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Documents Incorporated by Reference:

Drawing 1 – Clearing Locations
Schedule A – Clearing and Brushing Inventory
Drawings Construction Package #2 (CP #2)
Drawings Construction Package #3 (CP #3)
Parks Canada EIA Requirements
Parks Canada National Best Management Practices - 2015

Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Specification.

1.2 DEFINITIONS

- .1 British Columbia Ministry of Transportation and Infrastructure is referred to as “BC MoTI”.
http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm

1.3 RELATED SECTIONS

- .1 Section 01 29 01 - Site Occupancy.
- .2 Section 01 33 00 - Submittal Procedures.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- .1 In preparation for and during construction of this project, the Contractor shall review the requirements of Section 01 35 43 – Environmental Procedures to ensure the desired minimal adverse effects are achieved. The Departmental Representative and Parks Canada’s environmental surveillance officer (ESO) will refer to Section 01 35 43 – Environmental Procedures in determining compliance.
- .2 Without limiting the scope of work, the work of this Contract generally comprises the following:
 - .1 Clearing and brushing within the Highway 1 roadway corridor, Yoho National Park.
 - .2 Traffic control and other construction facilities required for completion of the Work of the Project.
 - .3 Disposal of clearing and brushing vegetation and debris.
 - .4 Miscellaneous Additional Work as directed by the Departmental Representative.
 - .5 Where specifications for work covered under this Contract including any Change Orders are not available, BC MoTI – 2012 Standard Specifications for Highway Construction shall apply unless directed by the Departmental Representative.

1.5 PROJECT LOCATION

- .1 The project is located in Yoho National Park (British Columbia) along the Trans Canada Highway. The following are key locations relative to the project:
 - .1 Niblock Pit – km 75.0 (located on Hwy 93N)
 - .2 TCH Yoho Eastern Park Boundary - km 81.9
 - .3 Yoho Pit – km 96.8
 - .4 Ottertail Pit - km 105.5
 - .5 TCH Yoho Western Park Boundary – km 127.5

1.6 CONTRACT METHOD

- .1 Construct Work under combined price contract.

1.7 WORK BY OTHERS

- .1 The Contractor is advised that the following Work in the vicinity has been or will be contracted by Parks Canada:
 - .1 TCH Rock Slope Recapitalization km 88-91 and 114-128. Expected completion Fall 2016.
 - .2 TCH Roadway Rehabilitation and Paving – km 106 to 119
 - .3 TCH Barrier Replacement – km 106 – 127.5.
 - .4 Other maintenance and project work may occur along Hwy 1 in 2016.
- .2 The Contractor shall coordinate the work of this contract with the work done by other Contractors on or near the work area as required.
- .3 No claims for any delays or inconvenience will be entertained resulting from the Contractor's failure to properly coordinate their works with other nearby Contractors.
- .4 Where it is necessary that work is to proceed in areas of this project common to both the Contractor and forces of others, the Contractor shall cooperate with the other Contractors and the Owner in reviewing their construction schedules, sharing his work space, and shall coordinate his operations with the other Contractors, including traffic management and construction staging.
- .5 Yoho Pit, Ottertail Pit and Niblock Pit are operational facilities used by many Contractors and Parks Canada. If access is required the Contractor shall gain authorization from the Departmental Representative prior to entrance and use of the pits, and shall cooperate with the other users of the pits.

1.8 WORK SEQUENCE

- .1 Schedule work progress to allow Owner/Departmental Representative unrestricted access to inspect all phases of the Work.
- .2 Maintain fire and emergency access on the roadways at all times.
- .3 The Contractor shall prepare and submit to the Departmental Representative one (1) week prior to commencement of any work a meaningful bar chart or network diagram showing the proposed schedules of major work.
 - .1 Complete all clearing and brushing work by **May 16, 2016**.
 - .2 Complete all cleaning, chipping and removal work by **June 15, 2016**
 - .3 Complete all remedial seeding work by **October 15, 2016 (Contract Completion Date)**.
- .4 The Contractor shall give priority to clearing and removal work identified in Construction Packages 2 and 3 (CP #2 and CP #3). This work shall be completed before commencing with the clearing and brushing work identified in Schedule A (Drawing 1).

1.9 CONTRACTOR USE OF PREMISES

- .1 Contractor has unrestricted use of site, subject to Section 01 14 00 and Section 01 29 01, until Contract Completion date.
- .2 Contractor shall limit use of premises for Work, for storage, and for access, to allow:
 - .1 Owner occupancy.

- .2 Work by other Contractors.
- .3 Coordinate use of premises with the acceptance of the Departmental Representative.
- .4 Obtain additional storage or work areas needed for operations under this Contract with the acceptance of the Departmental Representative.
- .5 The Contractor and each sub-Contractor shall purchase a business license from the Parks Canada office in Lake Louise Visitor Information Centre, prior to commencement of the contract.
- .6 All Contractor's business and private vehicles are required to display a vehicle work pass from Parks Canada. These permits may be obtained free of charge from Parks Canada Environmental Surveillance Officer or as directed by the Departmental Representative.

1.10 OWNER FURNISHED ITEMS

- .1 None.

1.11 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period for execution of normal operations.
- .2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- .3 Contractor must allow access to all active Pits for other Contractors and Parks Canada. It is up to the Contractor to plan his work accordingly.

1.12 CONSTRUCTION SIGNAGE

- .1 No signs or advertisements, other than warning signs, are permitted on site.
- .2 Signs and notices for safety and instruction shall be in both official languages. Signs shall be diamond grade and shall conform to CAN3-Z321.
- .3 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project or earlier if directed by the Departmental Representative.
- .4 All temporary traffic control signs that are used for longer than one day shall be mounted on wood posts other than portable changeable message signs that shall be secured at all times.
- .5 Signage shall be coordinated with other Contractors.

1.13 SETTING OUT OF WORK

- .1 The sections to be cleared and brushed along the highway shall be as indicated in **Schedule A – Clearing and Brushing Inventory and CP#2 and CP#3 drawing packages**, or as subsequently amended or directed by the Departmental Representative. The Contractor shall be responsible for all field layout of work.

Part 2 Products

- .1 Not used.

Part 3 Execution

.1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

1. Section 01 35 00.06 – Special Procedures for Traffic Control.
2. Section 01 35 43 – Environmental Procedures.

1.2 MEASUREMENT PROCEDURES

1. Quantities for payment for clearing and brushing will be paid under **“Unit Price Item 1a) – Clearing and Brushing”** and will be measured per kilometre of work per side of road. Limits of clearing and brushing work in a given road segment shall be defined as indicated below in Section 3.2 Clearing and Brushing. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work.
2. Quantities for payment for hand clearing and brushing will be paid under **“Unit Price Item 1b) – Hand Clearing and Brushing (Environmentally Sensitive Areas)”** and will be measured per square metre. Limits of hand clearing and brushing work shall be defined as indicated below in Section 3.2 Clearing and Brushing. Areas designated for hand clearing and brushing will be excluded from the measurement and payment of Unit Price Item 1a) – Clearing and Brushing. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work.
3. Quantities for payment for cleaning, chipping and removal will be paid under **“Unit Price Item 1c) – Cleaning, Chipping and Removal”** and will be measured per km for the same areas defined in pay item 1a – Clearing and Brushing. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work.
4. Quantities for payment for Clearing and Brushing identified on CP#2 and 3 drawings will be paid under **“Unit Price Item 1d) – Clearing and Brushing – CP#2 and CP#3”** and will be measured per hectare. Payment under this item shall include all labour, equipment and material to satisfactorily complete the work
5. Quantities for payment for Removal of Previously Felled Area will be paid under **“Unit Price Item 1e) – Removal of Previously Felled Area – CP#2”** and will be measured per hectare. Payment under this item shall only include areas specifically delineated in the CP#2 Drawings and shall not apply to any other project work. Payment shall include all labour, equipment and material to satisfactorily complete the work.
6. Re-seeding of mechanically disturbed areas with an approved native grass seed mix shall be incidental to the contract and no separate payment will be made to the Contractor.
7. Mobilization and demobilization required for this Work shall be incidental to **“Lump Sum Price Item 1 – Mobilization / Demobilization”**, and no additional payment will be made.
8. Traffic Control required for this Work shall be incidental to **“Lump Sum Price Item 2 – Traffic Accommodation”** and no separate payment will be made to the Contractor.
9. Environmental mitigations required in accordance with Section 01 35 43 – Environmental Procedures, for the Work in this Section shall be incidental to the contract and no separate payment will be made to the Contractor.
10. Contractor shall have the work area assessed for dangerous trees by a certified assessor. Payment for danger tree assessment will be made under **“Lump Sum Price Item 3 – Prime Cost Sum”**.

11. Removal of dangerous trees identified in the assessment and authorized for removal by the Departmental Representative shall be safely removed by a qualified faller prior to other work. Payment for the removal of danger trees will be made under **“Lump Sum Price Item 3 – Prime Cost Sum”**. Payment will be in accordance with Section 200.05 Payment for Danger Trees of the British Columbia Standard Specifications for Highway Construction (2012).

1.3 DEFINITIONS

1. **Clearing and Brushing** means cutting trees, brush and vegetative growth to within 75 mm of the ground. and disposing of felled trees, previously uprooted trees, stumps, and clearing wood debris as specified.
2. **Hand Clearing and Brushing** means clearing and brushing performed with hand operated equipment and laborers. Motirized wheeled and tracked equipment may not be utilized for areas designated for hand clearing and brushing.
3. Cleaning means gathering of cut vegetation from the area cleared and brushed. The surface must be cleaned of all loose debris greater than 1 m in length.
4. Chipping consists of mechanically chipping wood debris, except merchantable timber, into wood chips. Finished wood chip material shall be able to pass through a 75 mm by 75 mm screen.
5. Medium woody material is material between 3cm and 7cm in maximum dimension.
6. Fine woody material is material less than 3cm in maximum dimension.
7. Removal means loading, hauling, and removal of debris from Yoho NP by trucking or incineration or as directed by the Departmental Representative.
8. Merchantable timber is all timber with butt diameter in excess of 150 mm and top down to 100 mm.

1.4 QUALITY CONTROL

- .1 All Quality Control testing by the Contractor.

1.5 PROTECTION

- .1 Prevent damage to trees, natural features, bench marks, existing pavement, water courses and root systems of trees that are to remain.
- .2 Repair any damaged items to approval of Departmental Representative.
- .3 Replace any trees designated to remain, if damaged, as directed by Departmental Representative.

Part 2 Products

- .1 Not used.

Part 3 Execution

3.1 PREPARATION

- .1 Lay out the limits of clearing and brushing with flagging or other appropriate and visible markers consistent with the limits of work as indicated in Section 3.2 below. Limits shall be

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- marked at minimum regular intervals of 25 metres unless otherwise directed or relaxed by the departmental representative.
- .2 Lay out the limits of hand clearing and brushing with flagging or other appropriate and visible markers as directed in the field by the departmental representative.
 - .3 Limits of work shall be laid out a minimum of 24 hours prior to commencement of clearing and brushing such that the departmental representative shall have an opportunity to inspect and confirm the limits as marked in the field.
 - .4 Prior to any tree-falling, the Contractor shall have the area assessed for dangerous trees by a certified assessor. Dangerous trees identified in the assessment shall be safely removed prior to work.

3.2 CLEARING AND BRUSHING

- .1 The sections to be cleared and brushed along the highway shall be as indicated in **Schedule A – Clearing and Brushing Inventory and CP#2 and CP#3 drawing packages**, or as subsequently amended or directed by the Departmental Representative
- .2 At any given section along the highway, the limits of clearing and brushing shall be defined as the lesser of the following as measured with a flexible tape (along the ground):
 - .1 Ten (10) metres from the the existing edge of asphalt;
 - .2 three (3) metres up the ditch backslope from the back edge of the existing ditch invert, where an existing highway ditch is present;
 - .3 to a reduced width in specific locations where directed by the departmental representative.
- .3 The limits of hand clearing and brushing shall be defined as directed by the departmental representative and laid out by the contractor in accordance with Section 3.1.2 above
- .4 Clear and brush within limits of work by cutting trees, brush and vegetative growth.
- .4 Cut off branches and cut down trees overhanging area brushed as directed by Departmental Representative.
- .5 Cut off unsound branches on trees designated to remain as directed by Departmental Representative.
- .6 All brushing shall be removed in such a manner that surrounding vegetation is preserved along the construction limits. Stumps remaining within the perimeter are to be cut flush with ground and vegetative mat left undisturbed.
- .7 Contractor is responsible for re-seeding mechanically disturbed areas with approved native grass seed mix as per Section 32 92 22 – Seeding.
- .8 Existing fencing shall not be disturbed during any and all activity.
- .9 Ground disturbance must be kept to a minimum. Off-highway mechanical equipment must have tire pressure of 7 psi or lower.

3.3 CLEANING, CHIPPING AND REMOVAL

- .1 Contractor shall cut all merchantable timber into 410 mm lengths (tolerance +/- 20mm), haul and **stockpile** at **Niblock Pit** as directed by the departmental representative. The cut and stockpiled timber shall remain the property of the owner.

- .2 Clean the cleared and brushed areas of all debris greater than 1 metre in length to leave a neat and tidy appearance.
- .3 Contractor shall remove and dispose of vegetative material and other debris from the cleared and brushed areas in one of the following ways:
 - .1 Hauling and removing it from Yoho NP for offsite disposal by the Contractor;
 - .2 Hauling, stockpiling and incinerating vegetative material and debris at Ottertail Pit. Incineration must be via low emissions, high efficiency curtain burner.
 - .3 Other alternative methods requested by the Contractor and deemed acceptable at the *sole discretion* of the Departmental Representative.
- .4 Maximum permitted size of incineration piles shall be within the discretion of the Departmental Representative.
- .5 Contractor may chip material within the limits of work prior to hauling but will be responsible to clean the right of way to the finished surface standard.
- .6 Ground disturbance must be kept to a minimum. Off-highway mechanical equipment must have tire pressure of 7 psi or lower.

3.4 FINISHED SURFACE STANDARDS

- .1 In areas of flush cutting, leave stumps cut flush with ground elevation and root structure undisturbed unless otherwise directed by the Departmental Representative.
- .2 Clean the cleared and brushed areas of all debris (stems) greater than 1 metre in length. No more than 50 stems per linear km may be left on site. All retained stems must be limbed and lie flush with the ground.
- .3 Accumulation of wood chips cannot exceed 50mm in depth to a maximum ground coverage of 5% by area.
- .4 Accumulation of medium woody material cannot exceed 200mm in depth to a maximum ground coverage of 20% by area.
- .5 Accumulation of fine woody materials cannot exceed 100mm in depth to a maximum ground coverage of 10% by area.
- .6 Mechanical distributed areas must be seeded with an approved native grass seed mix in accordance with Section 32 92 22 – Seeding.

END OF SECTION