



**Public Works and
Government Services Canada**

Requisition No. _____

SPECIFICATIONS

For

Wood Creek Quarry Riprap Production, Km 651, Alaska
Highway, BC

Project No. R.017173.237

APPROVED BY:



Alaska Hwy Program Manager, IAM

Date

Jan. 30, 2012

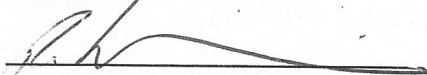


Construction Safety Coordinator

Date

2012-01-30

TENDER:



Project Manager

Date

Jan. 30, 2012

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APPENDICES

Appendix	Description
	Preliminary Hazard Assessment Form
A	<i>Note: The Preliminary Hazard Assessment Form is provided for the Contractor's general information and reference only. PWGSC takes no responsibility for the completeness or any misrepresentation by the Contractor of the on-site hazards based on the information provided in the Preliminary Hazard Assessment Form. The Contractor shall remain responsible for the identifying and mitigating against all hazards on the project.</i>
B	Confirmation of Prime Contractor's Main Responsibilities Under the WorkSafeBC Occupational Health and Safety Regulations and Worker's Compensation Act
C	Written Communication / Document Management Protocol
D	Environmental Protection Plan (EPP) – Checklist.
E	Responsibility Checklist For Authorizations/Approvals/Notifications/Permitting
F	Relevant Environmental Publications

REFERENCE DOCUMENTATION

Standards and Best Practices for Instream Works, British Columbia Ministry of Land and Air Protection
Ecosystem Standards and Planning Biodiversity Branch – March 2004.

Available online at:

<http://www.env.gov.bc.ca/wld/documents/bmp/iswstdsbpsmarch2004.pdf>

Land Development Guidelines for the Protection of Aquatic Habitat, Fisheries and Oceans – September
1993.

Available online at:

<http://www.dfo-mpo.gc.ca/Library/165353.pdf>

BC Ministry of Transportation and Infrastructure, 2015 Interim Traffic Management Manual for Work on
Roadways and applicable Amendments available at time of tender closing.

Available online at:

<http://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/trafficmanagementmanual>

Public Works and Government Services Canada – Acquisition Forms

Available online at:

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>

LIST OF CONTRACT DRAWINGS

Sheet No.	Title	Drawing Number	Revision Number
1	Cover Page	C000	0
2	Project Location Plan, Key Plan, Drawing Index, & Legend and Control Monument Locations	C001	0
3	Quarry Plan View	C110	0
4	Quarry Cross Sections STA. 0+000 to STA. 0+040	C111	0
5	Quarry Cross Sections STA. 0+060 to STA. 0+080	C112	0
6	Quarry Cross Section STA. 0+100	C113	0
7	Quarry Cross Section STA. 0+120	C114	0
8	Quarry Cross Section STA. 0+140	C115	0
9	Quarry Cross Section STA. 0+160	C116	0
10	Quarry Cross Section STA. 0+180	C117	0
11	Quarry Cross Section STA. 0+200	C118	0
12	Quarry Cross Section STA. 0+220	C119	0
13	Quarry Cross Section STA. 0+240	C120	0
14	Quarry Cross Sections STA. 0+260 to STA. 0+280	C121	0
15	Quarry Access Route Profile View	C122	0
16	Site Layout	C123	0
17	Photo Location Plan	C124	0
18	Typical Final Face Detail	C125	0

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Order of Precedence.
- 1.2 Work Covered by Contract Documents.
- 1.3 Codes.
- 1.4 Contractor's Use of Site.
- 1.5 Owner Supplied Materials.
- 1.6 Use of Owner Quarry.

PART 2:

- 2.1 Site Inspection.
- 2.2 Work Completion.
- 2.3 Special Precautions.
- 2.4 Sequence of Work.
- 2.5 Survey.
- 2.6 Contract Drawings.
- 2.7 Electronic Contract Drawings.
- 2.8 Contract Submittals.
- 2.9 Supervisory Personnel.
- 2.10 Special Requirements.
- 2.11 Work by Others.

1.1 Order of Precedence

- .1 In the event of any discrepancy or conflict, order of precedence shall be in accordance with GC1.2.2 – Order of Precedence and as follows:
 - .1 The Division 1 Sections of these Specifications take precedence over the other sections of the Specifications.
 - .2 In the event that two or more plans show conflicting information, the information on the most recently dated plan shall govern.
 - .3 If conflict arises between an item in the main body of these Specifications (Division 1 – Division 31) and an item found in one of the Appendices (Reference Documents), the main body of the Specifications (Division 1 – Division 31) shall govern.
 - .4 Any technical and manufacturer's standard, Government Act, Regulation or Code of practice referred to in the Contract documents shall be the

version current at the time of tender closing.

1.2 Work Covered by
Contract Documents

- .1 Wood Creek Quarry, the project site, is located near Km 651 on the Alaska Highway (Highway 97). The Quarry Entrance is located 2.7 km west of the intersection between the Alaska Highway and Toad River Sub Road. The quarry site lies to the south of the Alaska Highway.

For reference, Dawson Creek is at Km 0, Fort St. John is at approximately Km 75, Fort Nelson is at approximately Km 455, and Watson Lake is at approximately Km 986 on the Alaska Highway.
- .2 The work under this contract generally comprises of the following but is not limited to:
 - 1.1 Contract submittals (using SharePoint) prior to and during the work (For further details see 2.7 – Contract Submittals, Section 01 25 20 – Mobilization and Demobilization and Section 01 33 00 – Submittal Procedures).
 - 1.2 Mobilization and Demobilization of all manpower, equipment, materials, and other resources necessary to execute the Work.
 - 1.3 Responsibility for all aspects of site safety in accordance with Section 01 35 33 – Health and Safety Requirements.
 - 1.4 Coordinate work with PWGSC and other contractors who may be working in the project area.
 - 1.5 Supply and maintain of all traffic control as necessary for the duration of the works.
 - 1.6 Quality Management.
 - 1.7 Clearing, removal, and burning or disposal of trees, brush and other riparian vegetation within the construction footprint necessary to facilitate construction of the works.
 - 1.8 Development of construction access and temporary berms to facilitate construction. Restoration of the disturbed areas following the construction.
 - 1.9 Rehabilitating access ramp(s) in the Quarry.
 - 1.10 Clearing & Grubbing small trees and vegetation in the Development Area and Stockpile Areas.
 - 1.11 Blasting Plan and blasting work within the extents shown on the Contract Drawings to achieve a final face configuration and the required material quantities.
 - 1.12 Controlled Blasting, sorting and stockpiling to

- excavate rock for 10,500 m³ of 250 kg class riprap production.
- 1.13 Controlled Blasting, sorting and stockpiling up to 1,500 m³ of 100 kg class riprap from waste rock (a zero quantity is also acceptable).
 - 1.14 Stockpiling waste rock.
 - 1.15 Restoration of the quarry to pre-construction conditions or as shown on the Contract Drawings.
 - 1.16 Surveys (construction layout, payment quantities, as-built survey, and others as required).
 - 1.17 Environmental protection.
 - 1.18 Work completed by Change Order (if required and approved by Departmental Representative).
- 1.3 Codes .1 Meet or exceed requirements of:
- .1 Contract Documents;
 - .2 Specified standards, applicable legislation, codes, and referenced documents; and,
 - .3 Other codes of Local, Provincial, or Federal application (in the case of conflict or discrepancy, the more stringent requirements shall apply).
- 1.4 Contractor's Use of Site .1 Restrict work to within the construction footprint shown on the Contract Drawings and as agreed to by the Departmental Representative.
- .2 Any additional areas required by the Contractor outside the lands owned by the Departmental Representative and designated for use on this project, shall be the Contractor's responsibility to organize. Any costs associated with the use of these additional lands shall be the Contractor's responsibility.
- .3 Assume full responsibility for protection and safekeeping of products under this contract.
- 1.6 Use of Owner Quarry .1 The Contractor's use of PWGSC's quarry as listed elsewhere within the specifications for the purposes of extraction / manufacture of granular materials and rock shall be subject to the following:
- .1 Other Contractors may be working in the quarry completing similar or different types of work. Coordination with these other Contractors may be required.
 - .2 Laydown areas for equipment and stockpiles may be restricted due to other works ongoing or the existing

size of the quarry.

- .3 The Contractor is responsible to provide all equipment required to excavate, manufacture (as necessary), load, and stockpile the material in PWGSC's quarry.
- .4 The security of equipment parked and material manufactured and stockpiled in the quarry along with the safety of the contractors personnel remains the Contractors responsibility.
- .5 The Departmental Representative will provide the Contractor with a gate key upon commencement of the onsite work. The Contractor shall be responsible for locking the vehicle gate anytime the Contractor's personnel have vacated (regardless of duration) the quarry.
- .6 The Contractor shall be responsible for maintaining access roads into the quarry and for haul roads required to access the aggregate sources for the duration of the project. At a minimum maintaining and developing access may include grading and snow removal. At the conclusion of the works all access roads and haul roads shall be left in an equal to or better condition than when work started.

PART 2 – EXECUTION

- 2.1 Site Inspection
 - .1 Submission of tender is deemed to be confirmation that the Contractor has inspected the site and is conversant with all conditions affecting execution and completion of the work.
- 2.2 Work Completion
 - .1 Preparation of required submittals to commence immediately upon receipt of notice to proceed and to be completed prior to commencement of work (unless specified otherwise).
 - .2 Achieve Substantial Performance by March 29, 2018.
 - .3 Achieve Completion by March 31, 2018.
 - .4 Works may need to be temporally shut down during adverse weather conditions. The works may be stopped by the following processes:
 - .1 The Contractor with approval from the Departmental Representative shall suspend works should poor weather conditions adversely affect the Contractors ability to achieve the contract specifications for quality of work.

- .2 The Departmental Representative may suspend work should they feel that it is not possible to achieve the environmental requirements or the contract specifications for quality of work due to adverse weather conditions.
 - .5 Regardless of who suspends the work, the Contractor will be responsible for maintaining the site and protecting the works throughout the suspension period to ensure the site is in an acceptable condition safe to the public.
 - .6 The Contractor shall account for the possibility of not being able to complete work due to adverse weather conditions in the construction schedule and in the unit prices. No payment for temporary work stoppages due to adverse weather conditions will be made.
- 2.3 Special Precautions
- .1 The Contractor's attention is drawn to the possibility of impacting utilities, etc., within the limits of work. The Contractor shall confirm the locations of all such utilities. All costs for utility locates shall be incidental to the work. The Contractor shall notify the Departmental Representative should utilities be located in areas other than those shown on the drawings or if they conflict with the construction, and await instructions from the Departmental Representative before proceeding with work in the vicinity of such encountered services and utilities.
 - .2 Existing berms, ramps, gates, and any other infrastructure or features in the quarry shall be properly protected from any injury or damage, direct or indirect. Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractor's expense to the satisfaction of the Departmental Representative.
- 2.4 Survey
- .1 The Contractor shall be responsible for all layout surveys to complete the work per the design lines and grades, survey of construction for measurement for payment (see Section 01 29 00 – Payment Procedures), Survey Monitoring and as-built surveys (see Section 01 78 00 – Closeout Submittals). All surveys shall achieve the following:
 - .1 Be collected to an accuracy of +/-0.05 m horizontal and +/-0.05 m vertical or better and shall be referenced / tie into the PWGSC's monument / coordinate system as shown on the Contract Drawings.
 - .2 Use industry standards, methods, equipment, and the survey requirements of Section 01 29 00 – Payment

Procedures, and other approaches (if necessary) as preapproved by the Departmental Representative.

- .2 Unless specified otherwise in the Contract Specifications, all layout surveys and quantity surveys shall be considered incidental to the work and not measured for payment.
- .3 All layout surveys, quantity surveys, and quantity calculations for the purposes of progress payments shall be completed by a Professional Engineer, an Applied Science Technologist or Certified Engineering Technician, or other qualified surveyor, with the knowledge, skills and abilities acceptable to the Departmental Representative. The surveyor or person(s) used for this tasks shall have a minimum of 5 years' experience working on projects of similar size, scope and cost. A resume detailing this experience shall be provided to the Departmental Representative for review and acceptance if requested.
- .4 Report any discrepancies between project survey control monuments, Contract Drawings, and existing conditions to the Departmental Representative as soon as they are discovered. Should a discrepancy be found, await written approval from the Departmental Representative prior to proceeding.
- .5 Establish working control points based on survey control monuments provided (others monuments not listed shall not be used). Report to the Departmental Representative when a working control point is lost or destroyed because of necessary work. Replace working control points from the project survey control monuments.
- .6 Establish / layout the proposed alignment(s) and grades using paint lines and survey stakes based on working control points and survey control monuments provided.
- .7 The Departmental Representative may elect to verify surveys. Verification of the survey by the Departmental Representative does not abdicate the Contractor's responsibility for the correctness and accuracy of the survey.
- .8 Maintain a complete, accurate log of control and survey work as it progresses. On request of the Departmental Representative, submit documentation to verify the accuracy of the field engineering work.
- .9 The Contractor shall regularly monitor the condition of the Work Site and of property on and adjoining the Work Site throughout the construction period, and shall immediately notify the Owner if any deterioration in condition is detected.

Such monitoring shall cover all pertinent features and property including, but not limited to, buildings, structures, roads, walls, fences, slopes, sewers, culverts and landscaped areas.

- .10 The Departmental Representative may, but shall not be obligated to, survey and record the condition of the Work Site and of property on or adjoining the Work Site prior to the commencement of construction by the Contractor. If a survey is undertaken and if requested by the Contractor, the Departmental Representative will provide a copy of the survey records to the Contractor for reference.
- .11 Whenever supplied with survey records, the Contractor shall satisfy itself as to the accuracy and completeness of the survey records provided by the Departmental Representative for any area before commencing construction in that area. Commencement of construction in any area shall be interpreted to signify that the Contractor has accepted such survey records as being a true record of the existing conditions prior to construction.
- .12 The provision of the records of a survey of existing conditions by the Departmental Representative shall in no way limit or restrict the Contractors responsibility to exercise proper care to prevent damage to all property within or adjacent to the Work Site, whether all such property is covered by the survey or not.

2.5 Contract Drawings

- .1 Upon award of the project, PWGSC will at the request of the successful Contractor provide the successful Contractor with up to 4 x 609.6 mm x 914.4 mm (24" x 36") and 6 x 279.4 mm x 431.8 mm (11" x 17") "Issued for Construction" or "Issued for Tender" hard copy contract drawing sets. Preparation and plotting of the hard copy drawing sets may take up to 14 days to prepare (excluding shipping).
- .2 Upon award of the project, PWGSC will provide the successful Contractor with a digital PDF version of the "Issued for Construction" or "Issued for Tender" Contract Drawings. Preparation of the PDF drawing file may take up to 14 days to prepare.

2.6 Electronic Contract Drawings

- .1 If requested by the Contractor, the Departmental Representative will provide the Contractor with available Contract Drawings in electronic format for the Contractor to reference throughout the work.
- .2 The format and software of the electronic Contract Drawings shall be at the Departmental Representative's discretion.

- .3 The Departmental Representative accepts no responsibility for the accuracy or completeness of the electronic Contract Drawings. Should the Contractor choose to reference the electronic Contract Drawings, the Contractor shall satisfy itself as to the accuracy and completeness of the electronic contract drawings before commencing construction. Should a discrepancy between the electronic Contract Drawings and the hard copy Contract Drawings be discovered (at any time during the work), the hard copy Contract Drawings shall govern. The Contractor will be responsible for all costs associated with any corrections to ensure the work is in conformance with the hard copy Contract Drawings. The Departmental Representative shall not be responsible for updating or correcting any discrepancies between the electronic Contract Drawings and the hard copy Contract Drawings identified by the Contractor.

2.7 Contract Submittals

- .1 Complete and submit for Departmental Representative review, all required contract submittals as detailed in the relevant sections of the contract specifications. Work affected by the submittals shall not proceed until the submittal is accepted by the Departmental Representative. Allow for submittal review periods as required for each submittal and as detailed in Section 01 33 00 – Submittal Procedures. Required submittals include but are not limited to the following:
 - .1 Project Schedule (see Section 01 32 16).
 - .2 Cash flow forecasting (see Section 01 31 00).
 - .3 Traffic Management Plan (if required) (see Section 31 23 21).
 - .4 Health and Safety Plan (see Section 01 35 33).
 - .5 Environmental Protection Plan (see Section 01 35 43).
 - .6 Quality Management Plan and related Quality Management documentation (see Section 31 23 21).
 - .7 Blasting Plan (see Section 31 23 21).
 - .8 Pre-Construction Survey (see Section 01 29 00).
 - .9 As-built Survey, As-built Drawing mark-ups, and Shop Drawing mark-ups (see Section 01 78 00).
 - .10 Preliminary Hazard Assessment Form (Appendix A).
 - .11 Confirmation of Prime Contractor's Main Responsibilities Under the WorkSafeBC Occupational Health and Safety Regulations and Worker's Compensation Act form (Appendix B).

- 2.8 Supervisory Personnel
- .1 Within five days of contract award notification, the Contractor shall submit to the Departmental Representative confirmation of the names of the supervisory personnel and other key staff designated for assignment on the Contract. At a minimum the following personnel shall be included on the list:
 - .1 Project Superintendent.
 - .2 Deputy Project Superintendent.
 - .3 Health and Safety Coordinator.
 - .4 Quality Control Manager.
 - .2 The above personnel shall perform the following duties:
 - .1 Project Superintendent: shall be employed full time and shall be present on the Work Site each and every work day that Work is being performed, from the commencement of work to Substantial Performance and Completion of the Work.
 - .2 Deputy Project Superintendent: shall have the authority of the Project Superintendent during the latter's absence for short periods of time.
 - .3 Health and Safety Coordinator: shall possess safety experience in general construction. Duties shall encompass all matters of safety activities from commencement of work until Substantial Performance and Completion of the Work.
 - .4 Quality Control Manager: shall be experienced in Quality Management and onsite from commencement of work until Substantial Performance and Completion of the Work, and remain onsite at all times the Contractor is performing work which must be tested or inspected in-process.
- 2.10 Work by Others
- .1 The Contractor is advised that concurrent with this project there may be other Contractors working in nearby adjacent projects. Should other Contractors be working in nearby adjacent projects, the Contractors shall coordinate his operations with the other Contractors, including traffic management.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Use of Work Site.
- 1.2 Work Conducted in and Adjacent to Waterways.
- 1.3 Protection of Persons and Property.
- 1.4 Use of Public Areas.
- 1.5 Construction Signage.
- 1.6 Access Development.
- 1.7 Restoration.

1.1 Use of Work Site

- .1 The Work Site will be specified by the Departmental Representative and shall only be used for the purposes of the Work. The Work Site will be made available to the Contractor for its exclusive use for the duration of the Work, unless otherwise provided in the Contract Documents.
- .2 The Contractor's office trailer may be set up in the locations identified in Section 01 52 00 – Construction Facilities. The Contractor's construction camp may be set up in the locations identified in Section 01 59 10.
- .3 While the Work Site is under the Contractor's control, the Contractor shall be entirely responsible for the security of the Work Site and of the Work.
- .4 The Contractor shall keep the Work Site clean and free from accumulation of waste materials and rubbish regardless of the source. Snow/ice shall be removed by the Contractor as necessary for the performance and inspection of the Work.
- .5 The Contractor shall provide sanitary facilities for work force in accordance with governing regulations and the Environmental Procedures for this project. The Contractor shall post notices and take such precautions as required by local health authorities and keep area and premises in sanitary condition.
- .6 Any damage to the Work Site caused by the Contractor shall be repaired by the Contractor at the Contractor's expense.
- .7 The Contractor may work 24 hours per day, seven days per week with the following restrictions.
 - .1 Work in excess of 12 hrs per day shall require pre-approval from the Departmental Representative.

At a minimum, pre-approval shall require a plan from the Contractor to ensure all necessary QC work per the contract requirements is completed during all times of work. The Departmental Representative may withdraw approval for the extended work hours at any time should the Contractor fail to achieve all necessary QC requirements or any other contractual requirement as a result of the extended work hours.

- .2 Request for approval to work in excess of 12 hrs per day must be submitted in writing to the Departmental Representative a minimum of five (5) days in advance of the planned change in working hours.
 - .3 No hauling of material during inclement weather.
- 1.2 Work Conducted in and Adjacent to Waterways .1 All components of the work shall be conducted in accordance with Section 01 35 43 – Environmental Protection.
- 1.3 Protection of Persons and Property .1 The Contractor shall comply with all applicable safety regulations of the Workers Compensation Board of British Columbia (WCB) including, but not limited to, WCB’s Workers Compensation Act, Occupational Health and Safety Regulations, Industrial First Aid Regulations, and Workplace Hazardous Materials Information System Regulations (see Section 01 35 33 – Health and Safety for additional requirements).
- .2 The Contractor shall take all necessary precautions and measures to prevent injury or damage to persons and property on or near the Work Site.
 - .3 The Contractor shall promptly take such measures as are required to repair, replace or compensate for any loss or damage caused by the Contractor to any property.
- 1.4 Use of Public Areas .1 Off-road construction equipment (equipment which exceeds legal highway load limits or dimensions) or steel tracked equipment will not be allowed on the Alaska Highway outside the quarry limits.
- .2 The Contractor shall ensure that its vehicles and equipment do not cause nuisance in public areas. All vehicles and equipment leaving the Work Site and entering public roadways shall be cleaned of mud and dirt clinging to the body and wheels of the vehicle. All vehicles arriving at or leaving the Work Site and transporting materials shall be loaded in a manner which will prevent dropping of materials or debris on the roadways, and, where contents may otherwise be blown off during transit, such loads shall be covered by tarpaulins or other suitable

covers. Spills of material, including rocks and debris from loaded trucks, shall be removed or cleaned immediately by the Contractor at no cost to the Owner. All activities shall be in accordance with Section 01 35 43 – Environmental Protection and the Environmental Protection Plan prepared by the contractor for the project. Hauling units on Alaska Highway are not to exceed legal highway load limits or dimensions. The traveled lanes of the Alaska Highway shall remain a Public Highway subject to the rules and laws of Public Highways in the Province of British Columbia. The Contractor is responsible for ensuring all equipment accessing the Highway meets all requirements for vehicles traveling on Public Highways in the Province.

- 1.5 Construction Signage
- .1 No Signs or advertisements, other than regulatory or warning signs, PWGSC supplied signage, and portable electrically illuminated message signs are permitted on site.
 - .2 Signs and notices for Safety and instruction shall be provided by the Contractor.
 - .3 Maintain approved signs and notices in good condition for duration of Project, and dispose of off-site on completion of Project or earlier as directed by the Departmental Representative.
 - .4 Signage shall be coordinated with other Contractors working in the area as needed.

- 1.6 Access Development
- .1 The Contractor is required to develop access to the required work areas. The Contractor is fully responsible for the selection and implementation of all methods to accomplish this requirement. Any access roads or trails extending outside the limits of the work shall be submitted to the Departmental Representative for approval. All construction access shall be completed in conformance with the requirements of Section 01 35 43 – Environmental Protection and the Contractor’s Environmental Protection Plan.

- 1.7 Construction Staging
- .1 The Contractor shall stage the work ensuring that:
 - .1 All design requirements as specified in the Contract Drawings and contract specifications are achieved.
 - .2 All requirements of the Section 01 35 43 – Environmental Protection and the Contractor’s Environmental Protection Plan are achieved.
 - .3 The work is completed in accordance with the Substantial Performance and Completion Dates

provided in Section 01 11 10 – Summary of Work.

The Contractor is fully responsible for the selection and implementation of all methods to accomplish this requirement.

1.8 Restoration

- .1 Re-instate the worksite to a condition equal to or better than the site condition prior to construction by:
 - .1 Restoring existing and proposed drainage patterns, cut slope, and benching as shown on the Contract Drawings.
 - .2 Removal of all temporary materials and structures placed to create access points, roads, detours, or pads unless required by the Contract Drawings or accepted by the Departmental Representative. Dispose of gravels, other materials, or structures at an off-site disposal facility acceptable to the Departmental Representative.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

1.1 Definitions.

1.2 Measurement and Payment Procedures.

1.1 Definitions

.1 Mobilization and Demobilization: Consists of preparatory work and operations, including but not limited to:

.1 Preparation and acceptance of submittals (Construction Schedule, Traffic Management Plan (if required), Quality Management Plan, Environmental Protection Plan, Site Specific Health and Safety Plan, and any other submittals required prior to starting work).

.2 Work and costs incurred necessary for the movement of personnel, equipment, supplies and incidentals to/from the work site.

.3 Work and cost incurred in the establishment and operation of offices, camps, and other facilities necessary to undertake the work.

.4 Work and costs incurred in the completion of clean-up and project completion.

.5 All other work and costs incurred in the successful completion of mobilization and demobilization.

1.2 Measurement and Payment Procedures

.1 Payment for Mobilization and Demobilization will be made on the basis of the Price per Unit Bid for Mobilization and Demobilization in the Bid and Acceptance Form. The Price per Unit Bid shall include all costs associated with the items of work listed in 1.1 Definitions above.

.2 Measurement for Payment for completion of Mobilization and Demobilization will be made at the Lump Sum price and will be scheduled as follows:

.1 50% of the Lump Sum bid price to a maximum of 5% of the Total Tender price at the beginning of construction after the Contractor required submittals (including Construction Schedule, Traffic Management Plan (if required), Quality Management Plan, Environmental Protection Plan and any other submittals noted in the specifications as being required prior to starting work) have been submitted for approval, accepted, and work onsite has commenced to

the satisfaction of the Departmental Representative. Should the Departmental Representative allow the work to start prior to submission or acceptance by the Departmental Representative of any of submittals listed above, the Departmental Representative may choose to hold back a minimum of 5% of the 50% Mobilization & Demobilization payment for each outstanding submittal until an acceptable submission is provided.

- .2 50% once the project has achieved "Completion" and all equipment has been demobilized from the site, the site has been cleaned to the satisfaction of the Departmental Representative, remaining deficiencies identified during final inspection (Section 01 77 00 – Closeout Procedures) are corrected, and all closeout submittals are provided and accepted by the Departmental Representative.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Terms of Payment.
- 1.2 Basis of Payment.
- 1.3 Survey.

1.1 Terms of Payment

- .1 The project's terms of payment shall be per General Conditions (GC) 5 – Terms of Payment. Progress payments shall be submitted by the Contractor on a monthly basis unless accepted otherwise by the Departmental Representative. The progress payment shall use PWGSC's Request for Progress Payment – Construction Contracts form: PWGSC-TPSGC 1792, found online (see link to Public Works and Government Services – Acquisition Forms within the Reference Documentation section of the Table of Contents for link).

With each progress payment, provide to the Departmental Representative:

- .1 Documentation required by General Conditions (GC) 5 – Terms of Payment.
- .2 WorkSafeBC Clearance Letter, indicating the Contractor is in active and good standing per the end date of the progress payment in accordance with Section 51 of the Workers Compensation Act (Departmental Representative may waive this requirement).
- .3 Updated project schedule (see Section 01 32 16 – Construction Progress Schedules – Bar (Gantt) Chart.
- .4 Updated cash flow forecast (see Section 01 31 00 – Project Management and Coordination.

1.2 Basis of Payment

- .1 Basis of payment shall be per the Measurement and Payment Procedures in the applicable specification section. Where not specified, basis of payment for all work included in these specifications or Contract Drawings not specifically mentioned is considered incidental to other work and is part of the Total Contract Amount. No additional payment will be made for incidental work.
- .2 Payment for work shall be made per the Price per Unit as shown in the Unit Price Table.
- .3 For unit price items in the Bid and Acceptance Form, progress payments shall be made based on the quantities of material

sorted to achieve gradation, placed in stockpile, accepted by the Departmental Representative in the field, and surveyed. Provide to the Departmental Representative for each progress claim, survey data at each stage of construction to support progress claim quantities for each unit price item.

- .4 For lump sum items in the Bid and Acceptance Form, progress payments shall be made based on the percent of work completed and accepted by the Departmental Representative at the time of the monthly progress payment (Excluding Mobilization and Demobilization which is paid per 1.2 of Section 01 25 20).
- .5 The Contractor must support any claims for products purchased, manufactured, or delivered to the place of work but not yet incorporated into work. The support for such claims must include such evidence as may be required by the Departmental Representative to establish value and the percentage of the work completed.
- .6 Any work called for in the specifications or shown on the drawings but not specifically mentioned as an item for which payment will be made, will be considered incidental to the items of work listed. No additional payment will be made for this incidental work.
- .7 All equipment, materials, and labour necessary to complete any item of work shall be included in the cost of that work.
- .8 Materials shall be excavated or placed within the specified tolerances of the design lines and grades shown on the Contract Drawings but not uniformly high or low. Materials excavated or placed outside the specified tolerances will not be measured for payment unless preapproved by the Departmental Representative.
- .9 Measurement for Payment will be at the Departmental Representative's discretion using one or more of the following methods:
 - .1 Based upon the survey data collected by the Contractor – when the materials have been excavated or placed within the specified tolerances of the design lines and grades shown on the Contract Drawings but not uniformly high or low.
 - .2 Based upon the survey data collected by the Contractor – when the Contractor's or Departmental Representative's survey data indicates that less materials were excavated or placed than called for by

the design lines and grades on the Contract Drawings.

- .3 By the design grade / design drawing neat lines – when the Contractor's or Departmental Representative's survey data indicates that materials were excavated or placed outside / beyond the specified tolerances of the design lines and grades on the Contract Drawings.

1.3 Survey

- .1 Surveys shall be undertaken by the Contractor to verify quantities for payment purposes. Survey shall be considered incidental to the work and not measured for payment.
- .2 All quantity surveys, and quantity calculations for the purposes of progress payments shall be completed by a Professional Engineer, an Applied Science Technologist or Certified Engineering Technician, or other qualified surveyor, with the knowledge, skills and abilities acceptable to the Departmental Representative. The surveyor or person(s) used for this tasks shall have a minimum of 5 years' experience working on projects of similar size, scope and cost. A resume detailing this experience shall be provided to the Departmental Representative for review and acceptance if requested.
- .3 Survey data collected shall be of sufficient density to fully characterize the work. Survey methods and location of surveyed cross sections is subject to prior approval of the Departmental Representative. At a minimum the Contractor shall survey all features at 20 m station intervals (may be reduced to 10 m in locations with grade changes at the discretion of Departmental Representative) and the location of all treatment boundaries including changes in material type / placement, changes in surface treatment, and changes in the terrain.
- .4 A survey of the existing ground surfaces and other topographic features shall be undertaken by the Contractor prior to initiation of construction, but in areas designated for Clearing and Grubbing after the Clearing and Grubbing has been completed to the satisfaction of the Departmental Representative. The survey shall be provided to the Departmental Representative for review and acceptance. Additionally, during construction no material shall be placed unless the applicable surveys on the completed surfaces have been carried out and the data accepted by the Departmental Representative, and the completed surface has been inspected and accepted by the Departmental Representative.
- .5 Survey data shall be collected at an accuracy of +/-0.05 m horizontal and +/-0.05 m vertical or better and shall be referenced / tie into the PWGSC's monument / coordinate

system as shown on the Contract Drawings.

- .6 Survey data shall be provided to the Departmental Representative in digital xyz format with an appropriate descriptor code as to the type of material surface or feature being surveyed. If requested by the Departmental Representative the survey data shall also be provided in a digital CADD model with complete triangulated surfaces created from the survey points and breaklines for each quantity / payment line item in the unit price table.
- .7 The Contractor shall provide detailed volume calculations using average end area determination or electronic surface to surface comparisons. Details of volume calculations shall be provided to the Departmental Representative for review.
- .8 Surveys may be subject to verification by the Departmental Representative. In case of discrepancy, the Departmental Representative's survey will govern.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Pre-Construction Meeting.
- 1.2 On-Site Documents.
- 1.3 Schedules.
- 1.4 Cash Flow Forecasting.
- 1.5 Construction Progress Meetings.
- 1.6 Written Communication / Document Management.
- 1.7 Submittals.
- 1.8 Close-Out Procedures.

1.1 Pre-construction Meeting

- .1 Following award of the contract and prior to the Contractor mobilizing to the site, attend in person or via teleconference a pre-construction meeting organized by the Departmental Representative.
- .2 Departmental Representatives and senior representatives of the Contractor, including but not necessarily limited to the Project Superintendent, Deputy Project Superintendent, Health and Safety Coordinator, Quality Control Manager, and major subcontractors shall attend in person or via teleconference.
- .3 The Departmental Representative shall establish a time, location, and teleconference number for the meeting and notify the Contractor a minimum of three days prior to the meeting. The Contractor shall notify all concerned parties of the meeting.
- .4 The agenda is to include but is not limited to the following:
 - .1 Appointment of the official representative of participants in the work and lines of communication.
 - .2 Project schedule.
 - .3 Contractor submissions (requirements and submissions schedule).
 - .4 Requirements for temporary facilities, site signage, offices, construction camp, storage sheds, utilities, and fences.
 - .5 Permitting and Environmental requirements.
 - .6 Site security in accordance with Section 01 52 00 – Construction Facilities.
 - .7 Proposed changes, change orders, procedures,

- approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- .8 As-built drawings in accordance with Section 01 78 00 – Closeout Submittals.
- .9 Take-over procedures, acceptance, and warranties in accordance with Section 01 77 00 – Closeout Procedures.
- .10 Monthly progress claims, administrative procedures, photographs, and holdbacks.
- .11 Contractor’s Quality Management and Quality Assurance undertaken by the Departmental Representative.
- .12 Insurances and transcript of policies.
- .13 Contractor’s Site-Specific Health and Safety Plan.
- .14 Other business as required by the Departmental Representative or Contractor.
- .5 Within 14 days of the pre-construction meeting, the Departmental Representative shall distribute meeting minutes to the Contractor. The Contractor shall review the meeting minutes and provide any comments within 5 working days.
- 1.2 On-Site Documents
- .1 Maintain at job site, one copy each of the following:
- .1 Contract Drawings.
- .2 Specifications.
- .3 Addenda.
- .4 Reviewed and accepted submittals.
- .5 Change orders.
- .6 Other modifications to Contract.
- .7 Field test reports.
- .8 Copy of approved work schedule.
- .9 Manufacturer’s installation and application instructions (if applicable).
- .10 All permits (MFLNRO, NRCAN, NWPA, and/or others as required by the Contractor).
- .11 Meeting minutes.
- .12 Contractor’s Site-Specific Health and Safety Plan.
- .13 Contractor’s Environmental Protection Plan (EPP).
- .14 Contractor’s Traffic Management Plan (if required).

- .15 Current construction standards of workmanship listed in the contract specifications.
- .16 One set of “Issued for Construction” Contract Drawings (or “Issued for Tender” if being used for construction), contract specifications, and Shop Drawings for as-built purposes.
- 1.3 Schedules
- .1 Submit preliminary construction progress schedule in accordance with Section 01 32 16 – Construction Progress Schedules – Bar (Gantt) Chart to the Departmental Representative.
- .2 After review by Departmental Representative, revise project schedule to comply with comments given.
- .3 During progress of work, revise and resubmit as directed by Departmental Representative.
- 1.4 Cash Flow Forecasting
- .1 Provide detailed cash flow forecasting derived from the project schedule and agreed upon by project payment schedule. The cash flow forecast shall be broken out by line item to coincide with the project schedule. Submit cash flow forecast to the Departmental Representative within fifteen days after award of Contract but in all cases prior to starting onsite work.
- .2 Update project cash flow forecasting on a monthly basis or for each submission of a progress payment reflecting changes to the schedule until project completion. Submit updated forecast to the Departmental Representative.
- 1.5 Construction Progress Meetings
- .1 During the course of work the Departmental Representative may schedule construction progress meetings approximately every two (2) weeks.
- .2 Departmental Representatives and senior representatives of the Contractor, including but not necessarily limited to the Project Superintendent and major subcontractors shall attend in person. Other contractor representatives including the Deputy Project Superintendent, Health and Safety Coordinator, Quality Control Manager, attend in person or via teleconference.
- .3 The Departmental Representative shall establish a time, location, and teleconference number for the meeting and notify the Contractor a minimum of three days prior to the meeting. The Contractor shall notify all concerned parties of the meeting.

- .4 The meetings may be held on site provided teleconference capabilities are available or at PWGSC's office in Fort Nelson. If held on site, the Contractor shall provide physical space and make arrangements for the meetings.
 - .5 Agenda to include following:
 - .1 Review and approval of minutes of previous meeting.
 - .2 Review of work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules (if applicable).
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule and project submittals.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Cash flow forecasting including monthly updates.
 - .11 Maintenance of quality standards.
 - .12 Review proposed changes for effect on construction schedule and on completion date.
 - .13 Other business.
 - .6 Within 14 days of the construction progress meeting, the Departmental Representative shall distribute meeting minutes to the Contractor. The Contractor shall review the meeting minutes and provide any comments within 5 working days.
- 1.6 Written Communication / Document Management
- .1 Written communication & document management shall be completed per the Written Communication / Document Management Protocol prepared by the Departmental Representative following award of the contract. The Written Communication / Document Management Protocol will resemble the template provided in Appendix C.
- 1.7 Submittals
- .1 Provide submittals, Shop Drawings, product data and samples

in accordance with Section 01 33 00 – Submittal Procedures for review for compliance with Contract Documents, field dimensions and clearances, compatibility and available space, and for relation to work of other contracts. If requested, after receipt of Departmental Representative comments, revise and resubmit.

- .2 Submit requests for payment through the Departmental Representative via PWGSC's cloud based document filing system "SharePoint". Support claims for payment with survey data and other evidence as required by the Departmental Representative.
- .3 Submit requests for interpretation of Contract Documents, and obtain instructions through Departmental Representative. If required by the Departmental Representative, provide supporting documents for proposed substitutions via PWGSC's cloud based document filing system "SharePoint".
- .4 Process substitutions through Departmental Representative. If required by the Departmental Representative, provide supporting documents for proposed substitutions via PWGSC's cloud based document filing system "SharePoint".
- .5 Process change orders through Departmental Representative via PWGSC's cloud based document filing system "SharePoint".
- .6 Deliver closeout submittals for review and preliminary inspections, for transmittal to Departmental Representative via PWGSC's cloud based document filing system "SharePoint".

1.8 Close-Out Procedures

- .1 Notify Departmental Representative when work is considered ready for Substantial Performance.
- .2 Accompany Departmental Representative on preliminary inspection to determine items listed for completion or correction.
- .3 Comply with Departmental Representative's instructions for correction of items of work listed in executed certificate of Substantial Performance.
- .4 Notify Departmental Representative of instructions for completion of items of work determined in Departmental Representative's final inspection.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Project Schedule.
- 1.2 Schedule Format.
- 1.3 Submission of Schedules.
- 1.4 Project Schedule Reporting During the Work.

1.1 Project Schedule

- .1 Develop detailed Project Schedule conforming to the project completion dates found in Section 01 11 10 – Summary of Work.
- .2 Ensure detailed Project Schedule includes as a minimum all relevant milestone activity types as follows:
 - .1 Project Award.
 - .2 Receipt of Necessary Permits.
 - .3 Submittal Schedule:
 - .1 Pre-construction survey
 - .2 Environmental Protection Plan.
 - .3 Traffic Management Plan (if required)
 - .4 Quality Management Plan.
 - .5 Site-Specific Health and Safety Plan, including MSDS sheets.
 - .6 Shop Drawings and Product Samples (if applicable).
 - .7 As-built Survey and As-Built Drawing Mark-ups.
 - .8 Blasting Plan and other blasting submittals.
 - .4 Mobilization.
 - .5 Work activities and material purchases by segment / locations (unless accepted otherwise, at a minimum each line item of work identified in the unit price table shall be identified separately on the project schedule).
 - .6 Interim inspections.
 - .7 Site Clean-up / De-mobilization.
 - .8 Project Substantial Completion and Project Completion dates.
- .3 Indicate dates for submitting, review time, resubmission time,

and last date for meeting fabrication schedule.

- .4 Include dates when reviewed submittals will be required from the Departmental Representative.
- 1.2 Schedule Format
- .1 Prepare schedule in form of a horizontal Gantt bar chart.
- .2 Provide a separate bar for each item of work identified on the unit price table or if acceptable to the Departmental Representative, each operation.
- .3 Provide horizontal time scale identifying first work day of each week.
- .4 Format for listings: the chronological order of start of each item of work.
- .5 Include complete sequence of construction activities and identify critical path and critical path work items in identifying colour.
- .6 Include dates for commencement and completion of each major element of construction.
- .7 For submission during the work, split horizontally for projected and actual performance.
- 1.3 Submission of Schedules
- .1 Submit initial format of schedules within fifteen (15) days after award of Contract but in all cases prior to starting onsite work.
- .2 Submit schedules in electronic format via PWGSC's cloud-based document filing system "SharePoint" (login details to be provided by Departmental Representative at time of submission following contract award). Provide schedules as a single PDF file format document (multiple files will not be accepted) and native file format (ex. Microsoft Projects format) if requested by the Departmental Representative.
- .3 If requested submit two (2) hard copies to be retained by the Departmental Representative.
- .4 The Departmental Representative will review the schedule and return any comments within ten days after receipt.
- .5 Resubmit finalized schedule within seven (7) days after return of review copy. Once accepted by the Departmental Representative, the accepted schedule shall form a baseline which all schedule updates shall be compared against.

- .6 Distribute copies of revised schedule to:
 - .1 Job site office.
 - .2 Subcontractors.
 - .3 Other concerned parties.
- .7 Instruct recipients to report to Contractor within seven (7) days any problems anticipated by timetable shown in the schedule.
- 1.4 Project Schedule Reporting During the Work
 - .1 Update project schedule on a monthly basis or with each progress payment (whichever is more frequent) reflecting activity changes and completions, as well as activities in progress.
 - .2 Include as a baseline each line item and details from the initial project schedule accepted by the Departmental Representative at the start of the project. Indicate progress of each activity to date of schedule submission.
 - .3 Show changes occurring since previous submission of schedule:
 - .1 Major changes in scope.
 - .2 Activities modified since previous submission.
 - .3 Revised projections of progress and completion.
 - .4 Other identifiable changes.
 - .4 Provide a narrative report to define:
 - .1 Problem areas, anticipated delays, and impact on schedule.
 - .2 Corrective action recommended and its effect.
 - .3 Effect of changes on schedules of other Prime Contractor's.
 - .5 Discuss project schedule at Construction Progress Meetings, identify activities that are behind schedule and provide measures to regain slippage. If requested by the Departmental Representative, provide a schedule recovery plan with details of the approach and changes the Contractor is planning on implementing to bring the project back on schedule.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 General Requirements.
 - 1.2 Shop Drawings and Product Data.
 - 1.3 Samples.
- 1.1 General Requirements
- .1 Submit to the Departmental Representative submittals listed for review. Submit with reasonable promptness (per the timelines indicated, if applicable) and in an orderly sequence so as to not cause delay in work. Failure to submit in ample time is not considered sufficient reason for an extension of contract Substantial Completion Date, and no claim for extension by reason of such default will be allowed.
 - .2 Unless specified otherwise or requested by the Departmental Representative, submittals shall be submitted to the Departmental Representative in electronic format via PWGSC’s cloud-based document filing system “SharePoint” (login details to be provided by Departmental Representative at time of submission following contract award). Submittals shall be named and filed on “SharePoint” in accordance with the Written Communication / Document Management Protocol (see template Appendix C). Each submittal shall be compiled into a single PDF document (multiple files will not be accepted).
 - .3 The Departmental Representative will review the project submittals for accuracy against the appropriate project specifications and contract requirements, and endeavor to complete the reviews within the review time specified for each particular submittal, however a longer review period may be required. If a longer review period is required, the Contractor will be notified prior to the passing of the specified review period. Upon completion of the submittal reviews by the Departmental Representative, comments and or acceptance of the submittals will be given. Upon review by the Departmental Representative, should comments be provided, the Contractor shall revise the submittal as required and re-submit the complete revised submittal back to the Departmental Representative for review within one week (or within a time preapproved by the Departmental Representative). The submittals will not be accepted until all comments from all reviews have been addressed to the satisfaction of the Departmental Representative. Despite acceptance of a particular submittal, the Departmental Representative reserves the right to provide additional

- comments to ensure the correction of any deficiencies with particular submittals at any time during the project.
- .4 Work affected by a submittal shall not proceed until the submittal is completed, reviewed, and accepted by the Departmental Representative.
 - .5 Present all necessary drawings, Shop Drawings, product data, samples, and mock-ups in SI Metric units.
 - .6 Where items or information is not produced in SI Metric units, converted values by the Contractor are acceptable.
 - .7 Review submittals prior to submission to the Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of work and Contract Documents. Submittals not stamped, signed, dated, and identified as to a specific project will be returned without being examined and shall be considered rejected.
 - .8 Notify the Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents and stating reasons for deviations.
 - .9 Prior to any submission, verify field measurements and affected adjacent work included on the submission are coordinated.
 - .10 Contractor's responsibility for errors and omissions in submission is not relieved by the Departmental Representative's review of submittals.
 - .11 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
 - .12 Keep one reviewed copy of each submission on site.
- 1.2 Shop Drawings and Product Data
- .1 The term "Shop Drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data that are to be provided by the Contractor to illustrate details of a portion of work.
 - .2 Indicate materials, methods of construction, and attachment or anchorage, erection diagrams, connections, explanatory notes, and other information necessary for completion of work or as indicated elsewhere in the specifications. Where articles or equipment attach or connect to other articles or equipment,

- indicate that such items have been coordinated, regardless of the section under which adjacent items will be supplied and installed. Indicate cross-references to design drawings and specifications.
- .3 Adjustments made on Shop Drawings by the Departmental Representative are not intended to change the Contract Price. If adjustments affect the value of work, state such in writing to the Departmental Representative prior to proceeding with work.
 - .4 Make changes in Shop Drawings as the Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify the Departmental Representative in writing of any revisions other than those requested.
 - .5 Accompany submissions with a transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each Shop Drawing, product data, and sample.
 - .5 Other pertinent data.
 - .6 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by the Contractor's authorized representative certifying approval of submissions, verification of field measurements, and compliance with Contract Documents and requirements.
 - .5 Details of appropriate portions of work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.

- .3 Setting or erection details.
- .4 Capacities.
- .5 Performance characteristics.
- .6 Standards.
- .7 Operating weight.
- .8 Single line and schematic diagrams.
- .9 Relationship to adjacent work.

- .6 Professional seal and signature of the engineer certifying approval of the work (if required).

- .7 After the Departmental Representative's review and acceptance, distribute copies.

- .8 Submit an electronic copy of the Shop Drawing for each requested within the specification sections. Submit hard copies as requested by the Departmental Representative.

- .9 Submit electronic copies of product data sheets or brochures for requirements requested in specification sections and as requested by the Departmental Representative where Shop Drawings will not be prepared due to standardized manufacture of product.

- .10 Delete information not applicable to project.

- .11 Supplement standard information to provide details applicable to the project.

- .12 If upon review by the Departmental Representative no errors or omissions are discovered or if only minor corrections are made, copies will be returned, and fabrication and installation of work may proceed. If Shop Drawings are rejected, noted copy will be returned and resubmission of corrected Shop Drawings, through same procedure indicated above, must be performed before fabrication and installation of work may proceed.

- .13 The review of Shop Drawings by the Departmental Representative is for the sole purpose of ascertaining conformance with general concept. This review shall not mean that the Departmental Representative approves the detail design inherent in Shop Drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in Shop Drawings or of responsibility

for meeting all requirements of construction and Contract Documents. Without restricting generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation, and for coordination of work of all sub-trades.

1.3 Samples

- .14 Work affected by Shop Drawing shall not proceed until the Shop Drawing is reviewed, and accepted by the Departmental Representative.
- .1 Submit for review samples in duplicate as requested in respective specification sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's site office or to a location as directed by the Departmental Representative.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of work, state such in writing to Departmental Representative prior to proceeding with work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed work will be verified.
- .8 Work affected by the sample shall not proceed until the sample is reviewed, and accepted by the Departmental Representative.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 References.
- 1.2 Workers' Compensation Coverage.
- 1.3 Compliance with Regulations.
- 1.4 Submittals.
- 1.5 Health and Safety Plan.
- 1.6 Contractor's Responsibility.
- 1.7 Health and Safety Coordinator.
- 1.8 General.
- 1.9 Project / Site Conditions.
- 1.10 Regulatory Requirements.
- 1.11 Work Permits.
- 1.12 Filing of Notice.
- 1.13 Emergency Procedures.
- 1.14 Hazardous Products.
- 1.15 Overloading.
- 1.16 Fire Safety Requirements.
- 1.17 Unforeseen Hazards.
- 1.18 Posted Documents.
- 1.19 Correction of Non-Compliance.
- 1.20 Medical.
- 1.21 Accidents and Accident Reports.

1.1 References

- .1 Government of Canada:
 - .1 Canada Labour Code - Part II
 - .2 Canada Occupational Health and Safety Regulations.
- .2 National Building Code of Canada (NBC):
 - .1 Part 8, Safety Measures at Construction and Demolition Sites.
- .3 Canadian Standards Association (CSA) as amended:
 - .1 CSA Z797-2009 Code of Practice for Access Scaffold.
 - .2 CSA S269.1-1975 (R2003) Falsework for

- Construction Purposes.
- .3 CSA S350-M1980 (R2003) Code of Practice for Safety in Demolition of Structures.
 - .4 Fire Protection Engineering Services, HRSDC:
 - .1 FCC No. 301, Standard for Construction Operations.
 - .2 FCC No. 302, Standard for Welding and Cutting.
 - .5 American National Standards Institute (ANSI):
 - .1 ANSI A10.3, Operations – Safety Requirements for Powder-Actuated Fastening Systems.
 - .6 Province of British Columbia:
 - .1 Workers Compensation Act Part 3-Occupational Health and Safety.
 - .2 Occupational Health and Safety Regulation.
 - .7 Preliminary Hazard Assessment Form (Appendix A).
 - .8 Confirmation of Prime Contractor’s Main Responsibilities Under the WorkSafeBC Occupational Health and Safety Regulations and Worker’s Compensation Act form (Appendix B).
- 1.2 Workers’ Compensation Coverage
- .1 Comply fully with the Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the completion of the work.
 - .2 Maintain Workers' Compensation Board coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.
- 1.3 Compliance with Regulations
- .1 PWGSC may terminate the Contract without liability to PWGSC where the Contractor, in the opinion of PWGSC, refuses to comply with a requirement of the Workers' Compensation Act or the Occupational Health and Safety Regulations.
 - .2 It is the Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.
- 1.4 Submittals
- .1 The Contractor’s Health and Safety Plan shall be submitted to the Departmental Representative as a single PDF document (multiple files will not be accepted) for

review and acceptance in accordance with the procedures outlined in Section 01 33 00 – Submittal Procedures. The Departmental Representative will review the plan (first submission and if required all subsequent re-submissions) within 14 days of submission. Upon review of the plan the Departmental Representative will do one of the following:

- .1 Accept the plan.
 - .2 Accept portions of the plan and provide comments outlining required changes or additional information in other sections. Following completion of edits by the Contractor, the Contractor shall re-submit the complete plan for review.
 - .3 Reject the plan and provide comments outlining required changes or additional information needed before the plan will be reviewed in detail. Following completion of edits by the Contractor, the Contractor shall re-submit the complete plan for review.
- .2 Submit the following to the Departmental Representative in accordance with the procedures outlined in Section 01 33 00 – Submittal Procedures:
- .1 Preliminary Hazard Assessment Form (Appendix A).
 - .2 Confirmation of Prime Contractor's Main Responsibilities Under the WorkSafeBC Occupational Health and Safety Regulations and Worker's Compensation Act form (Appendix B).
 - .3 Copies of reports or directions issued by Federal and Provincial health and safety inspectors.
 - .4 Copies of incident and accident reports.
 - .5 Complete set of Material Safety Data Sheets (MSDS), and all other documentation required by Workplace Hazardous Materials Information System (WHMIS) requirements.
 - .6 Emergency Procedures.
 - .7 Medical surveillance: where prescribed by legislation, regulation or safety program, submit

certification of medical surveillance for site personnel prior to commencement of work, and submit additional certifications for any new site personnel to Departmental Representative.

- .3 The Contractor shall allow time in the schedule for the reviews, and subsequent edits / re-submission.
- .4 Work affected by the submittal (as determined by the Departmental Representative) shall not proceed until acceptance of the submittal by the Departmental Representative.
- .5 Submission of the Health and Safety Plan, and any revised version, to the Departmental Representative are for information and reference purposes only. It shall not:
 - .1 Be construed to imply approval by the Departmental Representative.
 - .2 Be interpreted as a warranty of being complete, accurate and legislatively compliant.
 - .3 Relieve the Contractor of his legal obligations for the provision of health and safety on the project.
- .6 Should deficiencies in the Contractor's Health and Safety Plan be noted following acceptance of the submittal by the Departmental Representative but during the project work, the Departmental Representative reserves the right to provide additional comments to the Contractor and require re-submission of the Health and Safety Plan to ensure the correction of any deficiencies.

1.5 Health and Safety Plan

- .1 The Contractor shall prepare and comply with the Site-Specific Health and Safety Plan. The preparation and details of the Site-Specific Health and Safety Plan shall include conducting a site-specific hazard assessment based on review of Contract Documents, required work, and project site. The Site-Specific Health and Safety Plan shall address all concerns / requirements identified in the Contract Documents and identify any known and potential health risks and safety hazards including, but not limited to, the following:
 - .1 Primary requirements:
 - .1 Contractor's safety policy.
 - .2 Identification of applicable compliance obligations.

- .3 Definition of responsibilities for project safety/organization chart for project.
 - .4 General safety rules for project.
 - .5 Job-specific safe work procedures.
 - .6 Inspection policy and procedures.
 - .7 Incident reporting and investigation policy and procedures.
 - .8 Occupational Health and Safety Committee/Representative procedures.
 - .9 Occupational Health and Safety meetings.
 - .10 Occupational Health and Safety communications and record keeping procedures.
 - .11 Maps identifying the location of the nearest hospital(s) to the project site. The maps shall be of appropriate scale and sufficient detail allowing for their use to navigate to the hospital(s) in the event of an emergency.
 - .12 Blank copy of Contractor's daily toolbox meeting form.
 - .13 Emergency contact information including PWGSC personnel (including Consultants) and Contractor office and field staff.
 - .14 Working at height management plan
- .2 Summary of health risks and safety hazards resulting from analysis of hazard assessment, with respect to site tasks and operations which must be performed as part of the work.
 - .3 List hazardous materials to be brought on site as required by work.
 - .4 Indicate engineering and administrative control measures to be implemented at the site for managing identified risks and hazards.
 - .5 Identify personal protective equipment (PPE) to be used by workers.
 - .6 Identify personnel and alternates responsible for site safety and health.

- .7 Identify personnel training requirements and training plan, including site orientation for new workers and personnel designated by the Departmental Representative as needing to visit the site.
 - .8 Identify wildlife management plans for large mammal safety and other animals.
 - .9 Identify employee training plans for wildlife encounters and prevention.
 - .10 Identify fire safety, fire reporting, and fire evacuation procedures.
 - .2 Include with the Health and Safety plan, resume(s) or certification(s) of Health and Safety Coordinator(s) responsible for site safety.
 - .3 Develop the plan in collaboration with all subcontractors. Ensure that work/activities of subcontractors are included in the hazard assessment and are reflected in the plan.
 - .4 Revise and update Health and Safety Plan as required, and re-submit to the Departmental Representative.
 - .5 Departmental Representative's review: the review of Health and Safety Plan by Public Works and Government Services Canada (PWGSC) shall not relieve the Contractor of responsibility for errors or omissions in final Health and Safety Plan or of responsibility for meeting all requirements of construction and Contract Documents.
- 1.6 Contractor's 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.
 - .3 The protection of persons off-site and the environment such that they may be affected by the conduct of the work.

- 1.7 Health and Safety Coordinator .1 Employ and assign to work, a competent and authorized representative as Health and Safety Coordinator. The Health and Safety Coordinator shall:
- .1 Be responsible for completing all health and safety training, site orientations, and ensuring that personnel that do not successfully complete the required training are not permitted to enter the site to perform work.
 - .2 Be responsible for implementing, daily enforcing, and monitoring the Site-Specific Health and Safety Plan.
 - .3 Be on site during execution of critical elements of the work or as required by the Contractor.
 - .4 Have a minimum of two (2) years site-related working experience specific to activities associated with Construction.
 - .5 Have working knowledge of occupational safety and health regulations.
 - .6 Attend pre-construction and construction progress meetings as required or as requested by the Departmental Representative.
- 1.8 General
- .1 Provide safety barricades and lights around work site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.
 - .2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the work site.
 - .1 Provide appropriate means by use of barricades, fences, warning signs, traffic control personnel, and temporary lighting as required.
 - .2 Secure site during non-work at night time or provide security guard as deemed necessary to protect site against entry.
 - .3 Conduct daily safety meetings and task specific meetings (toolbox) as required by special work. At a minimum meetings shall include refresher training for existing equipment and protocols, review ongoing safety issues and protocols, and examine new site conditions as encountered. Keep records of meetings and post to

- SharePoint on a weekly or more frequent basis.
- 1.9 Project / Site Conditions .1 Work at the site will, at a minimum, involve contact with:
- .1 Utilities.
 - .2 General public (including large transport trucks) and PWGSC maintenance personnel travelling the highway.
 - .3 Local wildlife.
 - .4 Unpredictable and adverse weather conditions.
- 1.10 Regulatory Requirements .1 Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at site.
- .2 In event of conflict between any provisions of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will advise on the course of action to be followed.
- 1.11 Work Permits .1 Obtain specialty permit(s) related to project before start of work.
- 1.12 Filing of Notice .1 The Contractor is to complete and submit an Advance Notice of Project as required by the Worker's Compensation Board and any other authority in effect at the place or work.
- .2 Provide copies of all notices to the Departmental Representative.
- 1.13 Emergency Procedures .1 List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contacts (i.e. names/telephone numbers) of:
- .1 Designated personnel from Contractor's company.
 - .2 Regulatory agencies applicable to work and as per legislated regulations.
 - .3 Local emergency resources.
 - .4 Departmental Representative.
- .2 Include the following provisions in the emergency procedures:
- .1 Notify workers and the first-aid attendant, of the nature and location of the emergency.
 - .2 Evacuate all workers safely.

- .3 Check and confirm the safe evacuation of all workers.
 - .4 Notify the fire department or other emergency responders.
 - .5 Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.
 - .6 Notify Departmental Representative.
- .3 Provide written rescue/evacuation procedures as required for, but not limited to:
- .1 Work at high angles on slopes greater than 3 m in height.
 - .2 Work in confined spaces or where there is a risk of entrapment.
 - .3 Work with hazardous substances.
 - .4 Work on, over, under and adjacent to water.
 - .5 Workplaces where there are persons who require physical assistance to be moved.
- .4 Design and mark emergency exit routes to provide quick and unimpeded exit.
- .5 Emergency drills must be held at least once each year for all projects lasting longer than one year. The purpose of these drills is to ensure awareness and effectiveness of emergency exit routes and procedures. A record of the drills must be kept by the Contractor.
- .6 Revise and update emergency procedures as required, and re-submit to the Departmental Representative.
- 1.14 Hazardous Products
- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials, and regarding labeling and provision of Material Safety Data Sheets (MSDS) acceptable to the Departmental Representative and in accordance with the Canadian Labour Code.
 - .2 Where use of hazardous and toxic products cannot be avoided:
 - .1 Advise Departmental Representative beforehand of the product(s) intended for use. Submit applicable MSDS and WHMIS documents as per

Section 01 33 00 – Submittal Procedures.

- .2 Provide adequate means of ventilation acceptable to the Departmental Representative and suitable for the hazard.
- 1.15 Overloading .1 Ensure no part of the work is subject to a load which will endanger its safety or will cause permanent deformation.
- 1.16 Fire Safety Requirements .1 Store oily/paint-soaked rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
.2 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.
- 1.17 Unforeseen Hazards .1 Should any unforeseen or peculiar safety-related factor, hazard or condition become evident during performance of the work, immediately stop work and advise the Departmental Representative verbally and in writing.
.2 Should contaminated site conditions be encountered when completing the work, refer to GC4.4 – Contaminated Site Conditions for procedures which the Contractor shall undertake.
- 1.18 Posted Documents .1 Post legible versions of the following documents on site:
 - .1 Health and Safety Plan.
 - .2 Sequence of work.
 - .3 Emergency procedures.
 - .4 Site drawing showing project layout, locations of the first-aid station, evacuation route and marshaling station, and the emergency transportation provisions.
 - .5 Notice of Project.
 - .6 Floor plans or site plans.
 - .7 Notice as to where a copy of the Workers' Compensation Act and Regulations are available on the work site for review by employees and workers.
 - .8 Workplace Hazardous Materials Information System (WHMIS) documents.
 - .9 Material Safety Data Sheets (MSDS).

- .10 List of names of Joint Health and Safety Committee members, or Health and Safety Representative, as applicable.
 - .2 Post all Material Safety Data Sheets (MSDS) on site, in a common area, visible to all workers and in locations accessible to tenants when work of this Contract includes construction activities adjacent to occupied areas.
 - .3 Postings should be protected from the weather, and visible from the street or the exterior of the principal construction site shelter provided for workers and equipment, or as approved by the Departmental Representative.
- 1.19 Correction of Non-Compliance
- .1 Immediately address health and safety non-compliance issues identified by the Departmental Representative.
 - .2 Provide Departmental Representative with written report of action taken to correct non-compliance with health and safety issues identified.
 - .3 The Departmental Representative may issue a "stop work order" if non-compliance of health and safety regulations is not corrected immediately or within posted time. The General Contractor/subcontractors will be responsible for any costs arising from such a "stop work order".
- 1.20 Medical
- .1 Provide and maintain first aid facilities for all workers as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.
 - .2 Provide the appropriate first aid kit, based on the number of workers, in accordance with the Workers' Compensation Act or the Occupational Health and Safety Regulations.
 - .3 Establish an emergency response plan acceptable to Departmental Representative, for the removal of any injured person to medical facilities or a doctor's care in accordance with applicable legislative and regulatory requirements.
 - .4 Provide proof of First Aid credentials to Departmental Representative prior to the start of construction. Provide the appropriate number of first aid attendants on site in accordance with Workers' Compensation Act or the Occupational Health and Safety Regulations.
 - .5 Emergency and First Aid Equipment:

- .1 Locate and maintain emergency and first aid equipment in appropriate location on site including first aid kit to accommodate number of site personnel; portable emergency eye wash; fire protection equipment as required by legislation.
 - .2 Locate sufficient blankets and towels, stretcher,; and 1 hand held emergency siren in all confined access locations.
 - .3 Provide a minimum of 1 qualified first aid attendant as per Workers' Compensation Act or the Occupational Health and Safety Regulations on site at all times when Work activities are in progress; duties of first aid attendant may be shared with other light duty Work related activities.
- 1.21 Accidents and Accident Reports
- .1 Immediately report, verbally, followed by a written report within 24 hours, to Departmental Representative, all accidents of any sort arising out of or in connection with the performance of the Work, giving full details and statements of witnesses. If death or serious injuries or damages are caused, report the accident promptly to Departmental Representative by telephone in addition to any report required under federal and territorial laws and regulations.
 - .2 If a claim is made by anyone against Contractor or Sub-Contractor on account of any accident, promptly report the facts in writing to Departmental Representative, giving full details of the claim.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Definitions.
- 1.2 References.
- 1.3 Regulatory Overview.
- 1.4 Submittals.
- 1.5 Environmental Protection Plan (EPP).
- 1.6 Notification.

PART 2:

- 2.1 Products.

PART 3:

- 3.1 Site Access and Parking.
- 3.2 Protection of Work Limits.
- 3.3 Erosion Control.
- 3.4 Pollution Control.
- 3.5 Equipment Maintenance, Fueling, and Operation.
- 3.6 Operation of Equipment.
- 3.7 Managing of Invasive Plant Vegetation.
- 3.8 Fires and Fire Prevention and Control.
- 3.9 Wildlife.
- 3.10 Relics and Antiquities.
- 3.11 Waste Materials Storage and Removal.
- 3.12 Wastewater Discharge Criteria.
- 3.13 Camp Wastewater Discharge Criteria.
- 3.14 Drainage.
- 3.15 Site Clearing and Plant Protection.
- 3.16 Environmental Protection Supplies.

1.1 Definitions

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution

and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

- .3 Wetted Perimeter: area of stream where water is currently running or pooled.
- .4 In-stream Work: any work performed below the high water mark, either within or above the Wetted Perimeter of any Fisheries Sensitive Zone.
- .5 Fisheries Sensitive Zone: in-stream aquatic habitats and out of stream habitat features such as side channels, wetlands, and riparian areas.
- .6 Invasive plants: are any alien plant species that have the potential to pose undesirable or detrimental impacts on humans, animals or ecosystems. Invasive plants have the capacity to establish quickly and easily on both disturbed and un-disturbed sites, and can cause widespread negative economic, social and environmental impacts.
- .7 Noxious weeds: are invasive plants that have been designated under the BC Weed Control Act. This legislation imposes a duty on all land occupiers to control a set list of identified invasive plants.
www.agf.gov.bc.ca/cropprot/noxious.htm

1.2 References

- .1 Standards and Best Practices for Instream Works, British Columbia Ministry of Land and Air Protection Ecosystem Standards and Planning Biodiversity Branch – March 2004 (See Reference Documentation – Table of Contents).
- .2 Land Development Guidelines for the Protection of Aquatic Habitat, Fisheries and Oceans – September 1993 (See Reference Documentation – Table of Contents).
- .3 Environmental Protection Plan (EPP) – Checklist (Appendix D).
- .4 Responsibility Checklist For Authorizations /Approvals / Notifications / Permitting (Appendix E).
- .5 Relevant Environmental Publications (Appendix F).

1.3 Regulatory Overview

- .1 The Departmental Representative will complete the environmental notification / permitting required by the

British Columbia Ministry of Environment and Climate Change Strategy (MoE) prior to the start of the project. The Contractor shall be aware that submission of the Contractor's Environmental Protection Plan (EPP) to MoE may be required.

- .2 Comply with all applicable environmental laws, regulations and requirements of Federal, Provincial, and other regional authorities, and acquire and comply with such permits, approvals and authorizations as may be required.
 - .3 Comply with and be subject to those permits and approvals obtained from the Departmental Representative to conduct the Work.
 - .4 Pay specific attention to the provincial BC Land Use Permit, Water License and Quarry Permit.
 - .5 Pay specific attention to the Migratory Birds Convention Act, as amended in 1994.
 - .6 Pay specific attention to the provincial BC guidelines under Peace Region Least Risk Timing Windows: Biological Rational (2009).
 - .7 Pay specific attention to provincial standards for instream works, refer to British Columbia Ministry of Land and Air Protection Ecosystem Standards and Planning Diversity Branch publication, Standard and Best Practices for Instream Works – March 2004.
- 1.4 Submittals
- .1 The Contractor's EPP shall be submitted to the Departmental Representative as a single PDF documents (multiple files will not be accepted) for review and acceptance in accordance with the procedures outlined in Section 01 33 00 – Submittal Procedures. The Departmental Representative will review the EPP (first submission and if required all subsequent re-submissions) within 14 days of submission. Upon review of the plan the Departmental Representative will do one of the following:
 - .1 Accept the plan.
 - .2 Accept portions of the plan and provide comments outlining required changes or additional information in other sections. Following completion of edits by the Contractor, the Contractor shall re-submit the complete plan for review.
 - .3 Reject the plan and provide comments outlining

required changes or additional information needed before the plan will be reviewed in detail. Following completion of edits by the Contractor, the Contractor shall re-submit the complete plan for review.

- .2 The Contractor shall allow time in the schedule for the reviews, and subsequent edits / re-submission.
- .3 Work affected by the submittal (as determined by the Departmental Representative) shall not proceed until acceptance of the EPP by the Departmental Representative.
- .4 Upon Departmental Representative acceptance of the Contractor's EPP, the Departmental Representative may submit the EPP as part of the environmental notification / permitting process to the MoE.
- .5 The review of the EPP by the Departmental Representative shall not relieve the Contractor of responsibility for errors or omissions in the accepted submittals or of responsibility for meeting all requirements of the Contract Documents.
- .6 Should deficiencies in the Contractor's EPP be noted following acceptance of the submittal by the Departmental Representative but during the project work, the Departmental Representative reserves the right to provide additional comments to the Contractor and require re-submission of the EPP to ensure the correction of any deficiencies.

1.5 Environmental Protection Plan .1 (EPP)

The Contractor is required to prepare an EPP. The EPP should include and address all relevant environmental impacts/issues at the site as indicated by the EPP Checklist (Appendix D) and as identified in this Section of the specifications. The EPP will require the Contractor to carefully think through the entire project, including identifying what activities and works will be occurring, both generally and at specific sites, and by what methods. The Environmental Protection Plan shall be completed by a P.Biol or RPBio, or other qualified professional, and shall, at a minimum include the following:

- .1 The process and protocol for ensuring that supervisors and individual staff employed by the Contractor are very clear on which environmental standards need to be achieved, how they will be achieved, and establishing how the Contractor will ensure that this is successfully occurring.

- .2 Erosion, drainage, and sediment control plan which identifies type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with the requirements of the applicable MOE Approval or Notification for instream work or under MOE guidelines, and all other applicable regulations including the requirements of these specifications.
- .4 Drawings should show locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of any excess or spoil materials including methods to control runoff and to contain materials on site.
- .5 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
- .6 Spill Control Plan: including procedures, instructions, and reports to be used in the event of unforeseen spill of regulated substance.
- .7 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .8 Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .9 Outline the avoidance and mitigate measures which the Contractor will undertake and implement to ensure compliance with the environmental regulations applicable to the project (which may include requirements provided in MOE Approval or Notifications for Instream Work, NWPA Approval for Instream Work, etc.) and these contract specifications.

- .10 The procedures for stopping the work and implementing changes to the construction methods should the Contractor not be achieving the environmental requirements as outlined in these specifications.
- .11 The procedures for stopping work should the Contractor encounter archaeological anomalies or human remains.

- 1.6 Notification
- .1 Departmental Representative will notify Contractor in writing of observed non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, etc.
 - .2 Contractor: after receipt of such notice, shall inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
 - .3 Departmental Representative will issue stop order of Work until satisfactory corrective action has been taken.
 - .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

PART 2 – PRODUCTS

- 2.1 Products .1 Not Used.

PART 3 – EXECUTION

- 3.1 Site Access and Parking
- .1 The Contractor shall review both short and long term access requirements with the Departmental Representative, both at the start-up and on an on-going basis. In consultation with the Departmental Representative, the contractor shall formulate an agreement for worker transportation to and from the work site and where workers shall park their private vehicles. Generally, personal vehicles shall be parked at least 10 meters from any water course.
 - .2 The Contractor shall ensure that the environment beyond the work limits is not negatively impacted or damaged by workers’ vehicles or construction machinery and shall instruct workers so that the “footprint” of the project is kept within defined boundaries.

- 3.2 Protection of Work Limits .1 The Contractor shall include in the EPP details on the work limits, how these shall be marked and what procedures will be employed to ensure trespass outside these limits does not occur, to the satisfaction of the Departmental Representative.

- 3.3 Erosion Control
- .1 Erosion control measures that prevent sediment from entering any waterway, water body or wetland in the vicinity of the construction site are a critical element of the project and shall be implemented by the Contractor.
 - .2 If necessary, on-site sediment control measures shall be constructed and functional prior to initiating activities associated with the construction activities. The Contractor shall prepare an Erosion Control Plan, to be part of the EPP, to the satisfaction of the Departmental Representative.
 - .3 The regular monitoring and maintenance of all erosion control measures shall be the responsibility of the Contractor. If the design of the control measures is not functioning effectively they are to be repaired. The Departmental Representative will monitor the Contractor's erosion control performance.
 - .4 Erosion control measures must be in compliance with both Federal and Provincial legislation where required. Contractors should be referencing the provincial MOE Standards and Best Practices for Instream Works (2004).
- 3.4 Pollution Control
- .1 The Contractor shall prevent any deleterious and objectionable materials from entering streams, rivers, wetlands, water bodies or watercourses that would result in damage to aquatic and riparian habitat. Hazardous or toxic products shall be stored no closer than 100 metres to any surface water.
 - .2 A Spill Response Plan will be prepared as part of the EPP and shall detail the containment and storage, security, handling, use and disposal of empty containers, surplus product or waste generated in the application of these products, to the satisfaction of the Departmental Representative, and in accordance with all applicable federal and provincial legislation. The EPP shall include a list of products and materials to be used or brought to the construction site that are considered or defined as hazardous or toxic to the environment. Such products include, but are not limited to, waterproofing agents, grout, cement, concrete finishing agents, hot poured rubber membrane materials, asphalt cement and sand blasting agents.
 - .3 The containment, storage, security, handling, use, unique spill response requirements and disposal of empty containers, surplus product or waste generated in the use of any hazardous or toxic products shall be in accordance with all applicable federal and provincial legislation. Hazardous

products shall be stored no closer than 100 metres from any surface water.

- .4 An impervious berm shall be constructed around fuel tanks and any other potential spill area. The berms shall be capable of holding 110% of tank storage volumes and shall be to the satisfaction of the Departmental Representative. Measures such as collection/drip trays and berms lined with occlusive material such as plastic and a layer of sand, and double lined fuel tanks can prevent spills into the environment.
- .5 The Contractor shall prevent blowing dust and debris by covering and/or providing dust control for temporary roads and on-site work such as rock drilling and blasting by methods that are approved by the Departmental Representative.
- .6 The Contractor shall provide spill kits, to the satisfaction of the Departmental Representative, at refueling, lubrication and repair locations that will be capable of dealing with 110% of the largest potential spill and shall be maintained in good working order on the construction site. The Contractor and site staff shall be informed of the location of the spill response kit(s) and be trained in its use.
- .7 Timely and effective actions shall be taken to stop, contain and clean-up all spills as long as the site is safe to enter. The Departmental Representative shall be notified immediately of any spill as well as the provincial authorities. Basic instructions and phone numbers shall be part of the Contractor's EPP.
- .8 In the event of a major spill, the Contractor shall prioritize the cleanup and all other work shall be stopped, where appropriate, and personnel devoted to spill containment and cleanup.
- .9 The costs involved in a major spill incident (control, clean up, disposal of contaminants, and site remediation to pre-spill conditions), shall be the responsibility of the Contractor. The site will be inspected to ensure completion to the pre-spill condition to the satisfaction of the Departmental Representative.

3.5 Equipment Maintenance, Fueling and Operation

- .1 The Contractor shall ensure that all soil, seeds and any debris attached to construction equipment to be used on the project site shall be removed (e.g. power washing) outside before delivery to the work site.

- .2 Equipment fueling sites will be identified by the Contractor to the satisfaction of the Departmental Representative. Except for chain saws, any fueling closer than 100 metres to any surface water (streams, wetlands, water bodies or watercourses) shall require discussion with the Departmental Representative. Regardless of fueling location, personnel shall maintain a presence during refueling with immediate attention to the fueling operations.
- .3 Diesel and gasoline delivery vehicles, including bulk tankers shall be not be parked within 100 metres from any surface water unless actively being used for refueling. Immediately following refueling bulk tankers shall be moved to a location 100 m or greater from any surface water. Gravity fed fuel systems are not allowed. Manual or electric pump delivery systems shall be used.
- .4 Mobile fuel containers (e.g. slip tanks, small fuel carboys) shall remain in the service vehicle at all times. Protection and containment of approved fuel storage sites is addressed in Item 3.4 - Pollution Control, subsection .4 of this specification.
- .5 Equipment use on the project shall be fueled with E10, and low sulphur diesel fuels where available, and shall conform to local emission requirements. The Contractor is to ensure that unnecessary idling of the vehicles is avoided.
- .6 Oil changes, lubricant changes, greasing and machinery repairs shall be performed at locations satisfactory to the Departmental Representative. Waste lubrication product (e.g. oil filters, used containers, used oil, etc.) shall be secured in spill-proof containers and properly recycled or disposed of at an approved facility. No waste petroleum, lubricant products or related materials are to be discarded, buried or disposed of in borrow pits, turnouts, picnic areas, viewpoints, etc. or anywhere within the work area.
- .7 The Contractor shall ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working condition. Maintenance certificates or maintenance logs for all equipment shall be available on site during work.
- .8 Fuel containers and lubricant products shall be stored only in secure locations to the satisfaction of the Departmental Representative. Fuel tanks or other potential deleterious substance containers shall be secured to ensure they are tamperproof and cannot be drained by vandals when left overnight. Alternatively, the Contractor may hire a security person employed to prevent vandalism.

- 3.6 Operation of Equipment
- .1 Equipment movements shall be restricted to the “footprint” of the construction area. The work limits shall be identified by stake and ribbon or other methods to the satisfaction of the Departmental Representative. No machinery will enter, work in or cross over streams, rivers, wetlands, waterbodies or watercourse, nor damage aquatic and riparian habitat or trees and plant communities. Where construction activities require working close to surface water, the Contractor is required to describe measures to be employed to ensure fugitive materials (e.g. rocks, soil, branches) and especially deleterious substances (e.g. chemicals) does not enter any surface water areas.
 - .2 The Contractor shall instruct workers to prevent pushing, placement, raveling, storage or stockpiling of any materials (e.g. slash, rock, fill or top soils) in the trees bordering the right-of-way or into surface water.
 - .3 When, in the opinion of PWGSC, negligence on the part of the Contractor results in damage or destruction of vegetation, or other environmental or aesthetic features beyond the designated work area, the Contractor shall be responsible, at his or her expense, for complete restoration including the replacement of trees, shrubs, topsoil, grass, etc. to the satisfaction of the Departmental Representative.
 - .4 Restrict vehicle movements to the work limits.
 - .5 Workers vehicles are to remain within the construction footprint.
- 3.7 Managing Invasive Plant Vegetation
- .1 Keep equipment clean and avoid parking, turning around or staging equipment in known invasive species infested areas, or mow prior to use.
 - .2 Wash equipment prior to mobilization to site.
 - .3 Minimize unnecessary disturbance of roadside aggregates or soil, and retain desirable roadside vegetation whenever possible.
 - .4 Where possible, begin mowing or brushing in “invasive plant free” areas and end in infested areas.
 - .5 Where possible, use only clean fill material from an “invasive plant free” source.
 - .6 Whenever possible, re-seed with grass mixtures that are free of weeds, locally adapted, non-invasive, and quick to

- establish. Spread seed in the early spring or late fall to ensure successful establishment.
- 3.8 Fires and Fire Prevention and Control .1 Comply with the Open Burning Smoke Control Regulation within the British Columbia Environmental Management Act when burning timber and other organic material resulting from clearing operations. Onsite fires only permitted when approved by Departmental Representative. The burning of other waste products or materials generated as a result of the construction not permitted.
- .2 Obtain all required burning permits from the province of British Columbia.
- .3 Where fires or burning permitted, prevent staining or smoke damage to structures, materials or vegetation which is to be preserved. Restore, clean, and return to new condition stained or damaged work.
- .4 A fire extinguisher shall be carried and available for use on each machine and at locations within the quarry in the event of fire. Should the contractor choose to burn timber and organic materials resulting from clearing operations, at a minimum, the following firefighting equipment shall be maintained at the construction site at a location known and easily accessible to all Contractors' staff: three shovels, two Pulaski's, and two 20 liter backpack pumps). The Contactor's staff shall receive basic training in early response to wildfire events during the "environmental briefing" presented by the Contractor.
- .5 Construction equipment shall be operated in a manner and with all original manufacturers' safety devices to prevent ignition of flammable materials in the area.
- .6 Care shall be taken while smoking on the construction site to ensure that the accidental ignition of any flammable material is prevented.
- .7 In case of fire, the Contractor or worker shall take immediate action to extinguish the fire provided it is safe to do so. The Departmental Representative shall be notified of any fire immediately as well as the applicable Provincial Authorities. Basic instruction and phone numbers will be provided on site by the Contractor and will be discussed in the project pre-construction meeting.
- .8 Where fires or burning is permitted, prevent staining or smoke damage to structures, materials or vegetation which is to be preserved. Restore, clean and return to new condition

- stained or damaged Work.
- .9 Provide supervision, attendance and fire protection measures as directed by the Departmental Representative or other authorities.
- 3.9 Wildlife
- .1 Avoid or terminate activities on site that attract or disturb wildlife and vacate the area and stay away from bears, cougars, wolves, elk, moose, or bison, or other animals that display aggressive behavior or persistent intrusion. Extra care to control materials that might attract wildlife (e.g. lunches and food scraps) must be exercised at all times.
- .2 Notify the Departmental Representative immediately about dens, litters, nests. Carcasses (road kills), bear activity or encounters on or around the site or crew accommodations. Other wildlife related encounters are to be reported within 24 hours.
- 3.10 Relics and Antiquities
- .1 Artifacts, relics, antiquities, and items of historical interest such as cornerstones, commemorative plaques, inscribed tablets and any objects found on the work site that may be considered artifacts shall be reported to the Departmental Representative immediately. The Contractor and workers shall wait for instruction before proceeding with their work.
- .2 All historical or archaeological objects found in the rock quarry are protected under federal and provincial Acts and regulations. The Contractor and workers shall protect any articles found and request direction from the Departmental Representative.
- .3 Human remains must be reported immediately to the local RCMP.
- 3.11 Waste Materials Storage and Removal
- .1 The Contractor and workers shall dispose of hazardous wastes in conformance with the applicable federal and provincial regulations and should be part of the EPP. All waste materials shall be disposed of at a disposal facility acceptable to the Departmental Representative. No waste materials shall be buried onsite.
- .2 All wastes originating from construction, trade, hazardous and domestic sources, shall not be mixed, but will be kept separate.
- .3 Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried, or discarded at the construction site. These wastes shall be contained and removed in a timely and approved manner by the Contractor

- and workers, and disposed of at an appropriate waste landfill site located outside the work area.
- .4 A concerted effort shall be made by the Contractor and workers to reduce, reuse and recycle materials where possible.
- .5 Sanitary facilities, such as portable container toilets, shall be provided by the Contractor and maintained in a clean condition.
- 3.12 Wastewater Discharge Criteria .1 Wash water, meltwater collection, rinse water resulting from the cleaning of fuel tanks and pipelines, contaminated groundwater, and/or any other liquid effluent stream will be released onto the ground at a location that is a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters, and will conform to the discharge requirements set out in the provincial Water Act Permit:
- .2 Contractor must obtain approval from the provincial Water Act Officer prior to discharging any treated wastewater.
- 3.13 Camp Wastewater Discharge Criteria .1 Camp wastewater will be released onto the ground at a location that is a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters and conform to the discharge requirements set out in the provincial Water Act Permit.
- .2 If unable to meet the discharge criteria, provide additional storage and/or treatment necessary to meet criteria prior to discharge.
- .3 Treat all camp wastewater to conform to the discharge requirements set out in the Water Act Permit.
- .4 No direct discharge is allowed to wetland or surface waters.
- .5 Contractor must obtain approval from the Water Act Officer prior to discharging treated wastewater.
- 3.14 Drainage .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water. Drainage plans shall be part of the EPP.
- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements such as the provincial Water

Act.

- .4 Provide an erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Plan to include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
 - .5 As part of the EPP, submit details of proposed erosion, sediment and drainage control to Departmental Representative for review and approval prior to commencing Work in fisheries sensitive areas or in areas that may affect fisheries sensitive areas and specifically address the protection of water bodies, water courses, and the following:
 - .1 Details of grading Work to prevent surface drainage into or out of Work areas.
 - .2 Details of erosion control works and materials to be used, including the deployment of silt fencing, floating silt curtains and containment booms during construction and excavation activities.
 - .3 Work schedule including the sequence and duration of all related Work activities.
 - .4 The treatment of site runoff to prevent siltation of watercourses.
 - .5 Dewatering procedures for excavated materials including silt removal procedures prior to discharge.
 - .6 Stabilizing procedures during excavation.
 - .7 Maintenance of filters and sedimentation traps.
 - .6 Any dewatering activities will be released onto the ground at a location that is a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters.
 - .7 Have on hand sufficient pumping equipment, machinery, and tankage in good working condition for ordinary emergencies, including power outage, and competent workers for operation of pumping equipment.
- 3.15 Site Clearing and Plant Protection
- .1 Restrict tree removal to areas indicated or designated by Departmental Representative and shown on Contract Drawings.

- 3.16 Environment Protection Supplies
- .1 Comply with federal and provincial fisheries and environmental protection legislation, including preventing the loss or destruction of fish habitat, and minimizing the impact of sedimentation, siltation or otherwise causing a degradation in water quality.
 - .2 Provide a minimum of 30 m or more and as required of polypropylene silt fence (typical height of 0.9 m) and the necessary stakes for installation. This will be used as necessary to prevent sediment transport into water bodies.
 - .3 Provide a minimum of 50 lineal metres or more and as required of 200 mm diameter hydrophobic, sorbent booms. This will be used as necessary to prevent the migration of hydrocarbons.
 - .4 Supply, transport, install and maintain erosion, sediment and drainage controls necessary to complete the Work in accordance with the requirements of Departmental Representative.
 - .5 At the completion of construction, leave silt fence(s) in place if requested by the Departmental Representative.
 - .6 Unused Erosion, Sediment and Drainage Control supplies will remain the property of Departmental Representative until the completion of the Contract.
 - .7 Provide inventory of environmental protection supplies prior to mobilization.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Installation and Removal.
- 1.2 Scaffolding.
- 1.3 Hoisting.
- 1.4 Site Storage/Loading.
- 1.5 Security.
- 1.6 Equipment, Tool, and Materials Storage.
- 1.7 Sanitary Facilities.
- 1.8 Construction Signage.
- 1.9 Construction Laydown Area, Construction Parking, and Site Office.
- 1.10 Power.
- 1.11 Communications.
- 1.12 Temporary Heating, Ventilation, and Lighting.
- 1.13 Fire Protection.

1.1 Installation and Removal .1 Provide construction facilities in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.2 Scaffolding .1 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, and temporary stairs as necessary to carry out work.

1.3 Hoisting .1 Provide, operate, and maintain hoists and cranes as necessary for moving of workers, materials, and equipment.

.2 Hoists and cranes shall be operated by qualified operators.

1.4 Site Storage/Loading .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Do not load or permit to load any part of work with a weight or force that will endanger the work or existing infrastructure.

1.5 Security .1 Provide and pay for responsible security personnel as required.

1.6 Equipment, Tool, and Materials Storage .1 If required by the Contractor provide and maintain, in a clean and orderly condition, lockable weather proof sheds for

- storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with public.
- 1.7 Sanitary Facilities .1 Provide sanitary facilities for work force in 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.
- 1.8 Construction Signage .1 No other signs or advertisements, other than those required by the Traffic Management Plan or accepted by the Departmental Representative are permitted on site.
- 1.9 Construction Laydown Area, Construction Parking, and Site Office .1 Confine construction laydown areas, site office locations, and construction parking to the locations identified below in compliance with Section 01 35 43 – Environmental Protection and as preapproved by the Departmental Representative.
- .1 Wood Creek Quarry (Previously disturbed areas)
- .2 Other areas as preapproved by the Departmental Representative.
- 1.10 Power .1 Provide and pay for power as required for the completion of the works and operations of construction offices.
- 1.11 Communications .1 Ensure Contractor's onsite representatives have suitable onsite phone communications allowing the Departmental Representative reliable communication to the Contractors onsite representative when onsite.
- 1.12 Temporary Heating, Ventilation, and Lighting .1 Provide temporary heating, ventilation, and lighting as required during construction period to facilitate construction of the works.
- 1.13 Fire Protection .1 Provide and maintain temporary fire protection equipment during performance of work.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 General Requirements.
- 1.2 Requirements of Regulatory Agencies.

PART 2:

- 2.1 Products.

PART 3:

- 3.1 Mobilization.
- 3.2 Maintenance.
- 3.3 Demobilization.

1.1 General Requirements

- .1 The Contractor to provide its own construction camp and office as necessary. The construction camp shall not be located within PWGSC right-of-way. Obtain approval from land owner should Contractor choose to setup construction camp outside right-of-way.
- .2 The Contractor shall be responsible for all utility services to the construction camp. The construction camp to be established and operated in accordance with local regulations.

1.2 Requirements of
Regulatory Agencies

- .1 Obtain necessary licenses and approvals required by Authority having Jurisdiction for authorized use of water and disposal of domestic sewage and other waste.
- .2 Comply with Environmental regulations.

PART 2 – PRODUCTS

2.1 Products

- .1 Not Used.

PART 3 – EXECUTION

3.1 Mobilization

- .1 Mobilize equipment, personnel, and materials as necessary to establish temporary construction camp and offices. Obtain necessary licenses and approvals from Authorities having Jurisdiction prior to mobilization. Camp and service area location and layout plan to be submitted to Departmental Representative for review and acceptance.
- .2 Temporary construction camps to be established and operated in accordance with local regulations.

3.2 Maintenance

- .1 Maintain construction camp and offices in a neat and tidy

condition.

3.3 Demobilization

.1

Upon vacating construction camp, offices and temporary services, clean-up and leave site in a condition satisfactory to the Departmental Representative and the Authorities having Jurisdiction.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Project Cleanliness.
- 1.2 Final Cleaning.

1.1 Project Cleanliness

- .1 Maintain work in a tidy condition, free from accumulation of waste products and debris.
- .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by the Departmental Representative.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide wildlife resistant containers for collection of waste materials and debris.
- .5 Dispose of waste materials and debris off site.
- .6 Clear snow and ice from areas of work.

1.2 Final Cleaning

- .1 When work is substantially performed, remove surplus products, tools, construction machinery, and equipment not required for performance of remaining work.
- .2 Remove waste products, debris, and materials used in construction. Reinststate the work site to the conditions pre-existing and to the satisfaction of the Departmental Representative.
- .3 Prior to final review, remove surplus products, tools, construction machinery, and equipment.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Inspect finishes and fitments and ensure specified workmanship and operation.
- .6 Remove dirt and other disfiguration from exterior surfaces.
- .7 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .8 Sweep and wash clean paved or BST finished areas.
- .9 Clean drainage systems.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Inspection and Declaration
- .1 Contractor's Inspection: Contractor and all subcontractors shall conduct an inspection of work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
- .1 Notify the Departmental Representative in writing of satisfactory completion of the Contractor's Inspection and that corrections have been made.
- .2 Request the Departmental Representative's Inspection.
- .2 Departmental Representative's Inspection: The Departmental Representative and Contractor will perform inspection of work to identify obvious defects or deficiencies. Contractor shall correct work accordingly.
- .3 Completion: Submit written certification that the following have been performed:
- .1 Work has been completed and inspected for compliance with Contract Documents.
- .2 Defects have been corrected and deficiencies have been completed.
- .3 Work is complete and ready for final inspection.
- .4 Final Inspection: When the items noted above are completed, request final inspection of work by the Departmental Representative and Contractor. If work is deemed incomplete by the Departmental Representative, complete the outstanding items and request re-inspection.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Submissions
 - 1.1 Submissions.
 - 1.2 Recording As-built Conditions (As-Built Drawings).
 - 1.3 As-Built Survey.
- 1.1 Submissions
 - .1 Submit submissions for Departmental Representative review. Following each review the submission will be returned with the Departmental Representative's comments. Revise and re-submit submission per the comments provided.
 - .2 Provide the following submissions to the Departmental Representative within two (2) weeks of substantial performance:
 - .1 As-built drawing and Shop Drawing mark-ups.
 - .2 As-built survey.
- 1.2 Recording As-built Conditions (As-built Drawings)
 - .1 The Departmental Representative will provide one set of Issued for Construction (or Issued for Tender) drawings for use by the Contractor to record as-built conditions and submit at the completion of the project as the "As-built Drawings".
 - .2 Record information concurrently with construction progress on the Issued for Construction (or Issued for Tender) drawings. Do not conceal work until the required information is recorded.
 - .3 Legibly mark each item on the Issued for Construction (or Issued for Tender) drawings and Shop Drawings in red ink to record actual construction conditions and any changes made by addenda and change orders.
 - .4 Maintain record documents in clean, dry, and legible condition.
 - .5 Keep record documents available for inspection by the Departmental Representative.
 - .6 Submit to the Departmental Representative one copy of Issued For Construction (or Issued for Tender) drawings which have been marked by the Contractor up to include all "as-built" conditions.
- 1.3 As-Built Survey
 - .1 At the completion of the work complete an as-built survey of

the works. At a minimum the survey shall include.

- .1 Topo of all areas disturbed and modified during construction (between limits of clearing incl. cut and fill slopes).
 - .2 Manufactured and wasted riprap.
 - .3 Any other feature or elements of work incorporated into the project.
-
- .2 The survey to include sufficient point density to adequately characterize the work. Survey methods and point density is subject to prior approval of the Departmental Representative. At a minimum the Contractor shall survey all features at 20 m station intervals and the location of all treatment boundaries including changes in material type / placement, changes in surface treatment, and changes in terrain.
 - .3 Survey data shall be collected at an accuracy of +/- 0.050 m horizontal and +/- 0.050 m vertical or better and shall be referenced / tie into the PWGSC's monument / coordinate system as shown on the Contract Drawings.
 - .4 Survey data shall be provided to the Departmental Representative in digital xyz format with an appropriate descriptor code as to the type of material surface or feature being surveyed. If requested by the Departmental Representative the survey data shall also be provided in a digital CADD model with triangulated surfaces created from the survey points and breaklines.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Definitions.
- 1.2 Submittals.
- 1.3 Storage and Handling.
- 1.4 Transportation.

PART 2:

- 2.1 Materials.

PART 3:

- 3.1 Disposal.

1.1 Definitions

- .1 Dangerous Goods: Product, substance, or organism that is specifically listed or meets the hazard criteria established in Transportation of Dangerous Goods Regulations.
- .2 Hazardous Material: Product, substance, or organism that is used for its original purpose and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .3 Hazardous Waste: Any hazardous material that is no longer used for its original purpose and that is intended for recycling, treatment, or disposal.
- .4 Workplace Hazardous Materials Information System (WHMIS): A Canada-wide system designed to give employers and workers information about hazardous materials used in the workplace. Under WHMIS, information on hazardous materials is to be provided on container labels, material safety data sheets (MSDS), and worker education programs. WHMIS is put into effect by a combination of federal and provincial laws.

1.2 Submittals

- .1 Submit product data in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit to the Departmental Representative a current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.
- .3 If required, submit Hazardous Materials Management Plan to the Departmental Representative that identifies all hazardous materials, their use, their location, personal protective

- equipment requirements, and disposal arrangements.
- 1.3 Storage and Handling
- .1 Abide by internal requirements for labeling and storage of materials and wastes. If required coordinate storage of hazardous materials with the Departmental Representative.
 - .2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
 - .3 Store and handle flammable and combustible materials in accordance with current National Fire Code of Canada requirements.
 - .4 Store all flammable and combustible liquids in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval.
 - .5 Transfer of flammable and combustible liquids is prohibited within buildings.
 - .6 Transfer of flammable and combustible liquids will not be carried out in the vicinity of open flames or any type of heat-producing devices.
 - .7 Flammable liquids having a flash point below 38°C, such as naphtha or gasoline, will not be used as solvents or cleaning agents.
 - .8 Store flammable and combustible waste liquids for disposal in approved containers located in a safe, ventilated area. Keep quantities to a minimum.
 - .9 Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous materials are stored, used, or handled.
 - .10 Abide by the following storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 L for liquids:
 - .1 Store hazardous materials and wastes in closed and sealed containers that are in good condition.
 - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
 - .3 Store hazardous materials and wastes in containers compatible with that material or waste.

- .4 Segregate incompatible materials and wastes.
 - .5 Ensure that different hazardous materials or hazardous wastes are not mixed.
 - .6 Store hazardous materials and wastes in a secure storage area with controlled access.
 - .7 Maintain a clear egress from storage area.
 - .8 Store hazardous materials and wastes in a manner and location which will prevent them from spilling into the environment.
 - .9 Have appropriate emergency spill response equipment available near the storage area, including personal protective equipment.
 - .10 Maintain an inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
 - .11 Ensure personnel have been trained in accordance with WHMIS requirements.
 - .12 Report spills or accidents involving hazardous materials immediately to the Provincial Emergency Program 24 hour phone line at 1-800-663-3456, other local authority having jurisdiction, and the Departmental Representative. Submit a written spill report to the Departmental Representative within 24 hours of incident.
 - .13 Store and handle all hazardous materials away from any water course as outlined in Section 01 35 43 – Environmental Protection.
- 1.4 Transportation
- .1 Transport hazardous materials and wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.
 - .2 If exporting hazardous waste to another country, ensure compliance with federal Export and Import of Hazardous Waste Regulations.

PART 2 – PRODUCTS

2.1 Materials

- .1 Only bring on site the quantity of hazardous materials required to perform work.

- .2 Maintain MSDS in proximity to where the materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

PART 3 – EXECUTION

3.1 Disposal

- .1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines. Costs for disposal to be considered incidental to the work.
- .2 Recycle hazardous wastes for which there is an approved, cost-effective recycling process available.
- .3 Send hazardous wastes only to authorized hazardous waste disposal or treatment facilities.
- .4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
- .5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
- .6 Dispose of hazardous wastes in a timely fashion in accordance with applicable provincial regulations.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Precedence
- 1.2 Measurement Procedures
- 1.3 References
- 1.4 Submittals
- 1.5 Definitions
- 1.6 Actions Required by Contractor
- 1.7 Storage, Disposal, and Protection

PART 2:

- 2.1 Materials

PART 3:

- 3.1 Temporary Erosion and Sediment Control
- 3.2 Preparation
- 3.3 Clearing
- 3.4 Underbrush Clearing
- 3.5 Grubbing
- 3.6 Removal and Disposal

- | | |
|----------------------------|--|
| 1.1 Procedure | .1 For Federal Government projects, General Conditions take precedence over technical specifications. |
| 1.2 Measurement Procedures | .1 Clearing and Grubbing is considered incidental to the Work and will not be measured separately for payment.

.2 Areas of potential Clearing and Grubbing (to be cleared and grubbed to expose bedrock) are provided in units of square metres for the Contractor's information. These areas are shown on the Contract Drawings. |
| 1.3 References | .1 British Columbia Forest Act, Part 3, Division 1 – Forms of Rights to Crown Timber, latest edition.

.2 British Columbia Environmental Management Act, Open Burning Smoke Control Regulation, latest edition. |
| 1.4 Submittals | .1 Submittals in accordance with Section 01 33 00 – Submittal Procedures.

.2 If disposal by burning is used and if required by the British |

Columbia Open Burning Smoke Control Regulation, submit burning permit to Departmental Representative prior to commencement of burning operations.

- 1.5 Definitions
- .1 “Clearing” consists of cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and disposing of fallen timber and surface debris.
 - .2 “Underbrush Clearing” consists of removal from treed areas of undergrowth, deadwood, and trees smaller than 50 mm trunk diameter and disposing of fallen timber and surface debris.
 - .3 “Grubbing” consists of excavation and disposal of stumps and roots and loose rock to bedrock in the Production Area. Depth to bedrock is expected to be less than 0.3 m.
- 1.6 Action Required by Contractor
- .1 Submit all potentially hazardous product information including manufacturer’s installation instructions, and MSDS sheets in accordance with Section 01 35 43 - Environmental Protection.
- 1.7 Storage, Disposal, and Protection
- .1 Prevent damage to vegetation outside the designated Production Area, and any infrastructure, utilities, or natural features that are to remain. The Contractor shall be responsible for rectifying any damages to the approval of the Departmental Representative.
 - .2 Woody material may be chipped or burned on site.
 - .3 Separate and dispose of waste materials in accordance with Section 01 35 43 - Environmental Protection, and the Environmental Protection Plan.

PART 2 – PRODUCTS

- 2.1 Materials
- .1 Soil material for fill: Excavated soil material free of debris, roots, wood, scrap material, vegetable matter, refuse, soft unsound particles, deleterious, or objectionable materials shall be removed, and stored for reuse.

PART 3 – EXECUTION

- 3.1 Temporary Erosion and Sediment Controls
- .1 Follow all erosion and sediment control procedures as outlined in Section 01 35 43 - Environmental Protection, and the Environmental Protection Plan.
- 3.2 Preparation
- .1 Inspect the site and verify with the Departmental Representative the limits of Clearing & Grubbing, and items

- designated to remain.
- .2 Locate and protect utility lines: preserve in operating condition active utilities traversing the site.
 - .1 Notify the Departmental Representative immediately of any damage to or when unknown existing utility lines are damaged.
- 3.3 Clearing
- .1 Clearing includes cutting, felling, trimming of trees at or near ground level and satisfactory disposal of trees and other vegetation designated for removal in the Production and Stockpile Areas indicated in the attached Drawings and as confirmed on-site by the Departmental Representative.
- 3.4 Underbush Clearing
- .1 Clear underbrush from areas as indicated to the ground surface.
- 3.5 Grubbing
- .1 Remove and dispose of all roots and stumps from the indicated grubbing areas, as directed by the Departmental Representative.
 - .2 Grub out visible rock fragments and boulders.
- 3.6 Removal and Disposal
- .1 Dispose of cleared and grubbed materials to the satisfaction of the Departmental Representative.
 - .2 Chipped material may be evenly spread in the existing treed area.
 - .3 If burning materials, burn only in area designated by the Departmental Representative. Burn under constant care of competent watchmen, at such times and so that surrounding vegetation, adjacent property, or anything designated to remain will not be jeopardized (see Section 01 35 43 Environmental Protection).
 - .1 Notwithstanding Departmental Representative's approval of burn area, the Contractor shall be entirely responsible for any damages or loss to items designated to remain.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Precedence
- 1.2 Measurement Procedures
- 1.3 References

PART 2:

- 2.1 Not Used

PART 3:

- 3.1 Temporary Erosion and Sediment Control
- 3.2 Stripping of Soil and Overburden

- 1.1 Procedure
 - .1 For Federal Government projects, General Conditions take precedence over technical specifications.
- 1.2 Measurement Procedures
 - .1 Soil Stripping & Stockpiling is considered incidental to the Work and will not be measured separately for payment.
 - .2 The estimated quantity of required Soil Stripping and Stockpiling is provided for the Contractor's reference only in units of square metres to be stripped to expose bedrock. These areas are shown on the Contract Drawings.
- 1.3 References
 - .1 U.S. Environmental Protection Agency (EPA)/Office of Water
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

PART 2 – PRODUCTS

- 2.1 Not Used
 - .1 Not Used

PART 3 – EXECUTION

- 3.1 Temporary Erosion and Sediment Controls
 - .1 Follow all erosion and sediment control procedures as outlined in Section 01 35 43 - Environmental Protection, and the Environmental Protection Plan.
- 3.2 Stripping of Soil and Overburden
 - .1 Remove vegetation and brush through Clearing and Grubbing in accordance with Section 31 11 00 – Clearing & Grubbing.
 - .2 Strip soil and overburden to expose bedrock in the

Production Area. Overburden depth is expected to be no greater than 500 mm with an average depth of approximately 300 mm.

- .3 Stripped soil and overburden shall be pushed to the limits of the excavation to be stockpiled in a berm no closer than 2 m to the crest of the rock slope or removed to an offsite disposal facility acceptable to the Departmental Representative.

END OF SECTION

PART 1 – GENERAL

Section Includes

PART 1:

- 1.1 Precedence
- 1.2 Measurement Procedures
- 1.3 Quality Control

PART 2:

- 2.1 Types of Explosives and Accessories
- 2.2 Riprap

PART 3:

- 3.1 Submittals
- 3.2 Blasting Design
- 3.3 General Requirements

1.1 Precedence

- .1 For Federal Government projects, General Conditions take precedence over technical specifications.

1.2 Measurement Procedures

- .1 Payment for riprap production will be made at the Contract Unit Price per bulked cubic metre (m³) of 250 kg class riprap that successfully meets the gradation requirements shown in Table 31 23 21 – 01 and stockpiled at the locations shown on the Contract Drawings or as agreed in writing with the Departmental Representative.
- .2 The Contractor may also produce between 0 m³ to 1,500 bulked cubic metre (m³) of 100 kg class riprap (optional work, a zero quantity is also acceptable) that successfully meets the gradation requirements shown in Table 31 23 21 – 02 and stockpiled at the locations shown on the Contract Drawings or agreed in writing with the Departmental Representative if:
 - .1 Sorting and stockpiling of 100 kg class riprap occurs concurrently with sorting and stockpiling of 250 kg class riprap.
 - .2 The Departmental Representative deems that excessive delays to the production and stockpiling of 250 kg class riprap are not occurring as a result.
- .3 No payment will be provided for the stockpiled waste rock. The sorting and stockpiling of waste rock is considered incidental to the work and shall not be measured for payment.

- .4 Measurement for payment will be based on survey of before and after production.
 - .1 The Contractor shall perform survey(s) (see Section 01 11 10 – Summary of Work, Section 01 29 00 – Payment Procedures, 01 78 00 – Closeout Submittals) of the Riprap Stockpiles to confirm production volumes.
 - .2 The cost of this survey(s) is considered incidental to the Contract and will not be measured for payment.
- .5 The Contract Unit Price per bulked cubic metre (m³) of riprap produced shall be considered full compensation for supplying all material, labour, and equipment to execute the Work.
 - .1 This includes all site preparation work, including but not limited to: developing access / haul road(s), Clearing & Grubbing, Stripping, and Overburden Removal, scaling loose rock from the crest of cut faces, and restoration to the conditions shown on the Contract Drawings.
- .6 Establishment, maintenance, and permitting for an explosives magazine is considered incidental to the work and shall not be measured for payment.
- .7 If the Contractor hires an external Blasting Consultant, these costs will be considered incidental to the Contract and will not be measured for payment.

1.3 Quality Control

- .1 The Contractor shall be responsible for ensuring the product meets the contractual quality requirements and that Quality Control measuring and documenting the quality of the work is completed by qualified personnel. Quality Control work includes monitoring, inspecting, testing, and documenting the means, methods, materials, workmanship, processes and products of all aspects of the work as necessary to ensure conformance with the Contract.
- .2 The Contractor shall provide unrestricted access to all Quality Control operations and documentation produced by or on behalf of the Contractor and shall allow the Departmental Representative full access at any time during working hours.
- .3 The Departmental Representative will review the Contractor's performance of the work and determine the acceptability of the work based on the Departmental Representative's Quality Assurance results and, where

deemed appropriate by the Departmental Representative, supplemented by the Contractor's Quality Control results. If needed, the Departmental Representative may request further testing.

- .4 Work failing to meet the conditions of the Contract shall be considered a non-conformance. A non-conformance report will then be issued by the Contractor's Quality Manager. Non-conforming work shall be removed / replaced from the work unless an exception to the contract documents is accepted by the Departmental Representative.
- .5 The Contractor shall not be entitled to payment for work that lacks the appropriate Quality Control documentation, verified by the Quality Control Manager, as required by the Contract or is subject to an unresolved NCR.
- .6 The Contractor shall implement a well-coordinated approach to all operations related to the work and will organize its team and operations in keeping with the goal of doing things right the first time.
- .7 The Quality Management Plan is required to cover the work in its entirety, including without limitation all materials the Contractor and Subcontractors are supplying, monitoring and testing of the construction, documentation, and all items and phases of construction on the Project.
- .8 The Contractor's Quality Management Plan shall outline the procedures and frequencies which material gradation will be checked and documented. All material shall achieve gradation requirements and at a minimum, a sample shall be measured formally and documented on QC forms by the Contractor every 1,000 m³ of 250 kg riprap produced, and every 200 m³ of 100 kg riprap produced.
- .9 The Contractor shall prepare a Quality Management Plan. The Contractor's Quality Management Plan shall outline the procedures, methods, and frequencies which material gradation will be checked and a sample of the QC check sheet used to document gradation measured.

PART 2 – PRODUCTS

2.1 Types of Explosives and Accessories

- .1 All explosives and accessories shall be produced by a recognized explosives manufacturer.
- .2 Where there is a danger of initiation system cut-offs, detonators and delay elements must be of a type that includes down-hole delays.

2.2 Riprap

- .1 Riprap that is to be measured for payment shall conform to the size and mass requirements set forth in Tables 205-A and 205-B of the BCMoTI 2016 Standard Specifications for Highway Construction. The relevant dimensions are included in the Tables 31 23 21 - 01 and 31 23 21 - 02 below:

Table 31 23 21 - 01: Required dimensions of 250 kg class riprap.			
Property	Gradation Percentage		
	15%	50%	85%
Approximate average dimension	260 mm	565 mm	815 mm
Mass*	25 kg	250 kg	750 kg

Table 31 23 21 - 02: Required dimensions of 100 kg class riprap.			
Property	Gradation Percentage		
	15%	50%	85%
Approximate average dimension	195 mm	415 mm	600 mm
Mass*	10 kg	100 kg	300 kg

* Mass governs the gradation of the riprap. Approximate average dimension is provided for information purposes only. Approximate average dimensions is defined according to the following expression: Normal Size (mm) = 1150 times the cubic root of the mass (kg) divided by the density of the rock (kg/m³).

PART 3 – EXECUTION

3.1 Submittals

- .1 Pre-Construction Condition Survey: The Contractor shall submit to the Departmental Representative, not less than two (2) days before starting Work at the site, a Pre-Construction Condition Survey of all infrastructure in the area that might be subject to damage. The format of the survey must be acceptable to the Departmental Representative.
- .2 Proposed Blast Design: Not less than two (2) days before commencing drilling for a blast, submit a proposed blast design for that blast to the Departmental Representative for review. The Proposed Blast Design shall be in a format acceptable to the Departmental Representative and include as a minimum the following information:
- .1 Proposed extents of blast area.

- .2 Plan and cross section sketch of the blast area showing the free face, drill pattern (burden and spacing), dimensions, and estimated volume.
 - .3 Diameter, inclination, orientation, depth, and number of drilled holes.
 - .4 Loading diagram showing the type and amount of explosive or non-explosive products, powder factor, initiators, and depth of stemming for each type of blast hole.
 - .5 Initiation sequence for blast holes including delay pattern and delay times.
 - .6 Manufacturer's data sheets for all explosive and non-explosive products, delays, and initiation systems used.
 - .7 Methods of protecting existing infrastructure that shall be employed.
 - .8 Proposed date and time of blast.
- .3 As-Built Blasting Record: Not more than one (1) working day after completing each blast, submit an As-built Blasting Record to the Departmental Representative. The As-built Blasting Record shall indicate all deviations from the Proposed Blast Design, the actual date and time of the blast, and identify any known or suspected damage, traffic delays, or other problems which may have resulted from the blast.
- .4 Blasting plan submittals are for quality assurance and record keeping purposes. Review of the Proposed Blast Designs by Departmental Representative shall not relieve Contractor from responsibility for accuracy and adequacy of the designs when implemented.
- 3.2 Blasting Design
- .1 The Contractor shall be responsible for configuring all blasting within the proposed development limits shown on the Contract Drawings, and achieve a final face configuration and the required material quantities.
 - .2 Proposed blast designs shall be prepared by the licensed Blaster who will directly oversee trimming, or by a Blasting Consultant who is registered with Engineers and Geoscientists BC.
 - .3 The Blaster shall be licensed by WorkSafeBC and shall directly oversee the drilling, loading, and detonation of all blasts.
 - .4 The Contractor shall allow unhindered access for the

Departmental Representative to measure the length of holes, dimensions of the blast, and perform other quality assurance tasks.

3.3 General Requirements

- .1 The blast shall be designed to excavate 250 kg class riprap with the least practicable waste rock production. The blast design shall be the responsibility of the Contractor and shall optimize modern blasting techniques.
- .2 The boreholes forming the final face shall be angled at 68° into the excavation. See Contract Drawing C125 for additional information.
- .3 Maximum bench heights shall be 10 m.
- .4 Minimum bench widths shall be 8 m.
- .5 Ramp grades on the completion of work shall be 12% or less.
- .6 Following Blasting, the crest of the face, and the face shall be thoroughly scaled to remove loose, potentially hazardous features.
- .7 The Contractor shall provide any supplies, labour, and equipment necessary to prevent flyrock from leaving the quarry footprint and protect existing infrastructure during the work. Note: The Alaska Highway is approximately 200 m away, in line-of-sight, and at an elevation approximately 35 m below the blast sites.
- .8 If the Contractor deems it necessary to stop traffic on the Alaska Highway for blasting, the Contractor shall produce a Traffic Management Plan and submit this plan to the Departmental Representative seven (7) days prior to blasting operations. The Traffic Management Plan shall be developed and conform to the BC Ministry of Transportation Traffic Management Manual for Work on Roadways – 2015 Office Editions (Interim).
- .9 The contractor shall obtain all necessary permits from, and shall comply fully with the laws, rules and regulations of Municipal, Provincial and Federal agencies in connection with the use, transport, storage and safe handling of all explosives. The contractor shall be familiar with the Industrial Health and Safety regulations published by the Worker's Compensation Board of the Province in which the site is located.
- .10 Explosives and all detonating apparatus shall be stored in a

magazine(s) in accordance with the requirements of all Federal or Provincial inspectors having jurisdiction, and the requirements of the Explosives Act (Canada), R.S.C. 1985, as amended, and any applicable Municipal By-laws.

- .11 Blasting shall only be conducted after the Departmental Representative has received the Certificates of Insurance required by the Contract Documents. The Certificates shall verify that the Blaster's General Liability and Property Damage Coverage contain no specific exclusions for Work related to Blasting.
- .12 The Blaster shall bear full responsibility for ensuring that all Blasting Operations are conducted in a satisfactory manner and in accordance with these specifications. The Departmental Representative's review of the Blasting Plan shall in no way relieve the Blaster from this obligation, nor shall the Departmental Representative assume any responsibility for the adequacy of the Blasting to achieve adequate breakage or acceptable results.

END OF SECTION

R.017173.237
Appendix A

Preliminary Hazard Assessment Form



PRELIMINARY HAZARD ASSESSMENT FORM

Project Number:	R017173.237		
Location:	Wood Creek Quarry, Km 651 Alaska Highway		
Date:	March 2018		
Name of Departmental Representative:	Reza Haghighi		
Name of Client:	PWGSC		
Name of Client Project Co-ordinator	Reza Haghighi	PH: (604)-775-6824	

Site Specific Orientation Provided at Project Location Yes No

Notice of Project Required Yes No

NOTE:

PWGSC REQUIRES A Notice of Project FOR ALL CONSTRUCTION WORK RELATED ACTIVITIES

NOTE:

OHS law is made up of many municipal, provincial, and federal acts, regulations, bylaws and codes. There are also many other pieces of legislation in British Columbia that impose OHS obligations.

Important Notice: This hazard assessment has been prepared by PWGSC for its own project planning process, and to inform the service provider of actual and potential hazards that may be encountered in performance of the work. PWGSC does not warrant the completeness or adequacy of this hazard assessment for the project and the paramount responsibility for project hazard assessment rests with the service provider.

TYPES OF HAZARDS TO CONSIDER	Potential Risk for:				COMMENTS
	PWGSC, OGD's, or tenants		General Public or other contractors		
Examples: Chemical, Biological, Natural, Physical, and Ergonomic					Note: When thinking about this pre-construction hazard assessment, remember a hazard is anything that may cause harm, such as chemicals, electricity, working from heights, etc; the risk is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be.
Listed below are common construction related hazards. Your project may include pre-existing hazards that are not listed. Contact the Regional Construction Safety Coordinator for assistance should this issue arise.	Yes	No	Yes	No	

Typical Construction Hazards					
Concealed/Buried Services (electrical, gas, water, sewer etc)	√		√		
Slip Hazards or Unsound Footing	√		√		
Working at Heights	√		√		
Working Over or Around Water	√		√		
Heavy overhead lifting operations, mobile cranes etc.	√		√		
Marine and/or Vehicular Traffic (site vehicles, public vehicles, etc.		√		√	
Fire and Explosion Hazards	√		√		
High Noise Levels	√		√		
Excavations	√		√		
Blasting	√		√		
Construction Equipment	√		√		



Pedestrian Traffic (site personnel, tenants, visitors, public)	√		√		
Multiple Employer Worksite	√		√		Example: Contractor working in an occupied Federal Employee space.

Electrical Hazards					Comments
Contact With Overhead Wires		√		√	
Live Electrical Systems or Equipment		√		√	
Other:					
Physical Hazards					
Equipment Slippage Due To Slopes/Ground Conditions	√		√		
Earthquake	√		√		
Tsunami		√		√	
Avalanche	√		√		
Forest Fires	√		√		
Fire and Explosion Hazards	√		√		
Working in Isolation	√		√		
Working Alone	√		√		
Violence in the Workplace	√		√		
High Noise Levels	√		√		
Inclement weather	√		√		
High Pressure Systems		√		√	
Other:					
Hazardous Work Environments					
Confined Spaces / Restricted Spaces		√		√	Review and provide confined space assessment(s) from PWGSC or client confined space inventories. Refer to PWGSC Standard on Entry into Confined Spaces. Contact the Regional Construction Safety Coordinator.
Suspended / Mobile Work Platforms	√		√		
Other:					
Biological Hazards					
Mould Proliferations		√		√	
Accumulation of Bird or Bat Guano		√		√	
Bacteria / Legionella in Cooling Towers / Process Water		√		√	
Rodent / Insect Infestation		√		√	
Poisonous Plants		√		√	
Sharp or Potentially Infectious Objects in Wastes		√		√	
Wildlife	√		√		
Chemical Hazards					
Asbestos Materials on Site		√		√	If "yes" a pre-project asbestos survey report is required. Provide Contractor with DP – 057 ELF Form 16 "Contractor Notification and Acknowledgement"
Designated Substance Present		√		√	If "yes" a pre-project designated substance survey report is required.



Chemicals Used in work		√		√	
Lead in paint		√		√	If "yes" a pre-project lead survey report is required.
Mercury in Thermostats or Switches		√		√	If "yes" a pre-project mercury survey report is required.
Application of Chemicals or Pesticides		√		√	
PCB Liquids in Electrical Equipment		√		√	
Radioactive Materials in Equipment		√		√	
Other:					
Contaminated Sites Hazards					
Hazardous Waste	√			√	
Hydrocarbons		√		√	
Metals		√		√	
Other:		√		√	

Security Hazards					Comments
Risk of Assault	√		√		
Other:					
Other Hazards					

Other Compliance and Permit Requirements ¹	YES	NO	Notes / Comments ²
Is a Building Permit required?		√	
Is an Electrical permit required?		√	
Is a Plumbing Permit required?		√	
Is a Sewage Permit required?		√	
Is a Dumping Permit required?		√	
Is a Hot Work Permit required?		√	
Is a Permit to Work required?	√		Mandatory for ALL AFD managed work sites.
Is a Confined Space Entry Permit required?		√	Mandatory
Is a Confined Space Entry Log required		√	Mandatory for all Confined Spaces
Discharge Approval for treated water required		√	

Notes:

- (1) Does not relieve Service Provider from complying with all applicable federal, provincial, and municipal laws and regulations.
- (2) TBD means To Be Determined by Service Provider.

Service Provider Acknowledgement: We confirm receipt and review of this Pre-Project Hazard Assessment and acknowledge our responsibility for conducting our own assessment of project hazards, and taking all necessary protective measures (which may exceed those cited herein) for performance of the work.			
Service Provider Name			
Signatory for Service Provider		Date Signed	
RETURN EXECUTED DOCUMENT TO PWGSC DEPARTMENTAL REPRESENTATIVE PRIOR TO ANY WORK COMMENCING			

R.017173.237
Appendix B

**Confirmation of Prime Contractor's Main Responsibilities Under
the WorkSafeBC Occupational Health and Safety Regulations
and Worker's Compensation Act**



Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

Confirmation of Prime Contractor's Main Responsibilities Under the WorkSafeBC Occupational Health and Safety Regulations and *Worker's Compensation Act*

Name of Project: Wood Creek Quarry Riprap Production, Km 651 Alaska Highway

Owner: Public Works and Government Services Canada

Contractor: _____

Consulting Engineer: Tetra Tech

	YES	NO
1. The Contractor acknowledges appointment as Prime Contractor on the construction project noted below	<input type="checkbox"/>	<input type="checkbox"/>
2. The name of the Prime Contractor's Qualified Coordinator of occupational health and safety activities for this project has been submitted to the Owner and is as shown below.	<input type="checkbox"/>	<input type="checkbox"/>
3. The Prime Contractor understands that in any conflict of directions, WCB OH&S Regulations and/or the Worker's Compensation Act shall prevail.	<input type="checkbox"/>	<input type="checkbox"/>
4. The Prime Contractor understands and will direct that all supervisors/coordinators must immediately report any apparent conflict as described above.	<input type="checkbox"/>	<input type="checkbox"/>
5. The Prime Contractor agrees that their supervisor shall immediately notify the consulting Engineer's representative of any reported conflict.	<input type="checkbox"/>	<input type="checkbox"/>
6. The Prime Contractor has requested and received information from the Owner regarding any known hazards to the health and safety of persons pre-existing at the workplace.	<input type="checkbox"/>	<input type="checkbox"/>
7. The Prime Contractor has conducted an inspection of the workplace to verify the presence of any hazards.	<input type="checkbox"/>	<input type="checkbox"/>
8. The Prime Contractor will communicate hazards information to any persons who may be affected and ensure that appropriate measures are taken to effectively control or eliminate the hazards.	<input type="checkbox"/>	<input type="checkbox"/>
9. The Prime Contractor accepts that written documentation such as notes, records, inspections, meeting minutes, etc., on all health and safety issues must be available upon request to the PWGSC departmental representatives and/or to a WCB officer at the workplace.	<input type="checkbox"/>	<input type="checkbox"/>
10. The Prime Contractor will confirm that all workers are suitably trained and competent to perform the duties for which they have been assigned.	<input type="checkbox"/>	<input type="checkbox"/>
11. The Prime Contractor confirms that safety orientation of all new workers will be conducted.	<input type="checkbox"/>	<input type="checkbox"/>
12. The Prime Contractor's written Safety Program has been provided to the Owner's representative.	<input type="checkbox"/>	<input type="checkbox"/>
13. The Prime Contractor confirms that meetings to exchange information on any safety issues, concerns, hazards or safety directives will be conducted weekly or more often if required.	<input type="checkbox"/>	<input type="checkbox"/>
14. The Prime Contractor confirms that before the commencement of work, crews will attend a daily crew safety meeting.	<input type="checkbox"/>	<input type="checkbox"/>
15. The Prime Contractor confirms that their supervisor has assessed and will coordinate the workplace first-aid requirements	<input type="checkbox"/>	<input type="checkbox"/>
16. The Prime Contractor confirms that the procedure to transport injured workers is established	<input type="checkbox"/>	<input type="checkbox"/>

Prime Contractor Representative's

Name: _____

Title: _____ Signature: _____

Date: _____

Prime Contractor's OH&S Coordinator

Name: _____

Title: _____ Signature: _____

Date: _____

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Appendix C

Written Communication / Document Management Protocol



Alaska Highway Km XXXX – XXXX Project: Written Communication / Document Management Protocol

Written Communication for the Alaska Highway Km XXX – XXX Project (R.017173.XXX) will occur through three main platforms: email, SharePoint, and hardcopy.

1. Email

Email is to be used for general communication, transitory information and the submittal of draft documents, if file size allows. Email is not to be used for the submission of deliverables or significant project documentation.

Email contact information is provided on the project contact list.

2. SharePoint

SharePoint is a web-based collaborative platform that is used to submit and store project documentation. It is the responsibility of the submitting party to upload documents to SharePoint in the correct folder and with the correct file naming convention.

SharePoint can be accessed via the link provided by the Departmental Representative at the time of contract award.

The Contractor is encouraged to have SharePoint accounts for project team members who are involved with accessing or posting project documentation. Accounts can be created by PWGSC throughout the project by contacting the PWGSC project team.

Project documentation includes but is not limited to: submittals, deliverables, drawings, reports, meeting minutes, project schedules, notifications, contemplated change notices, change orders, etc.

2.1 Uploading to SharePoint

1.1 Upload individual documents to the appropriate folder on SharePoint. For folder names, refer to Table 2 of this document.

a. SharePoint File Naming Convention:

All SharePoint users shall upload files named according to the following convention:

Doc Type – AHP – Km XXX Project – File Description or Document Name – YYYY MM DD

Example file names:

- Plan – AHP – Km XXX Project – Quality Management Plan – 2017 02 15
- Schedule – AHP – Km XXX Project – Project Schedule – 2017 02 20
- Finance – AHP – Km XXX Project – Progress Payment 01 – 2017 02 26

The file description should clearly identify the document. The Document type should be selected from the options provided in Table 1:

Table 1: Document Type Options	
Document Type Acronym	Description



Comm	Communication related docs; correspondence, letters, memos, briefing notes, contact lists
Contract	Request for Information (RFI), Contemplated Change Notices (CCN), Change Orders (CO)
Email	Emails
Draw	Drawings and site plans
Finance	Project financial documentation
Image	All non-drawing images, photos etc.
Minutes	Meeting minutes, agendas, and associated documents
Plan	Planning documents, BMPs, SOPs, workplans
Report	Reports of all types- most frequently used for consultant deliverables
Schedule	Any project related schedules
Specs	Specs and terms of references
Other	Other document types, project specific, one-off documents

2.3 SharePoint Folder Arrangement:

1.2 All files must be uploaded to the correct folder in SharePoint. To aid in the filing of documents, a listing of common filing / folder locations has been prepared as shown in Table 2.

Table 2: Common Document Filing / Folder Locations	
Folder Names	Description of Typical Documents
SharePoint folder: R.017173.XXX – Km XXX Project > C_CONSTRUCTION > Contract >	
01_Contract	Contract Documents (typically related to documents posted to Buyandsell.gc.ca)
02_Request for Information	Request for Information from Contractor
03_Permits	Permits obtained by Contactor or PWGSC
04_Site Instructions	Site Instructions (typically generated by PWGSC)
05_CCN	Contemplated Change Notice forms generated by PWGSC and pricing responses from Contractor
06_Change Orders	Change Orders (typically generated by PWGSC)
07_Progress Payments	Progress Payment documents (as instructed by PWGSC)
08_Field Reviews	Field Review forms (typically generated by PWGSC)



Table 2: Common Document Filing / Folder Locations	
Folder Names	Description of Typical Documents
09_Health & Safety	Health and Safety related documentation including Health and Safety Plan, Tailgate Safety Meeting documentation, and other Health and safety related submittals.
10_Testing Services	Testing Reports completed by Contractor's QC
11_Environmental Plan	Environmental Protection Plan and other environmental related documents
12_Environmental Reporting	Environmental monitoring reports generated by the Contractor's environmental monitor
13_Shop Drawings	Shop drawing submissions provided by the Contractor as required by the contract specifications
14_Deliverables	Contractor Deliverables as required by the contract specifications throughout the project including such items as: <ul style="list-style-type: none"> • Project Schedule • Traffic Management Plan • Construction Staging Drawings • Culvert Mill Certificates • Other supplier information as needed
15_Deficiency List	Deficiency lists (typically generated by PWGSC)
16_Certificate of Substantial Performance	Certificate of Substantial Performance as generated by PWGSC
17_Certificate of Completion	Certificate of Completion as generated by PWGSC
18_Claims	Documentation related to any claims on the project
19_Contract Close out	Documentation related to contract closeout including closeout submittals such as: <ul style="list-style-type: none"> • As-built Surveys • As-built Redline Drawing Mark-ups • Warranties • Instruction Manuals
20_Advisory	Advisories in response to RFIs or other notices as generated by PWGSC.
21_Quality Management	Quality control and Quality Assurance documentation generated by the Contractor and PWGSC <ul style="list-style-type: none"> • Quality Management Plan • Check Sheets • Daily Reports • NCR's
SharePoint folder: R.017173.XXX – Km XXX Project > G_COMMUNICATIONS & MEETINGS >	



Table 2: Common Document Filing / Folder Locations	
Folder Names	Description of Typical Documents
01_Correspondence	Emails and other correspondence requiring posting to SharePoint, generated by the Contractor or PWGSC
02_Contact List	Project contact list generated by PWGSC
03_ATIP	
04_Communications Plan	Communication plan generated by PWGSC
05_Supporting Documents	
06_Meeting Minutes	Meeting minutes as generated by PWGSC
07_Inquiries	
08_Public Notices	
09_Other	
SharePoint folder: R.017173.XXX – Km XXX Project > H_PROJECT MONITORING>	
01_Project Time Scope Budget	For PWGSC only
02_Progress Report	For PWGSC only
03_Photos	For PWGSC only
04_Project Commissioning	For PWGSC only
05_Compliance & Audits	For PWGSC only
SharePoint folder: R.017173.XXX – Km XXX Project > Z_BASE DATA>	
01_Base Data	Digital drawings and other documentation required by the Contractor (typically generated by PWGSC)

Typical folders Users are encouraged to create sub-folders and categorize documents of similar or related data.

Example sub-folders:

- 09_Health & Safety > **Tailgate Meetings > February**
- 14_Deliverables > **Project Schedule**
- 21_Quality Management > **Check Sheets > February**

3. **Hardcopy**

Submittals only available in original hardcopy (or hardcopies requested by PWGSC or required by contract) should be prearranged with project team prior to shipping but will generally be directed as follows:

XXXXXX XXXXXXXX
XXXXXX XXXXXXXX
XXXXXX XXXXXXXX



Samples shall be provided directly to the testing lab specified by the Departmental Representative for QA purposes or delivered to the project site.

SAMPLE

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Appendix D

Environmental Protection Plan (EPP) – Checklist

Environmental Protection Plan (EPP) — Checklist

Note: This checklist was developed to assist the Contractor in determining and mitigating environmental issues at site. It is considered a generic checklist and it is in the Contractor's best interest to review the PWGSC Environmental Management Plan (EMP) or the Environmental Assessment (EA) as supporting documents in the completion of the site Environmental Protection Plan (EPP). This EPP Checklist does not need to be submitted for review by the Departmental Representative.

EPP Framework	Content Requirements	No	Yes	N/A
Project Setting and Site Activities				
<i>Project Description</i>	A brief description of the project and its location is provided.			
<i>Environmental Sensitivities</i>	Sensitive or protected features that could be impacted as a result of the Contractor's activities are described.			
<i>Site Activities</i>	A scope of work and a list of all construction or related activities to be undertaken during the project are provided.			
Project Schedule and Site Drawings				
<i>Project Schedule</i>	A project schedule is provided, including scheduled shut-downs and restricted work periods due to environmental requirements.			
<i>Site Drawing</i>	One or more site drawings(s) are provided, indicating the site location; site set-up and layout; erosion and sediment controls; in-stream work areas; and environmental sensitivities.			
Potential Environmental Impacts and Controls				
<i>Potential Environmental Issues and Impacts</i>	The potential environmental issues and impacts that may result from the construction activities are described. Environmental Reports (Environmental Assessments; Fish Habitat and Compensation etc) will be provided to the contractor especially with respect to any in-stream work procedures that will be required. For example, in-stream works will impact fish and fish habitat in the surrounding ecosystem. It is the Contractor's responsibility to ensure the work is completed in a manner that causes the least impact on the ecosystem (see section on Mitigation).			
<i>Permits, Approvals, and Authorizations</i>	List required permits, approvals and authorizations. As applicable, environmental mitigation measures prescribed by regulatory agencies and included in project permits, approvals and authorizations are described. NOTE: DFO, MOE and NWPA approvals and authorizations for in-stream works are PWGSC's responsibility however, the Contractor must be aware of the requirements of these approvals/authorizations. Permitting for water withdrawal from the waterbody as part of construction activities is part of the Contractor's responsibility.			
<i>Mitigation Strategies</i>	Procedures, controls or best management practices (BMPs) to prevent or reduce adverse impacts on the environment are provided. All work in BC must adhere to the BC MOE "Standards and Best Practices for Instream Works".			
<i>Erosion and Sediment</i>	Erosion and sediment controls are provided, as appropriate for the jurisdiction.			

Waste Management and Hazardous Materials				
Waste Management and Hazardous Materials	Hazardous materials that will be used and/or stored on site are listed. Expected hazardous and non-hazardous waste materials along with proper handling, containment, storage, transportation and disposal methods are listed. As appropriate for the jurisdiction, estimated waste quantities and specific handling procedures are also provided. For example, refueling of equipment will be conducted at least 100m away from any active drainage courses.			
EPP Implementation				
Site Representative	Name(s) and contact details for the person(s) who will be the Contractor's Site Representative(s) are provided.			
Training and Communication	Training and communication details are provided.			
Monitoring and Reporting	Monitoring and inspection procedures, including a schedule of monitoring activities and reporting procedures are provided. For example, this would include downstream monitoring activities for increased siltation during in-stream works.			
Documentation	Information and/or records that will be maintained relating to the EPP and end environmental matters on the project site are described.			
EPP Update	EPP review and update procedures are provided.			
Environmental Emergency Response Procedures				
Environmental Emergency Response Procedures	Potential incidents that may impact the environment are identified, and emergency response procedures to prevent and respond to incidents are provided. An environmental emergency response contact list is also provided.			

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Appendix E

**Responsibility Checklist for Authorizations / Approvals /
Notifications / Permitting**

Responsibility Checklist For Authorizations/Approvals/Notifications/Permitting

Project Title	
Project Description	
Project Type	
Comments	

Issued By	Document Type	Yes	No	N/A
PWGSC Responsibility				
Federal				
DFO - Fisheries Act http://laws.justice.gc.ca/en/F-14/	Section 35(2) Authorization for Harmful Alteration Disruption or Destruction (HADD) to fish habitat (eg. new bridges that are not clear span; erosion protection works that extend into the river channel).			
	Section 32 Authorization for Destruction of Fish (when explosives are used). Protects fish from being destroyed except by fishing or as Authorized by DFO.			
	Section 20 Approval – The Need for Safe Fish Passage – Every obstruction across or in any stream where DFO determines it necessary that a fish-pass should exist requires either a fish way or canal around the obstruction.			
	Notification process required for culverts and those works that fall under DFO Operational Statements. Stream Crossings by Roads: <ul style="list-style-type: none"> • Clear Span Bridges • Temporary Ford Stream Crossing • Ice Bridges and Snow Fills • Bridge Maintenance • Maintenance of Riparian Vegetation in Existing Rights-of Way 			
	Section 36 – under this Section of the Fisheries Act the proponent can be FINED resulting from deposition of substances deleterious to fish in waters frequented by fish – this includes release of silt laden waters from construction activities.			
Transport Canada NWPA http://laws.justice.gc.ca/en/N-22/text.html	Section 5(1) Formal Approval for construction of new structures (new bridges, culverts, scour			

	protection).			
	Section 5(2) Work Assessment for work resulting in insignificant impacts on navigability.			
	Section 6(4) Formal Approval for existing structures (existing bridges).			
	Minor Works and Waters Order – This is an amendment to the NWPA that streamlines the federal review process by establishing classes of waters and works (projects) that do not require an Application or Approval through the NWPP because they are "minor" in nature. These would include such "works" as repairs to riprap (no gryones) or "waters" that are not large enough for vessel traffic (ie. Contact Creek). http://www.tc.gc.ca/eng/marinesafety/oep-nwpp-minorworks-menu-1743.htm			
Indian and Northern Affairs Canada – Indian Act	Approval for activities on lands under their jurisdiction. This is addressed under the EA review process in most cases. If the project is exempt from an EA it must be addressed by the PM or ES personnel.			
Migratory Birds Convention Act (MBCA)	Environment Canada is responsible for implementing the <u>Migratory Birds Convention Act</u> , which provides for the protection of migratory birds through the <u>Migratory Birds Regulations</u> . This is addressed under the EA review process in most cases. If the project is exempt from and EA it must be addressed by the PM or ES personnel.			
ECMP	Has taken over for our old CEAA form. The ECMP Checklist and the Preliminary Identification of Environmental Support Required (PIESR) Form have been developed to ensure that applicable environmental legislation and relevant aspects are identified during a project. The ECMP Checklist replaces the PWGSC CEAA Checklist, and will be the mechanism by which project information is submitted to PWGSC Environmental Services to determine whether environmental support is required. The ECMP Checklist is located in ELF (Form 183_e). By completing and submitting the ECMP Checklist to Environmental Services, PWGSC project managers ¹ will ensure that their projects are systematically evaluated for compliance with environmental legislation, policies and sustainable development			

¹ Project Manager refers to anyone who leads, manages or delivers a project

	requirements			
Species at Risk Act (SARA) http://www.sararegistry.gc.ca/default_e.cfm	A list of federally-listed species at risk likely to occur at a given subject site must be compiled in order to identify potential impacts & propose mitigation measures for minimizing impacts to these species as a result of project activities. In cases where suitable habitat for a given species exists at/near the project site, mitigation measures are recommended, including avoidance of areas containing said habitat and informing site workers of these issues to prevent incidents.			
First Nations Notifications and Consultations http://class.nrcan.gc.ca/googledata-donneesgoogle-eng.php	Natural Resources Canada has developed an overlay to be used with Google Earth & Google Maps to identify First Nations lands throughout the country. Notifications of projects within 5 km of such lands and/or directly upstream from such lands should be submitted to the relevant First Nations for a determination of their interest in a given project and/or to request any traditional knowledge they may have to offer.			
Provincial – Note one submission package for instream works is sent to FrontCounter BC at MOE who then send off to the appropriate departments for approval/notification/permitting – this does not apply to the archeological.				
Wildlife Act – WLAP – MOE http://www.qp.gov.bc.ca/statreg/stat/W/96488.01.htm	Wildlife Act – Section 34 – Birds, Nests and Eggs – vegetation clearing should not occur during critical bird nesting periods, which typically occur in the spring and summer. Contact the local WLAP for vegetation clearing timing windows.			
Water Act - Water Stewardship Division - MOE http://www.qp.gov.bc.ca/statreg/stat/W/96483	Section 9 – regulates changes in or about a stream and ensure that water quality, riparian habitat, and the rights of licensed water users are not compromised. This is an approval process and takes approximately 140 days. An application fee is also required. Works requiring approval include channel realignment, retaining wall or bank protection stabilization etc.			
Environmental Stewardship Division - MOE	Notification process for such works as replacement and maintenance of culverts and outfalls; temporary stream diversions around a worksite and takes approximately 45 days to receive notification approval. In general, those works requiring a notification are those that do not involve any diversion of water.			
Fish Protection Act – MOE http://wlapwww.gov.bc.ca/habitat/fishprotectionact/	This Act was passed in 1997 and is reviewed as part of the Water Act under Section 9 when applying for approval.			
Ministry of Forests, Lands and Natural Resources Operations Archaeological	When completing projects such as quarry pits and new highway alignments, a request is put into the archaeological branch of MFLNSO via the			

http://www.for.gov.bc.ca/archaeology/requesting_archaeological_site_information/process_steps.htm Contact: Hayley Bond (250) 953-3343	EA process to search the data base. An archaeological assessment may be required on those areas that are previously undisturbed or undeveloped.			
BC Parks	Various permits are required when completing construction activities within the Parks. Please note that all works within 150 feet of the centreline of the highway (Right-of-Way) are NOT subject to construction permitting. (this does not include permitting for fish surveys).			
Canada-British Columbia Agreement for Environmental Assessment Cooperation http://www.ceaa.gc.ca/default.asp?lang=En&n=04A20DBC-1	Most Alaska Highway Projects will not trigger this agreement, as both the Vancouver CEAA office and the Victoria BC Environmental Assessment Office (EAO) have confirmed that the types and scopes of the projects are not described in the BC Environmental Assessment Act – Reviewable Projects Regulation. However, for due diligence, it is recommended that notifications for all Alaska Highway projects be submitted to CEAA (info@ceaa-acee.gc.ca) for review and, if necessary, a determination of whether or not CEAA and/or the BC EAO should be involved.			
BC Ministry of Environment – BC Species and Ecosystems Explorer http://a100.gov.bc.ca/pub/eswp/	A list of provincially-listed species at risk likely to occur at a given subject site must be compiled in order to identify potential impacts & propose mitigation measures for minimizing impacts to these species as a result of project activities. This process involves conducting a search of the BC Species and Ecosystems Explorer inventory for the specific area of BC containing the proposed project site.			
Consultant Responsibility				
Provincial				
BC Parks Ministry of Forests, Lands and Natural Resources Operations http://www.env.gov.bc.ca/bcparks/permits/	Permit to Collect Fish For a Scientific Purpose - Regulation Research activities in parks and protected areas, including: collection; monitoring; survey and inventory; and, other research trigger a Park Permit – Ministry of Forests, Lands and Natural Resources Operations is responsible for the administration of fish and wildlife permits. Note that these permits are taking approx 6 months to receive due to recent involvement and subsequent consultation with Treaty 8.			
Water Act – Regulation’s Protection of Habitat - Section 42(1)	Permit to Collect Fish For a Scientific Purpose – Subsection 42(1)(e) – It is the responsibility of the salvage crew to obtain the necessary permit required to complete a fish and amphibian salvage – in conjunction with the BC Parks permitting.			

Note: research projects and inventory projects are under the same Permit and are applied for under the "Application to Collect Fish for a Scientific Purpose".

http://www.env.gov.bc.ca/pasb/applications/process/scientific_fish_collect.html#a5

Contractor Responsibility

Federal

<i>DFO – End of Pipe Guidelines</i>	End-of- pipe guidelines for freshwater intake to avoid fish entrainment.			
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Provincial

<i>Water Act - MOE</i>	Schedule A – Water License Applications – use of water from waterbody for road maintenance.			
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Appendix F

Relevant Environmental Publications

Relevant Environmental Publications

The below list of documents are those commonly used when determining how to design and advance a project with the potential to impact a waterbody.

Agency	Publications	Summary
DFO	<i>Land Development Guidelines for the Protection of Aquatic Habitat - 1993</i>	This document is a good reference guide for any works that are occurring in or around the water.
	<i>Canada's Fish Habitat Law</i>	Document explaining the fish and fish habitat laws under the Fisheries Act.
	<i>Riparian Revegetation</i>	Information on minimizing, stabilizing and revegetating construction areas.
	<i>Freshwater Intake End-of Pipe Fish Screen Guideline - 1995</i>	Provides guidelines for the contractor to follow to ensure fish screens are used during freshwater intake operations at construction sites.
	<i>Operational Statements</i> Stream Crossings by Roads: <ul style="list-style-type: none"> • Clear Span Bridges • Temporary Ford Stream Crossing • Ice Bridges and Snow Fills • Bridge Maintenance • Maintenance of Riparian Vegetation in Existing Rights-of Way 	Fisheries and Oceans Canada has developed a series of Operational Statements to streamline the undertaking of low risk activities. The Operational Statements outline conditions and measures for avoiding harmful alteration, disruption and destruction (HADD) of fish habitat, and applying them will ensure the project complies with subsection 35(1) of the <i>Fisheries Act</i> . You are NOT required to submit a proposal for review by Fisheries and Oceans Canada when you incorporate the measures and conditions outlined in an appropriate Operational Statement into your plans. http://www.pac.dfo-mpo.gc.ca/habitat/os-eo/index-eng.htm
MOE	<i>Fish-stream Crossing Guidebook - 2002</i>	Guidelines in protection of fish and fish habitat and the safe passage of fish during construction at/on stream crossings.
	<i>Standards and Best Practices for Instream Works - 2004</i>	Guide to planning and carrying out the proposed construction activities to comply with relevant legislation, regulations and policies.
	<i>A User's Guide to Working In and Around Water - 2005</i>	Understanding the regulation under British Columbia's Water Act.
	<i>Fish-Stream Identification Guidebook - 1998</i>	Assists in providing information on determining fish streams.
	<i>The Streamkeepers Handbook</i>	A practical guide to stream and wetland care in regards to rehabilitation planting.

