, extending under the existing floating docks. We estimate the quantity to be roughly 728 CMPM.
 - .3 For the Dredging of Areas A and B, Dredging: will be measured in cubic metres, truck box measurement, determined from capacity of filled truck. Only material excavated within areas indicated on the drawings, or by the direction of the contract administrator will be measured. Payment will include disposal of dredge material, at locations determined by contractor. This should include all machinery required to load the dump trucks at the Gros Cap Harbour and final disposal of material at the disposal location.
 - .4 Maintenance of roadways during the hauling of materials to disposal site; site clean-up and final grading and cleanup at project site shall be considered incidental.
 - .5 Only material excavated above grade plane and within side slopes indicated or specified will be measured.
 - .6 No separate payment will be made for sweeping.
- .2 Scheduling:
 - .1 Submit to Departmental Representative within two weeks after award of Contract, schedule of work including time periods during which each operation involved in Work will be undertaken. At time of submission of schedule, meet with 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 Departmental Representative of corrective action to be taken.

Part 5 Products

5.1 **DREDGING EQUIPMENT**

- .1 Contractor to determine required equipment necessary to dredge material specified and to dispose of dredged material.

Part 6 Execution

2.1 LAYOUT OF WORK

- .1 The Engineer will meet with the Contractor and his survey staff to identify the established horizontal control consisting of a baseline, coordinate system with reference control monuments and vertical control benchmarks to define the work and disposal areas.
- .2 Dredge Gros Cap Harbour Areas 'A' and 'B' to a grade depth of 2.2 metres below chart datum
- .3 Maintain minimum 1.0m away from existing wharf faces.

2.2 DISPOSAL OF DREDGED MATERIALS

- .1 Dispose of dredged material from Areas 'A' and 'B', off-site at an approved facility.
- .2 See drawing for details.

2.3 DISPOSAL OF DEBRIS

- .1 Do not dispose of debris in harbour
- .2 Dispose of debris in containment facility identified or at approved land disposal site.

2.4 CO-OPERATION AND ASSISTANCE TO ENGINEER

- .1 Cooperate with Engineer on inspection of work and provide assistance requested.
- .2 Furnish use of such boats, equipment, labour and materials forming ordinary and usual part of dredging plant as may be reasonably necessary to inspect and supervise work.

2.5 MONITORING OF WORK

- .1 Contractor is responsible to monitor effectiveness and productivity of his own work on an ongoing basis.
- .2 The contract administrator will monitor work as required to ensure work is being carried out as per the contract documents.

2.6 SWEEPING AND ACCEPTANCE OF WORK

- .1 Sweep entire dredged area in one continuous operation on completion of dredging to confirm that grade depth has been achieved.

2.7 FINAL CLEANING

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment

END OF SECTION

35 59 11 - FLOATING WHARF FABRICATION

Part 7 General

7.1 MEASUREMENT FOR PAYMENT

- .1 Timber Floats – 6 - 2.44m x 9.1m timber float wharves to be measured by the number of completed units delivered and installed on site complete with SPF pressure treated timber framing, decking, and skirting for this facility.
- .2 Removal and Disposal of existing floating docks will be included in this item and not be measured separately for payment.
- .3 Connections between floats connections to wharf fastenings, reinstallation of anchor blocks hardware and mooring cleats shall not be measured separately for payment but considered included in the work.
- .4 New moorings (pipesliders and chains) as shown on the drawings shall be considered incidental to this item.
- .5 Reconnection using existing chains and be secured to the harbour bottom using the existing anchor blocks to be considered included.

Part 8 Products

8.1 MATERIALS

- .1 Lumber and timber: except as otherwise specified, use lumber and timber graded and stamped in accordance with applicable grading rules and standards of associations or agencies approved to grade lumber by Canadian Lumber Standards Administration Board of CSA.
 - .1 Species: Douglas Fir Group
 - .2 Grade: Structural or better
 - .3 Grading authority: NLGA
 - .4 All timber to be S4S.
 - .5 Galvanized bolts and nuts: to ASTM A307-07b.
 - .6 Countersunk head bolts to CSA B34-67(R1972).
 - .7 Washers: pressed steel.
 - .8 Galvanized spikes and nails: spiral type to CSA B111-1974(R2003).
 - .9 Hot-dip galvanized, stainless steel, silicone, bronze or copper wood screws and fasteners: to ASTM Standards: ASTM-A153 (for hot-dip fastener products), and ASTM-A653 (coating designation G-185 for hot-dip connector and sheet products) and Type 305 and 316 for stainless steel.
 - .10 Plastic bushings: ultra-high molecular weight polyethylene (UHMWPE), density 0.94, black.

- .11 Shapes, plates: fabricated from steel confirming to CAN/CSA-G40.20-04 and CAN/CSA-G40.20-04, Grade 300W.
- .12 Primer: CAN\CGSB-1.40-M80 primer, structural steel, oil alkyd type.
- .13 Preservative:
 - .1 Pressure Treatment: all specified treated timber and planks to be pressure treated with CCA or ASA preservative salts to 0.64 g/cu. cm. (0.40 lbs/cu. ft.) retention.
- .14 Machine bolts used are to be of sufficient length to accept two washers and one fully threaded hexagonal headed nut.
- .15 Floatation units:
 - .1 Dimensions/Capacity:
 - .1 Floatation units for float wharves shall be of size 600 mm x 1200 mm x 300 mm deep with a minimum buoyancy of 196 kg each.
 - .2 Alternate floatation units shall be used only with written approval of engineer.
 - .2 Materials:
 - .1 One piece, seamless rotational moulded outer shell.
 - .2 Manufactured from linear polyethylene resin with UV inhibitors and carbon black pigment.
 - .3 Nominal shell thickness minimum 3.8 mm.
 - .4 Heavy duty, reinforced moulded in mounting slots.
 - .5 Built in vent.
 - .6 Foam filled to 1.0-1.5 lbs/ft³
- .16 Warranty:
 - .1 Manufacturer to warrant floats for a period of ten (10) years from date of purchase against cracking, peeling, sloughing and ultraviolet deterioration. Floatation units shall retain their resiliency against being frozen in or other abrasions from normal usage.
 - .2 Contractor will submit to engineer manufacturer's documentation indicating date of purchase.
 - .3 Alternate floatation units meeting or exceeding the above specification may be used only upon written approval of the engineer.

Part 9 Execution

9.1 CONSTRUCTION

- .1 Construct timber floats as indicated on drawings.
- .2 Build work square, true, straight and accurate to the required size, with all joints closely fitted and properly secured.
- .3 Except where specified, use of shims, wedges, or short pieces of timber not permitted.
- .4 Drill holes for bolts the same size as bolt diameter.
- .5 Lay deck planks, stringers and headers in one piece.
- .6 Project all bolts at least 6 mm beyond nut.

- .7 Place a washer under the head of each bolt and under nuts in contact with wood.
- .8 Connect floatation units with bolts c/w rubber and stainless steel washer as indicated on drawings.
- .9 Install stringers as designated.
- .10 Decking: Screw planks to each stringer contact with two (2) wood screws to a minimum penetration of 50 mm. Holes in decking are to be pre-drilled. Drill all screws 2 mm below deck surface. Space planks maximum 10 mm apart.
- .11 Fabricate and install all connection hardware as indicated.
- .12 Paint all float connectors, shapes and plates with one coat of primer prior to installation.

END OF SECTION

APPENDIX A – RESULTS OF SEDIMENT SAMPLING

**CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)
3027 HARVESTER ROAD, UNIT 506
BURLINGTON, ON L7R3G7
(905) 639-4858**

ATTENTION TO: Kamil Biedka

PROJECT: Gros Cap

AGAT WORK ORDER: 21T775304

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Jul 29, 2021

PAGES (INCLUDING COVER): 12

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

***Notes**

Empty box for notes.

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2021-07-15

DATE REPORTED: 2021-07-29

Parameter	Unit	SAMPLE DESCRIPTION:		Sample 1	Sample 2
		G / S	RDL	Soil	Soil
				2021-07-13 16:00 2759008	2021-07-13 16:00 2759014
Antimony	µg/g	1	0.8	<0.8	<0.8
Arsenic	µg/g	11	1	<1	<1
Barium	µg/g	210	2.0	7.0	6.5
Beryllium	µg/g	2.5	0.4	<0.4	<0.4
Boron	µg/g	36	5	<5	<5
Cadmium	µg/g	1	0.5	<0.5	<0.5
Chromium	µg/g	67	5	<5	<5
Cobalt	µg/g	19	0.5	1.1	1.1
Copper	µg/g	62	1.0	3.9	2.9
Lead	µg/g	45	1	3	2
Molybdenum	µg/g	2	0.5	<0.5	<0.5
Nickel	µg/g	37	1	3	3
Selenium	µg/g	1.2	0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	1.9	0.50	<0.50	<0.50
Vanadium	µg/g	86	0.4	8.3	9.0
Zinc	µg/g	290	5	10	11

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Agricultural or Other Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Nvine Basly



Certificate of Analysis

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - ORPs (Soil)

DATE RECEIVED: 2021-07-15

DATE REPORTED: 2021-07-29

Parameter	Unit	SAMPLE DESCRIPTION:		Sample 1	Sample 2
		G / S	RDL	2759008	2759014
Electrical Conductivity (2:1)	mS/cm	0.47	0.005	0.064	0.040
pH, 2:1 CaCl ₂ Extraction	pH Units		NA	7.16	6.42
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	1	N/A	0.166	0.140

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Agricultural or Other Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2759008-2759014 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl₂ extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Nvine Basly



Certificate of Analysis

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-07-15

DATE REPORTED: 2021-07-29

Parameter	Unit	SAMPLE DESCRIPTION:		Sample 1	Sample 2
		G / S	RDL	Soil	Soil
		DATE SAMPLED:		2021-07-13	2021-07-13
				16:00	16:00
				2759008	2759014
Naphthalene	µg/g	0.05	0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05
Acenaphthene	µg/g	0.05	0.05	<0.05	<0.05
Fluorene	µg/g	0.05	0.05	<0.05	<0.05
Phenanthrene	µg/g	0.19	0.05	<0.05	<0.05
Anthracene	µg/g	0.05	0.05	<0.05	<0.05
Fluoranthene	µg/g	0.24	0.05	<0.05	<0.05
Pyrene	µg/g	0.19	0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.095	0.05	<0.05	<0.05
Chrysene	µg/g	0.18	0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.3	0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.05	0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.05	0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.11	0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.2	0.05	<0.05	<0.05
1 and 2 Methylnaphthalene	µg/g	0.05	0.05	<0.05	<0.05
Moisture Content	%		0.1	19.9	21.5
Surrogate	Unit	Acceptable Limits			
Naphthalene-d8	%	50-140		101	110
Acridine-d9	%	50-140		99	98
Terphenyl-d14	%	50-140		98	84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Agricultural or Other Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2759008-2759014 Results are based on the dry weight of the soil.

Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2021-07-15

DATE REPORTED: 2021-07-29

Parameter	Unit	SAMPLE DESCRIPTION:		Sample 1	Sample 2
		G / S	RDL	Soil	Soil
		DATE SAMPLED:		2021-07-13	2021-07-13
				16:00	16:00
				2759008	2759014
Benzene	µg/g	0.02	0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g	17	5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	17	5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA
Moisture Content	%		0.1	19.9	21.5
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	60-140		95	100
Terphenyl	%	60-140		101	87

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2021-07-15

DATE REPORTED: 2021-07-29

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Agricultural or Other Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2759008-2759014 The soil sample was prepared in the lab using the Methanol extraction technique. The sample was not field preserved with methanol and an Encore was not provided for analysis.
Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6-C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 - C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Quality Assurance

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)
PROJECT: Gros Cap
SAMPLING SITE:

AGAT WORK ORDER: 21T775304
ATTENTION TO: Kamil Biedka
SAMPLED BY:

Soil Analysis															
RPT Date: Jul 29, 2021			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE		MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

Antimony	2756810		2.9	2.6	NA	< 0.8	122%	70%	130%	95%	80%	120%	85%	70%	130%
Arsenic	2756810		10	10	1.1%	< 1	117%	70%	130%	100%	80%	120%	104%	70%	130%
Barium	2756810		161	158	1.5%	< 2.0	100%	70%	130%	100%	80%	120%	98%	70%	130%
Beryllium	2756810		0.5	0.6	NA	< 0.4	83%	70%	130%	101%	80%	120%	87%	70%	130%
Boron	2756810		15	16	NA	< 5	80%	70%	130%	103%	80%	120%	85%	70%	130%
Cadmium	2756810		1.0	0.8	NA	< 0.5	105%	70%	130%	96%	80%	120%	99%	70%	130%
Chromium	2756810		99	98	1.4%	< 5	108%	70%	130%	101%	80%	120%	96%	70%	130%
Cobalt	2756810		12.0	11.9	0.5%	< 0.5	107%	70%	130%	100%	80%	120%	100%	70%	130%
Copper	2756810		243	241	0.8%	< 1.0	93%	70%	130%	97%	80%	120%	87%	70%	130%
Lead	2756810		123	118	3.8%	< 1	107%	70%	130%	101%	80%	120%	94%	70%	130%
Molybdenum	2756810		32.9	31.9	2.9%	< 0.5	119%	70%	130%	102%	80%	120%	123%	70%	130%
Nickel	2756810		113	115	1.2%	< 1	103%	70%	130%	99%	80%	120%	92%	70%	130%
Selenium	2756810		5.5	6.2	11.8%	< 0.8	129%	70%	130%	98%	80%	120%	113%	70%	130%
Silver	2756810		<0.5	<0.5	NA	< 0.5	108%	70%	130%	101%	80%	120%	93%	70%	130%
Thallium	2756810		<0.5	<0.5	NA	< 0.5	116%	70%	130%	103%	80%	120%	99%	70%	130%
Uranium	2756810		2.07	2.06	NA	< 0.50	111%	70%	130%	101%	80%	120%	106%	70%	130%
Vanadium	2756810		183	223	19.7%	< 0.4	115%	70%	130%	97%	80%	120%	93%	70%	130%
Zinc	2756810		505	499	1.2%	< 5	101%	70%	130%	101%	80%	120%	97%	70%	130%

Comments: NA Signifies Not Applicable.
 Duplicate NA: results are under 5X the RDL and will not be calculated.

O. Reg. 153(511) - ORPs (Soil)

Electrical Conductivity (2:1)	2753761		0.135	0.129	4.5%	< 0.005	103%	80%	120%						
pH, 2:1 CaCl2 Extraction	2774458		8.83	8.78	0.6%	NA	100%	80%	120%						
Cyanide, Free	2759338		<0.040	<0.040	NA	< 0.040	106%	70%	130%	104%	80%	120%	103%	70%	130%
Sodium Adsorption Ratio (2:1) (Calc.)	2755342		0.125	0.111	11.9%	NA									

Comments: NA signifies Not Applicable.
 pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



Nivine Basily

Quality Assurance

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

ATTENTION TO: Kamil Biedka

SAMPLING SITE:
SAMPLED BY:

Trace Organics Analysis

RPT Date: Jul 29, 2021			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE		MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

PHCs F1 - F4 (with PAHs) (Soil)

Benzene	2759014		< 0.02	< 0.02	NA	< 0.02	95%	60%	140%	115%	60%	140%	82%	60%	140%
Toluene	2759014		< 0.05	< 0.05	NA	< 0.05	93%	60%	140%	93%	60%	140%	111%	60%	140%
Ethylbenzene	2759014		< 0.05	< 0.05	NA	< 0.05	97%	60%	140%	96%	60%	140%	102%	60%	140%
m & p-Xylene	2759014		< 0.05	< 0.05	NA	< 0.05	104%	60%	140%	105%	60%	140%	116%	60%	140%
o-Xylene	2759014		< 0.05	< 0.05	NA	< 0.05	98%	60%	140%	109%	60%	140%	87%	60%	140%
F1 (C6 - C10)	2759014		< 5	< 5	NA	< 5	102%	60%	140%	110%	60%	140%	111%	60%	140%
F2 (C10 to C16)	2767681		< 10	< 10	NA	< 10	115%	60%	140%	85%	60%	140%	74%	60%	140%
F3 (C16 to C34)	2767681		< 50	< 50	NA	< 50	110%	60%	140%	88%	60%	140%	85%	60%	140%
F4 (C34 to C50)	2767681		< 50	< 50	NA	< 50	90%	60%	140%	76%	60%	140%	88%	60%	140%

O. Reg. 153(511) - PAHs (Soil)

Naphthalene	2754490		< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	101%	50%	140%	83%	50%	140%
Acenaphthylene	2754490		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	98%	50%	140%	105%	50%	140%
Acenaphthene	2754490		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	99%	50%	140%	105%	50%	140%
Fluorene	2754490		< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	84%	50%	140%	104%	50%	140%
Phenanthrene	2754490		< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	84%	50%	140%	106%	50%	140%
Anthracene	2754490		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	96%	50%	140%	94%	50%	140%
Fluoranthene	2754490		< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	82%	50%	140%	102%	50%	140%
Pyrene	2754490		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	96%	50%	140%	101%	50%	140%
Benz(a)anthracene	2754490		< 0.05	< 0.05	NA	< 0.05	91%	50%	140%	93%	50%	140%	99%	50%	140%
Chrysene	2754490		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	91%	50%	140%	103%	50%	140%
Benzo(b)fluoranthene	2754490		< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	102%	50%	140%	102%	50%	140%
Benzo(k)fluoranthene	2754490		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	108%	50%	140%	103%	50%	140%
Benzo(a)pyrene	2754490		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	99%	50%	140%	108%	50%	140%
Indeno(1,2,3-cd)pyrene	2754490		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	98%	50%	140%	100%	50%	140%
Dibenz(a,h)anthracene	2754490		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	96%	50%	140%	100%	50%	140%
Benzo(g,h,i)perylene	2754490		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	98%	50%	140%	96%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:


Method Summary

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)
AGAT WORK ORDER: 21T775304
PROJECT: Gros Cap
ATTENTION TO: Kamil Biedka
SAMPLING SITE:
SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
pH, 2:1 CaCl ₂ Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES



Method Summary

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methylnaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID



Method Summary

CLIENT NAME: FISHERIES AND OCEANS CANADA (DFO)

AGAT WORK ORDER: 21T775304

PROJECT: Gros Cap

ATTENTION TO: Kamil Biedka

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID



AGAT

Laboratories

15m Blue

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
web@earth.agatllabs.com

Laboratory Use Only

Work Order #: 21T775304

Cooler Quantity: _____

Arrival Temperatures: 9.4 | 9.5 | 9.8

Custody Seal Intact: Yes No N/A

Notes: ice

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: Fisheries & Oceans Canada
Contact: Kamil Biedka
Address: 867 Lakeshore Rd
Burlington, ON
Phone: 905-226-2847 Fax: _____
Reports to be sent to: Kamil.Biedka@dfo-mpo.gc.ca
1. Email: _____
2. Email: _____

Regulatory Requirements:

(Please check all applicable boxes)

- Regulation 153/04 Excess Soils R406 Sewer Use
 Sanitary Storm
 Table Indicate One Ind/Com Res/Park Agriculture
 Table Indicate One Regulation 558 Prov. Water Quality Objectives (PWQO)
 Soil Texture (Check One) Coarse CCME Other
 Fine Indicate One

Is this submission for a Record of Site Condition?

Yes No

Report Guideline on Certificate of Analysis

Yes No

Project Information:

Project: Gros Cap
Site Location: Gros Cap ON
Sampled By: Kamil Biedka
AGAT ID #: _____ PO: _____

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes No

Company: _____
Contact: _____
Address: _____
Email: _____

Sample Matrix Legend

- B** Biota
- GW** Ground Water
- O** Oil
- P** Paint
- S** Soil
- SD** Sediment
- SW** Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI, DOC	O. Reg 153	O. Reg 406	Potentially Hazardous or High Concentration (Y/N)	
								Metals & Inorganics Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB BTEX, F1-F4 PHCs Analyze F4G if required <input type="checkbox"/> Yes <input type="checkbox"/> No PAHs	Total PCBs <input type="checkbox"/> Aroclor VOC	Landfill Disposal Characterization TCLP: TCLP: <input type="checkbox"/> MMA, <input type="checkbox"/> YOCs, <input type="checkbox"/> ABNs, <input type="checkbox"/> BjaP, <input type="checkbox"/> PCBs Excess Soils SPLP Rainwater Leach SPLP: <input type="checkbox"/> Metals, <input type="checkbox"/> VOCs, <input type="checkbox"/> SVOCs Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4 Salt - EC/SAR	
Sample 1	07/13/21	4:00	3	AM							
Sample 2	07/13/21	4:00	3	AM							
				AM							
				PM							
				AM							
				PM							
				AM							
				PM							
				AM							
				PM							
				AM							
				PM							
				AM							
				PM							

Samples Relinquished By (Print Name and Sign): <u>Kamil Biedka</u>	Date: <u>07/15/21</u> Time: <u>5 PM</u>	Samples Received By (Print Name and Sign): <u>SMRAN</u>	Date: <u>July 15/21</u> Time: <u>5:35 PM</u>
Samples Relinquished By (Print Name and Sign): _____	Date: _____ Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____ Time: _____
Samples Relinquished By (Print Name and Sign): _____	Date: _____ Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____ Time: _____

Page _____ of _____
No: **T 121201**