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END OF TABLE

Part 1 General

1.1 DRAWING, FIGURES AND APPENDICES

Drawing NO.	DESCRIPTION	REVISION NO.
0	Cover Sheet	0
1	Location Plan	0
2	Bison Jump Viewpoint Day Use Area – Overall Site Plan	0
3	Coppermine Day Use Area – Overall Site Plan	0
4	Driftwood Beach Day Use Area – Overall Site Plan	0
5	Hay Barn Day Use Area – Overall Site Plan	0
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7	Little Prairie Day Use Area – Overall Site Plan	0
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9	McNeely's Day Use Area – Overall Site Plan	0
A01	Existing Conditions Roof Assembly, Roof Details, Roof Finishing	0

Part 2 Products

2.1 NOT USED

.1 Not Used

Part 3 Execution

3.1 NOT USED

.1 Not Used

END OF SECTION

Part 1 General

1.1 DEFINITIONS

- .1 Parks Canada Agency is referred to as 'PCA'.
- .2 Waterton Lakes National Park is referred to as 'WLNP'
- .3 Day Use Areas are referred to as 'DUA's.
- .4 'Work' means the provision of all labour, services, material and equipment as necessary for the Contractor to complete and perform their obligations in accordance with the Contract.
- .5 'Consultant' refers to Dillon Consulting Limited (Dillon).
- .6 'Owner' or 'Departmental Representative' refers to the Parks Canada Agency (PCA) Project Manager or their duly authorized representative.
- .7 'ESO' refers to a PCA Environmental Surveillance Officer.

1.2 PROJECT LOCATION

- .1 The project is located in the province of Alberta within WLNP. The DUA's are located along the Akamina Parkway, Red Rock Parkway and Highway 5.
 - .1 DUA's located along the Akamina Parkway:
 - .1 Little Prairie DUA is located approximately 12 km from the Parkway gates.
 - .2 McNeely's DUA is located approximately 21 km from the Parkway gates.
 - .2 DUA's located along the Red Rock Parkway:
 - .1 Bison Jump Viewpoint DUA is located approximately 10 km from the Parkway gates.
 - .2 Coppermine Creek DUA is located approximately 13 km from the Parkway gates.
 - .3 Lost Horse DUA is located approximately 17 km from the Parkway gates.
 - .3 DUA's located along Highway 5:
 - .1 Knight's Lake DUA is located approximately 1 km past the WLNP Entrance Gates.
 - .2 Hay Barn DUA is located approximately 4 km past the WLNP Entrance Gates.
 - .3 Driftwood Beach DUA is located approximately 6.5 km past the WLNP Entrance Gates.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Read this section in conjunction with Drawings and other specifications.
- .2 The general scope of work includes, but may not be limited to, the following:
 - .1 Mobilization and Demobilization

- .1 Transportation of equipment, tools, materials and personnel to and from the site.
 - .2 Preparing all required submissions and obtaining all necessary permits and approvals.
 - .3 Supply and installation of erosion and sediment control (ESC) measures as per the ESC Plan.
 - .4 Implementation of mitigation measures as outlined in the PCA publications “WLNP Best Management Practices for Watershed-Scale Danger Tree Removal (BMP)” and “WLNP General Projects Best Management Practices (BMP) Ver 2.0”.
 - .5 Survey of boundaries for each site. Upon Contract award AutoCAD .dwg files will be provided for surveying purposes.
 - .6 Site clean-up, including remediation and restoration of disturbed areas – either outside or inside of the identified work zones – to condition existing at start of construction.
- .2 Tree Removal
- .1 Perform tree removal in accordance with requirements outlined within the “WLNP BMP for Watershed-Scale Danger Tree Removal”.
 - .2 Tree removal shall be limited to within the tree removal boundary and consists of removal and disposal of live and/or dead trees, and coarse woody debris. Cut trees as low to the ground as possible. Do not leave stumps higher than 75 mm above the surrounding ground surface.
 - .3 In select location tree’s maybe be flagged and/or marked to remain. Prior to cutting any trees confirm with Departmental Representative if there are any trees to remain within the tree removal boundary.
- .3 Brushing
- .1 Perform brushing in accordance with requirements as outlined within the “WLNP BMP for Watershed-Scale Danger Tree Removal”.
 - .2 Brushing shall consist of removal and disposal of vegetation including but not limited to small standing trees (less than 100mm diameter), brush, grasses, shrubs and coarse woody debris. Remove and dispose of all organic debris and other vegetation designated for removal, including downed timber, snags and rubbish brush occurring within the designated limits.
 - .3 All vegetation shall be removed to within 25 mm of existing grade.
- .4 Roof Removal and Roof Replacements
- .1 Roof removal shall consist of removing and disposing of existing shingles and other roof assembly components.
 - .2 Ensure existing roof is removed in a manner that does not damage the remaining existing structure.

- .3 Roof replacement shall consist of supply, transportation, installation, labour, materials, tools, equipment and all other incidentals required to install new roof components.
Prevent damage to existing building timber elements and building structure which are to remain.
- .5 Building Demolition
 - .1 Building demolition shall consist of removal and disposal/recycling of burnt and unburnt non-hazardous refuse/debris from the identified sites including but not limited to roof, walls, doors, toilets and burnt debris.
 - .2 Ensure demolition is carried out in a manner that does not damage remaining existing structures or the surrounding areas.
 - .3 Demolition of buildings shall not include the removal of any concrete components including but not limited to the concrete privy vaults and/or concrete slabs. All access hatches and/or openings must be covered and fastened to the concrete in a secure manner.
- .6 Disposal of Waste
 - .1 Properly dispose of non-hazardous refuse and debris at an appropriately licensed landfill facility outside WLNP.
 - .2 Wherever possible, recyclable materials shall be disposed of at an approved recycling facility. Do not allow recyclable materials to enter a landfill facility without prior approval from the Departmental Representative.
 - .3 Properly dispose of all compostable organic waste generated by the Work at approved composting facilities outside WLNP. Do not allow compostable materials to enter a landfill facility without prior approval from the Departmental Representative.
- .3 Specific scope of work at each location includes, but may not be limited to, the following:
 - .1 Little Prairie Day Use Area
 - .1 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
 - .2 Removal of Kitchen Shelter roof.
 - .3 Replacement of Kitchen Shelter roof.
 - .2 McNeely’s Day Use Area
 - .1 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
 - .3 Bison Jump Viewpoint Day Use Area
 - .1 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
 - .4 Coppermine Creek Day Use Area
 - .1 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.

- .5 Lost Horse Day Use Area
 - .1 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
 - .2 Removal of Kitchen Shelter and Privy roofs.
 - .3 Replacement of Kitchen Shelter and Privy roofs.
- .6 Knight’s Lake Day Use Area
 - .1 Identify, remove and dispose of live and/or dead trees, coarse woody debris within the area identified as “Tree Removal Boundary” on site specific drawing.
 - .2 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
 - .3 Demolition of existing Kitchen Shelter building and Privy building.
- .7 Hay Barn Day Use Area
 - .1 Identify, remove and dispose of live and/or dead trees, course woody debris within the area identified as “Tree Removal Boundary” on site specific drawing.
 - .2 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
 - .3 Demolition of existing Privy building.
- .8 Driftwood Beach Day Use Area
 - .1 Identify, remove and dispose of vegetation within the area identified as “Brushing” on site specific drawing.
- .4 Confirm areas of work with the Departmental Representative prior to mobilisation. All work shall remain within established work boundaries.
- .5 No ground disturbance outside of the approved work area is permitted at any time. If ground outside of the approved work areas is disturbed, notify the Departmental Representative immediately as archaeological monitoring may be required. Artifacts may be present at any site, and ground disturbance has the potential to damage such artifacts.
- .6 All disturbed areas outside of the approved work area are to be restored to condition existing at start of construction and as directed by the Departmental Representative. All costs associated with restoration are considered incidental to the Work, and no separate or additional payment will be made.
- .7 Fell trees and remove debris in the direction towards the parking areas and away from areas where the vulnerable site features may be located. If this is not possible, notify the Departmental Representative and wait for further instructions. Archaeological monitoring of tree felling/removal activities at this location may be required.
- .8 Specific known archaeologically sensitive areas will be identified and flagged at the following DUA’s. Take all reasonable precautions to avoid disturbance within archaeologically sensitive areas.
 - .1 Little Prairie DUA

- .2 McNeely's DUA
- .3 Coppermine Creek DUA
- .4 Driftwood Beach DUA
- .9 Minimize the use of heavy equipment within the approved work are. Take all reasonable measure to ensure heavy equipment is keep on existing hardened surfaces (i.e. roads, campsites, etc.). Make good any damage caused by such equipment.
- .10 Unless specifically stated otherwise, the Contractor shall supply all transportation, labour, materials, tools, equipment and all other incidentals required. The intent is that the Contractor provides a complete product.

1.4 CONTRACT DURATION

- .1 Work shall be completed by April 1, 2020.

1.5 SITE ACCESS

- .1 DUA's located along the Akamina Parkway and Red Rock Parkway will be closed to the public during construction.
- .2 DUA's located along Highway 5 will be open to the public during construction.
- .3 Manage entry to the DUA's at all locations during the work period.
- .4 All access gates are to remain closed during the work period.
- .5 Allow Departmental Representative and other PCA personnel access to the site at all times.

1.6 BUSINESS LICENSE/PERMITS

- .1 Obtain Business license to operate within WLNP.
- .2 All business and private vehicles are required to display a vehicle work permit.
- .3 Obtain Restricted Activity Permits (RAP's) for tree removal, brushing and building demolition before gaining entrance into closed areas within WLNP.

1.7 CONTRACTOR USE OF PREMISES

- .1 Contractor has unrestricted use of each site until Contract Completion date.
- .2 Camping is not allowed on site.
- .3 Coordinate use of premises under direction of Departmental Representative.
- .4 Assume full responsibility for protection and safekeeping of construction site and products under this Contract.
- .5 Arrange operations, debris stockpiling, bucked trees and other elements of the Work in order to minimize the laydown area required. Keep work areas tidy.
- .6 At completion of operations restore all disturbed areas to the original condition.

1.8 CRITICAL ENVIRONMENTAL TIMING WINDOWS

- .1 The following are critical environmental timing windows:

- .1 April 8 to August 24 – Migratory Bird Protection Period.
- .2 April 1 to September 30 – Bat Activity Period
- .2 Work on site is not permitted within the critical environmental timing windows.

1.9 PROJECT SCHEDULE

- .1 Submit Project Schedule to Departmental Representative within 5 working days of Contract Award.
- .2 Milestone dates:
 - .1 Replacement of roofs at Little Prairie and Lost Horse DUA's shall be completed by March 20, 2020.
 - .2 All other work shall be completed by April 1, 2020.
- .3 Ensure the project schedule includes a combined schedule for each DUA, including the following milestones as a minimum:
 - .1 Mobilization
 - .2 Tree removal
 - .3 Brushing
 - .4 Existing structure removals
 - .5 Removal and installation of new building roofs
 - .6 Disposal of Waste
 - .7 Clean-up / Restoration
 - .8 Demobilization
- .4 Departmental Representative will review and approve or return revised schedule within 2 working days.
- .5 Revise schedule, if required, and resubmit within 2 working days.
- .6 Accepted revised schedule will become the Master Schedule and shall be used as a baseline for updates.

1.10 DOCUMENTS REQUIRED

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

1.11 ACCIDENTAL FINDS

- .1 If artifacts or archaeological features (including historic structures or objects) are encountered, construction shall be stopped immediately and the Departmental Representative shall be notified forthwith. Do not

resume construction at the affected site until instructed to do so by the
Departmental Representative.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary access to and egress from work areas in accordance with relevant municipal, provincial and other regulations.
- .2 Maintain access to adjacent properties.

1.2 USE OF SITE AND FACILITIES

- .1 Keep the site clean and free from accumulation of waste materials and rubbish regardless of source.
- .2 Remove snow to gain access to Akamina Parkway, Red Rock Parkway and access roads to site specific Work as required.
- .3 Repair any damage to the Site outside of limit of work caused by the Work.
- .4 Do not allow pets to be brought to or kept on Site.
- .5 Strong winds are frequent within WLNP, with wind speeds often reaching 90 km/h. Contractor should plan accordingly.

1.3 HOURS OF WORK

- .1 There are no restricted hours of operation.

1.4 WORK CONDUCTED OVER OR ADJACENT TO WATERWAYS

- .1 All components of the Work shall be conducted in accordance with Section 01 35 43 –Environmental Procedures and the Environmental Protection Plan (EPP) prepared for the project.
- .2 All components of the Work shall be conducted without equipment entering into wetlands, water bodies, or streams.
- .3 All waste materials and sediment from the Work shall be contained and collected in a manner to prevent any contact with the river valleys and waterways. All collected waste materials shall be disposed of in accordance with Section 01 35 43 – Environmental Procedures and the Environmental Protection Plan prepared for the project.

1.5 UTILITIES

- .1 Become familiar with all utilities and services adjacent to the Work and be responsible for cost of repair of any damage resulting from the Work.
- .2 Establish and maintain direct and continuous contact with the owners or operators of any Utilities which may interfere with the Work. Cooperate with them at all times and in all places of Work. Keep the Consultant informed of all communications with the Utility companies and authorities.
- .3 Notify the Consultant and the Utility companies at least seven (7) days in advance of any activities which may interfere with the operation of such Utilities.

- .4 Whenever working in the vicinity of Utilities, locate such Utilities and expose those that may be affected by the Work, using hand labour or other special means as required.
- .5 Assess the possible impact of the Work on all Utilities that may be affected by the Work and in consultation with Utility owner(s), protect, divert, temporarily support or relocate, or otherwise appropriately treat such Utilities to ensure that they are preserved.
- .6 Immediately report any damage to Utilities to the Consultant and to the Utility company or authority affected and promptly undertake such remedial measures as are necessary at no additional cost to the Owner.

1.6 PROTECTION OF PERSONS AND PROPERTY

- .1 Comply with all applicable safety regulations, including but not limited to the Workers Compensation Act, Occupational Health and Safety Regulations and General Safety Regulations.
- .2 Comply with Canada Labour Code and Canada Occupational Safety and Health Regulations.
- .3 Within the Site, the Contractor has all the responsibilities of an “employer” under the Workers Compensation Act and the Occupational Health and Safety Regulation and is designated as the “Prime Contractor”.
- .4 Take all reasonable and necessary precautions and measures to prevent injury or damage to persons and property on or near the Site.
- .5 Promptly take such measures as are required to repair, replace or compensate for any loss or damage caused. Alternatively, and if Departmental Representative so directs, promptly reimburse to Departmental Representative the costs incurred by them as a result of such loss or damage.

1.7 USE OF PUBLIC AREAS

- .1 Materials and equipment may be hauled on roads within WLNP using standard highway trucks only, not exceeding legal highway load limits.
- .2 Ensure that vehicles and equipment do not cause nuisance in public areas. All vehicles and equipment leaving the Site and entering public roadways shall be cleaned of mud and dirt clinging to the body and wheels of the vehicle.
- .3 Load and unload vehicles arriving at or leaving the Site in a manner that will prevent dropping of materials or debris on the roadways. Where contents may otherwise be blown off during transit, cover such loads using tarpaulins or other suitable covers.
- .4 Immediately remove or clean spills of materials.

1.8 SUPERVISORY PERSONNEL

- .1 When requesting a Preconstruction Meeting, in accordance with Section 01 31 19 –Project Meetings, submit to the Consultant confirmation of the supervisory personnel and other key staff designated for assignment on the Contract.
- .2 At a minimum, the following personnel shall be included:

- .1 Project Manager
 - .2 Project Superintendent
 - .3 Safety Representative
 - .4 Environmental Representative
- .3 Where appropriate, one individual can be assigned to multiple roles.
- .4 The above personnel shall perform the following duties:
- .1 Project Manager shall have full authority, as agent of the Contractor, to act on behalf of and legally bind the Contractor in connection with the Work and the Contract.
 - .2 The Project Superintendent shall be employed full time with full authority to supervise the Work and shall be directly available to the Consultant during all active periods of Work. Either they or their designated deputy shall be present on the Site each and every day that Work is being performed, from the commencement of Work to Total Performance of the Work.
 - .3 The Project Superintendent shall nominate a Deputy Project Superintendent who shall have the authority of the Project Superintendent during the latter's absence.
 - .4 The Safety Representative shall possess a minimum of 2 years' construction safety supervisory experience. Their duties shall encompass all matters of safety from commencement of Work until the Total Performance of the Work.
 - .5 The Environmental Representative shall be responsible for the development, implementation and execution of the Environmental Protection Plan and shall be the single point of contact for all environmental related queries.

1.9 WASTE DISPOSAL

- .1 All surplus, unsuitable and waste materials shall be removed from the Site to approved sites outside the National Parks. Refer to Section 01 35 43 – Environmental Procedures.
- .2 Deposit of any construction debris or sediment into any waterway is strictly forbidden.
- .3 Cost for Waste Disposal shall be considered incidental to work and no separate or additional payment will be made.

1.10 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of the environment over cost and schedule considerations for Work.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 MEASUREMENT AND PAYMENT

- .1 Following tender award, provide a breakdown of the tender price into separate line items, with the price for each line item fairly and accurately representing the work to be completed. Make adjustments to the breakdown as required.
- .2 As a minimum, the breakdown will be expected to include the following items:
 - .1 Mobilization / Demobilization
 - .2 Tree Removal
 - .3 Brushing
 - .4 Existing Building Demolition
 - .5 Existing Kitchen Shelter Buildings Roof Replacement
 - .6 Existing Privy Building Roof Replacement
- .3 Departmental Representative will calculate payment based on the agreed upon tender price breakdown and Departmental Representative's estimate of percentage of each work item completed.
- .4 Method of measurement to be used is detailed in the section of the specifications covering each work item.
- .5 Where a method of measurement for payment for a work item is not specified, payment for that item will be deemed to be incidental to another pay item or other pay items; no separate or additional payment will be made.

1.2 PROGRESS CLAIMS

- .1 Contractor's Responsibilities:
 - .1 Submit progress claims to Departmental Representative within five (5) working days after each month end. Claim to cover preceding month.
 - .2 Progress claims to show percentage of work completed against each item.
 - .3 Progress claims to include all labour and materials incorporated in work and all materials stored on site.
 - .4 Progress claims to include all extras and deductions (Change Orders) agreed to as of the date of the progress claim.
 - .5 Supply documentation to support claim for materials on site in the form of itemized lists or unpriced purchase orders showing quantities.
 - .6 Supply other evidence as may be required by Departmental Representative in support of progress claims.
- .2 Departmental Representative Responsibilities:
 - .1 Review Contractors claim, prepare Progress Claim Certificate and issue for payment processing within ten (10) working days.

- .2 Departmental Representative's estimate of percentage of work completed will govern calculations of payment on all Progress Claim Certificates.
- .3 Inform Contractor of amendments to claim by copy of Progress Claim Certificate.

1.3 CHANGE ORDERS

- .1 Complete and promptly return all change requests issued by Departmental Representative, quoting unit and/or lump sum prices as requested. Include appropriate supporting documentation to verify prices.
- .2 Do not proceed with work affected by change request until authorised to do so by Change Order.
- .3 Make no changes in Work unless Change Order issued. Change Order is only valid when signed by Departmental Representative and Contractor.

1.4 MEASUREMENT AND PAYMENT ITEMS

- .1 Mobilization and Demobilization
 - .1 Mobilization and Demobilization will be measured and paid as a Lump Sum. Payment will be made as follows:
 - .1 50% of the item price will be paid on the first Progress Claim Certificate after Contractor has established their operations and facilities and provided any required submissions.
 - .2 The remaining 50% of item price will be paid upon completion of the contract. Following removal of equipment and cleanup of the work area to the satisfaction of the Departmental Representative.
 - .2 The lump sum price for Mobilization and Demobilization will include but is not limited to all preparatory work and operations, transportation of equipment, tools, materials, personal to site and from site, leveling of laydown yard for contractors use, traffic accommodation including all signage and barricades as per the traffic accommodation plan, tree protection (where required), supply and installation erosion and sediment control measures as per ESC Plan, supply and implementation of the mitigation measures as per the BMP's, survey of site boundaries for outline work, all submissions, permits and approvals, cleaning of equipment prior to entering the construction site, cleaning of equipment prior to leaving site, general clean-up of all areas used for construction to the satisfaction of the Departmental Representative and all other incidentals required to mobilize, prepare the site for construction and demobilize.
- .2 Tree and Brushing, Removal and Disposal
 - .1 The Unit Prices for Tree Removal will include cutting, limbing, removal of trees, grinding tree stumps, loading, transportation stockpiling and disposal, protection of trees identified to remain, clean-up of work area, labour, equipment, tools, materials and all other incidentals required to perform the work.

- .2 The Lump Sum prices for Brushing will include cutting and removing brush and shrubs including grain, grass, and weeds, coarse woody debris, small trees (< 100 mm dia.), loading, transportation stockpiling and disposal, protection of trees identified to remain, clean-up of work area, labour, equipment, tools, materials and all other incidentals required to perform the work.
- .3 Building Demolition and Disposal
 - .1 The Lump Sum prices for Existing Building Demolition will include demolition, disposal/recycling of burnt and unburnt non-hazardous refuse/debris from the identified sites including but not limited to roof, walls, doors, toilets, burnt debris, loading, transportation stockpiling and disposal, protection of trees identified to remain, clean-up of work area, labour, equipment, tools, materials and all other incidentals required to perform the work.
- .4 Roof Removal, Replacements, and Disposal
 - .1 The Lump Sum price for Roof Replacement will include removal of existing shingles including but not limited to roof assembly components and debris. Installation of new roof components included but no limited to supply, transportation, installation, labour, materials, tools, equipment and all other incidentals required to install new roof components. All work includes loading, transportation stockpiling and disposal, protection of trees identified to remain, clean-up of work area, labour, equipment, tools, materials and all other incidentals required to perform the work.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 Submittal Procedures
- .2 Preconstruction Meeting Minutes: within 2 Working Days of the Preconstruction Meeting, Submit meeting minutes.
- .3 Progress Meeting Minutes: within 2 Working Days of a Progress Meeting, Submit meeting minutes.
- .4 Information for Progress Meetings: at least 24 hours prior to the scheduled Progress Meetings, Submit all information in accordance with the Contract for Progress Meetings. Include:
 - .1 Agenda for the proposed Progress Meeting.
 - .2 Updated progress schedule detailing activities. Include review of progress with respect to previously established dates for starting and stopping various stages of Work, major problems and action taken, injury reports, equipment breakdown, and material removal.
 - .3 Copies of transport manifests and disposal receipts for all materials removed from Site.
 - .4 Other information as instructed by the Departmental Representative or relevant to agenda for upcoming progress meeting.
- .5 Final Site Inspection: within 2 Working Days of the Final Site Inspection, Submit meeting minutes.
- .6 Closeout Meetings: within 2 Working Days of the Closeout Meeting, Submit meeting minutes.

1.2 ADMINISTRATIVE

- .1 Contractor shall provide weekly updates to the Departmental Representative. Weekly or biweekly progress meetings may be requested by Departmental Representative during construction which will be scheduled by the Contractor.
- .2 Contractor's superintendent, senior representatives of major subcontractors and Departmental Representative shall attend pre-construction meeting and any other meetings held during construction.
- .3 Distribute written notice of each meeting at least four (4) days in advance of meeting date to major subcontractors and Departmental Representative.
- .4 Contractor to produce and distribute copies of minutes within five (5) working days after meetings and transmit to all meeting participants.
- .5 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.3 PRECONSTRUCTION MEETING

- .1 Departmental Representative will schedule a pre-construction meeting of parties in contract within ten (10) days after contract is award to discuss and resolve administrative procedures and responsibilities.

- .2 Senior Representative of Contractor, major Subcontractors, supervisors to be attendance.
- .3 After time and location and/or conference call information for the meeting has been established, the Contractor to notify parties concerned minimum five (5) days before meeting.
- .4 Department Representative will record discussion and decisions, and circulate the minutes to all relevant parties.
- .5 Agenda to include:
 - .1 Introduction of Project Personnel
 - .2 Notice of Award/Agreement
 - .3 Project work overview
 - .4 Project schedule
 - .5 Temporary facilities (if required)
 - .6 Permits
 - .7 Access and Easement
 - .8 Environmental
 - .9 Occupational Health and Safety
 - .10 Emergency services
 - .11 Hours of work
 - .12 Progress Claims
 - .13 Contract Change Orders
 - .14 Submissions
 - .15 Insurance, transcripts and policies
 - .16 Other business

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 SUBMITTAL REQUIREMENTS

- .1 Project Schedule
- .2 List of Subcontractors and Suppliers
- .3 Work Plan
- .4 Cleanup Plan
- .5 Tree Protection Plan (for trees designated to remain)
- .6 Site-Specific Signage Plan
- .7 Acknowledgement of BMP and ESC
- .8 Health and Safety Plan
- .9 Emergency Response Protocol
- .10 Hazardous Spill Plan
- .11 Erosion and Sediment Control

1.2 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit with reasonable promptness and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 The Departmental Representative will review submittals and return review copy within seven (7) days of receipt.
- .3 Do not proceed with Work affected by submittal until review is complete.
- .4 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .5 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .6 Verify field measurements and affected adjacent Work are coordinated.
- .7 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .8 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved Departmental Representative review.

- .9 Keep one reviewed copy of each submission on site.

1.3 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Alberta
 - .1 Occupational Health and Safety Act, R.S.A. - Updated 2017.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 Submit copies of reports or directions issued by Federal or Provincial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within five (5) days. Revise plan as appropriate and resubmit to Departmental Representative with five (5) days after receipt of comments from Departmental Representative.
- .6 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .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.
- .8 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.3 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.
- .2 Submit hazard assessments to Departmental Representative on a weekly basis.

1.4 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work. This can take place during the start-up meeting.

- .2 Arrange for "Tool Box" safety meetings and submit report to Departmental Representative on a weekly basis

1.5 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00- Regulatory Requirements.
- .2 Ensure safe operations on site with the specified standards and regulations.

1.6 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.7 RESPONSIBILITY

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

1.8 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act, General Safety Regulation, Alberta Reg. 62/2003.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.9 UNFORSEEN HAZARDS

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

1.10 HEALTH AND SAFETY COORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Coordinator must:
 - .1 Have site-related working experience.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

- .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
- .5 Be on site during execution of Work.

1.11 POSTING OF DOCUMENTS

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

1.12 CORRECTION OF NON-COMPLIANCE

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

1.13 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

2.1 Not Used

- .1 Not used.

Part 3 Execution

3.1 Not Used

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 U.S. Environmental Protection Agency (EPA)/Office of Water
 - .1 EPA 832/R-92-005-92, Storm Water Management for Construction Activities, Chapter 3.
 - .2 EPA General Construction Permit (GCP) 2012.

1.2 DEFINITIONS

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.
- .3 Qualified Environmental Professional (QEP): A person who has sufficient training, expertise, and experience in a discipline relevant to the field of practice required and who is registered with an appropriate professional organization and acting under that organization's code of ethics and subject to related disciplinary action as a result of a violation.

1.3 PARKS CANADA ENVIRONMENTAL INFORMATION AND MITIGATION MEASURES

- .1 Contractor to ensure that all work performed in accordance with the ordinances, laws, rules and regulations set out in the Canada National Parks Act and Regulations.
- .2 Parks Canada Agency (PCA) has provided the following documentation to be reviewed and followed in preparation of an Environmental Protection Plan (EPP):
 - .1 Best Management Practices (BMPs) for WLNP General Projects Best Management Practices (BMP) Ver 2.0 and Watershed-Scale Danger Tree Removal.
 - .1 Prior to commencement of work, submit written confirmation that the BMP's were read, understood and will be followed.
 - .2 Potential effects of construction on the present ecosystem including mitigations have been included within BMPs.
 - .3 Ensure that all work is performed in accordance with the BMPs.
- .3 Environmental Protection Plan
 - .1 Prior to any construction or on-site work activities, the contractor shall provide Departmental Representative with an EPP which has been written and certified by a QEP for approval.

- .2 Allow seven (7) calendar days for Departmental Representative to review EPP.
- .3 Departmental Representative may request that subsequent revisions are made to the EPP in the event the document does not sufficiently address all required environmental concerns or mitigations.
- .4 Start-up and Environmental Briefing
 - .1 Prior to any on-site work, all contractors and subcontractors, as well as their employees who may be involved with on-site activities, shall attend a briefing conducted by the PCA Environmental Surveillance Officer (ESO) relating to their individual and collective responsibilities upon project start-up.
 - .2 Employees of other services or material providers who may visit the worksite must be apprised of their duty not to cause adverse environmental impacts.
 - .3 The PCA ESO will regularly visit the site to monitor construction activity for conformance with the EPP. Although the ESO has the authority to enforce National Parks Act violations, direction to the Contractor will be the duty of the Departmental Representative.

1.4 ADDITIONAL ENVIRONMENTAL MITIGATION MEASURES

- .1 All work and associated costs related to required environmental mitigation measures are incidental to the contract scope of work, and are the responsibility of the Contractor.
- .2 Execution of any work is subject to the provisions within the Canadian Environmental Assessment Act (CEAA) 2012 and subsequent revisions.
- .3 Execution of any work is subject to the provisions within “Measures to Avoid Causing Harm to Fish and Fish Habitat, Fisheries and Oceans Canada 2016” available online: <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/measures-mesures-eng.html>
- .4 Work shall be scheduled so that no site is left in a state of partial completion for an extended period of time.
- .5 All mitigations must be included in the EPP for approval by the PCA ESO. The contractor must provide notice of all mitigation activities that require surveillance (to be determined upon review of the EPP) by the ESO, and must also be communicated in writing with at least 48 hour notice prior to execution.
- .6 Disturbance and/or removal of trees not identified as part of the contract and vegetation shall be minimised. Any removal of trees or vegetation will require consultation with PCA ESO including written approval to proceed.
- .7 All disturbed areas from construction activities require rehabilitation as part of the contract. Erosion of steep banks shall be minimised by limiting foot, vehicle, and equipment traffic.
- .8 Sensitive and No-Go Zones
 - .1 The ESO may identify sensitive areas and no-go zones in proximity to the worksite. These areas may lie outside the construction limit and must

not be disturbed by any construction activity. The contractor shall describe measures to be employed in order to prevent disturbance.

.9 Accidental Finds Protocol

- .1 If artifacts or archaeological features (including historic structures or objects) are encountered, construction shall be stopped immediately and the Departmental Representative shall be notified forthwith. Do not resume construction at the affected site until instructed to do so by the Departmental Representative.

.10 Project Impacts on Visitors or Public

- .1 DUA's located along the Akamina Parkway and Red Rock Parkway are to remain closed and are inaccessible to the public during construction.
- .2 DUA's located along Highway 5 are open to public access during construction.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .3 Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Include in Environmental Protection Plan:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for training site personnel.
 - .3 Descriptions of environmental protection personnel training program.
 - .4 Erosion and sediment control plan identifying 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 erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations and EPA 832/R-92-005, Chapter 3 .
 - .5 Drawings indicating locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
 - .6 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather.
 - .1 Plans to include measures to minimize amount of material transported onto paved public roads by vehicles or runoff.

- .7 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
 - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
- .8 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .9 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .10 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .11 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .12 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.

1.6 CONSTRUCTION SITE ACCESS AND PARKING

- .1 At all DUA's the Contractor shall locate parking within the DUA's area where workers private vehicles.
- .2 At Driftwood Beach DUA's the Contractor can designated a Construction Laydown Area as shown on the Overall Site Plan where construction machinery can be stored, fueled, etc. during construction. Contractor shall limit access to this area during construction by secure method as DUA's can be access by the public.
- .3 At all DUA's Contractor shall ensure that the environment beyond the work limits is not negatively impacted or damaged by workers' vehicles or construction.

1.7 PROTECTION OF WORK LIMITS

- .1 Contractor to ensure that workers' and equipment at all DUA's do not trespass outside of the project limits to the satisfaction of the Departmental Representative and the ESO.
- .2 Contractor shall instruct workers' so that the 'footprint' of the project is kept within the defined boundaries.

1.8 FIRES PROTECTION

- .1 No burning of brush or tree removal debris is permitted onsite.
- .2 A fire extinguisher shall be carried and available for use on each machine or vehicle in the event of any fire to prevent the fire from burning the unit or spreading to other fuels in the immediate area.

1.9 WILDLIFE

- .1 During Environmental briefing all personnel shall be instructed by the ESO on procedures to follow in the event of wildlife appearance near or within the work site and any other wildlife concerns.
- .2 Avoid or terminate activities on site that attract or disturb wildlife and vacate the area and stay away from the immediate locations if bears, cougars, wolves, elk or moose display aggressive behavior or persistent instruction. Extra care to control materials that might attract wildlife (e.g. Lunches and food scraps) must be exercised at all times.
- .3 Notify the ESO and Departmental Representative immediately about dens, litters, nest, and carcasses (road kill), bear activity or encounters on or around the site. Other wildlife related encounters are to be reported within 24 hours.

1.10 DRAINAGE

- .1 Develop and submit Erosion and Sediment Control Plan (ESC) for locations identifying type and location of erosion and sediment controls 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.

1.11 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.
- .2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m minimum.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Restrict brushing and tree removal to areas indicated on site specific drawings.

1.12 WORK ADJACENT TO WATERWAYS

- .1 Construction equipment to be operated on land only.
- .2 Waterways to be kept free of excavated fill, waste material, organic material and debris.
- .3 No temporary crossings at waterways will be permitted.
- .4 Do not skid logs or construction materials across waterways.

1.13 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.

1.14 EQUIPMENT MAINTENANCE, FUELING AND OPERATION

- .1 All construction equipment to be used for this Work shall be cleaned outside of WLNP prior to delivery to work site and is subject to a mandatory inspection by Departmental Representative prior to being unloaded at work site.

- .2 Equipment fuelling site(s) will be identified by the Contractor and approved by the Departmental Representative and the ESO. Except for chainsaws, any fuelling closer than 100 metres from any stream, wetland, waterbodies or waterways shall require authorization of the Departmental Representative.
- .3 Contractor to ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working order.
- .4 Fuel containers and lubricant products shall be stored only in secure locations specified by the Departmental Representative. Fuel tanks or other potentially delirious substance containers shall be secured to ensure they are tamperproof and cannot be drained by vandals or accessed by wildlife when left overnight in WLNP.

1.15 OPERATION OF EQUIPEMENT

- .1 Equipment movements shall be restricted to the approved work area of the construction area. Unless authorized by the Departmental Representative, activities beyond the work limits are not permitted. No machinery will enter, work in or cross over streams, rivers, wetlands, water bodies or watercourse, nor damage aquatic and riparian habitats. Some construction work may require working close to watercourse or water bodies. In these instances, the Contractor is to describe measures to be employed to ensure fugitive materials (e.g. rocks, soil, branches) and especially deleterious substances (e.g. chemicals) do not enter any watercourse, to the satisfaction of the Departmental Representative and ESO.
- .2 Contractor to instruct workers to prevent pushing, placement, raveling, storage or stockpiling of any materials into watercourses or water bodies.
- .3 When, in the opinion of Parks Canada, 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 and ESO.
- .4 Restrict vehicle movements to work limits.
- .5 Workers private vehicles are to remain within the construction footprint.

1.16 HISTORICAL/ARCHAEOLOGICAL CONTROL

- .1 Provide historical, archaeological, cultural resources, biological resources, and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in area are discovered during construction.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and Departmental Representative.

1.17 NOTIFICATION

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
- .3 Take action only after receipt of written approval by Departmental Representative.
- .4 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .5 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

1.18 WASTE MATERIALS STORAGE AND REMOVAL

- .1 Contractor and works shall dispose of hazardous wastes in conformance with the Environmental Contaminants Act and applicable provincial regulations while observing the Code of Good Practice for Management of Hazardous and Toxic Wastes at Federal Establishments.
- .2 Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried or discarded at the construction site or elsewhere in WLNP. 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 of the park.
- .3 All efforts to prevent wildlife from obtaining food, garbage and other domestic waste shall be made by the Contractor and workers while undertaking work in WLNP. Wildlife attractants shall be removed from site on a daily basis. Lunches, coolers and food products, including waste food products shall be removed from site daily.
- .4 Contractor and workers shall immediately report any circumstances related to food/garbage and wildlife to ESO and/or Departmental Representative.
- .5 Sanitary facilities, such as portable container toilet, shall be provided by the Contractor and maintained in a clean condition.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 BRUSHING AND TREE REMOVAL

- .1 Contractor shall ensure that the substrate or riparian area of streams, rivers or watercourse, whether open water or frozen shall not be disturbed by tracked, wheeled or self-propelled equipment, (e.g. skidder or truck). The ESO or Departmental Representative will provide direction in the case of work occurring near any wetland area or watercourse.
- .2 Contractor shall take measures to ensure that trees and debris generated by brushing do not fall into streams, rivers, wetlands or water bodies.
- .3 Trees that inadvertently fall into streams, rivers, watercourse shall be removed by means (e.g. winch) so as to not damage the substrate or and standing trees within the area. Machinery shall not enter into streams, rivers, and watercourse or water bodies to remove felled trees.
- .4 No ground disturbance outside of the approved work area is permitted at any time. If ground outside of the approved work areas is disturbed, notify the Departmental Representative immediately as archaeological monitoring may be required. Artifacts may be present at any site, and ground disturbance has the potential to damage such artifacts.
- .5 All disturbed areas outside of the approved work area are to be restored to condition existing at start of construction and as directed by the Departmental Representative. All costs associated with restoration are considered incidental to the Work, and no separate or additional payment will be made.
- .6 Fell trees and remove debris in the direction towards the parking areas and away from areas where the vulnerable site features may be located. If this is not possible, notify the Departmental Representative and wait for further instructions. Archaeological monitoring of tree felling/removal activities at this location may be required.
- .7 Specific known archaeologically sensitive areas will be identified and flagged at the following DUA's. Take all reasonable precautions to avoid disturbance within archaeologically sensitive areas.
 - .1 Little Prairie DUA
 - .2 McNeely's DUA
 - .3 Coppermine Creek DUA
 - .4 Driftwood Beach DUA
- .8 Minimize the use of heavy equipment within the approved work area. Take all reasonable measure to ensure heavy equipment is kept on existing hardened surfaces (i.e. roads, campsites, etc.). Make good any damage caused by such equipment.

END OF SECTION

Part 1 General

1.1 SUMMARY

- .1 This Section contains references to laws, bylaws, ordinances, rules, regulations, codes, orders of Authority Having Jurisdiction, and other legally enforceable requirements applicable to Work and that are; or become, in force during performance of Work.

1.2 REFERENCES TO REGULATORY REQUIREMENTS

- .1 Perform Work in accordance with codes, regulations and standards listed below including amendments up to tender closing date and other codes of provincial or local application. In case of conflict or discrepancy, more stringent requirements apply.
 - .1 Alberta Transportation and Utilities
 - .2 National Transportation Agency Canada
 - .3 Alberta Environment and Parks
 - .4 Fisheries and Oceans Canada
 - .5 Navigation Protection Act
 - .6 Environment Canada
 - .7 Alberta Building Code
 - .8 National Building Code of Canada
 - .9 National Energy Board
 - .10 Municipal By-Law and services standards
 - .11 Municipal Utilities
 - .12 Occupational Health and Safety
- .2 Meet or exceed requirements of:
 - .1 Contract Documents.
 - .2 Specified standards, codes and referenced documents.

1.3 COMPLIANCE WITH REGULATIONS

- .1 Ascertain applicable requirements and regulations as applicable to the work.
- .2 Comply with all requirements and regulations as applicable to the work.
- .3 Requirements set out in this section are for guidance and information only, Contractor to acquire all applicable requirements and regulations.

1.4 NATIONAL PARKS ACT

- .1 The Contractor shall ensure that all work is performed in accordance with the ordinances, laws, rules, and regulations set out in the Canadian National Parks Act and Regulations.

- .2 The Contractor and any sub-Contractors shall each obtain a business licence from a Municipal Officer, Realty Services for WLNP, prior to any work within the Park.

1.5 QUALITY ASSURANCE

- .1 Regulatory Requirements: Except as otherwise specified, Constructor shall apply for, obtain, and pay fees associated with, permits, licenses, certificates, and approvals required by regulatory requirements and Contract Documents, based on General Conditions of Contract and the following:
 - .1 Regulatory requirements and fees in force on date of Bid submission, and
 - .2 A change in regulatory requirements or fees scheduled to become effective after date of tender submission and of which public notice has been given before date of tender submission

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 PERMITS

- .1 Obtain all required construction permits including but not limited to:
 - .1 Obtain Business license to operate within WLNP.
 - .2 All business and private vehicles are required to display a vehicle work permit.
 - .3 Obtain Restricted Activity permits for brushing, tree removal, building demolition and to enter closed areas within WLNP.

END OF SECTION

Part 1 General

1.1 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.

1.2 INSTALLATION AND REMOVAL

- .1 Construction laydown area will be permitted at the Driftwood Beach DUA's at the East end of the parking lot only.
- .2 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .3 Identify areas which have to be gravelled to prevent tracking of mud.
- .4 Indicate use of supplemental or other laydown area.
- .5 Provide construction facilities in order to execute work expeditiously.
- .6 Remove from site all such work after use.

1.3 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 weight or force that will endanger Work.

1.4 CONSTRUCTION PARKING

- .1 Parking will be permitted at each DUA's site provided it does not disrupt performance of Work.
- .2 Provide and maintain adequate access to each project site.

1.5 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.6 SANITARY FACILITIES

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

1.7 CONSTRUCTION SIGNAGE

- .1 No signs other than warning signs are permitted on site.

- .2 Provide site specific signage plan within three weeks of signing Contract, Departmental Representative will review and approve plan.
- .3 Provide and erect project signage, clearly identifying area as an active tree removal work zone.
- .4 Signs and notices for public safety and instructions shall be in both official languages and adhere to CAN/CSA Z321.
- .5 Maintain approved signage and notices in good conditions for the duration of the project, and dispose of offsite on the completion of the project or earlier as directed by the Departmental Representative.

1.8 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Driftwood Beach, Knight's Lake and Hay Barn DUA's will remain open to the public during construction.
- .2 DUA's located along the Akamina and Red Rock Parkway will remain closed to the public during construction.
- .3 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.
- .4 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .5 Protect travelling public from damage to person and property.
- .6 Contractor's traffic on roads selected for hauling material to and from site shall interfere as little as possible with public traffic.
- .7 Verify adequacy of existing roads and allowable load limit on these roads. Contractor shall be responsible for repair of damage to roads caused by construction operations.
- .8 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .9 Dust control: adequate to ensure safe operation at all times.

1.9 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Request Departmental Representative inspection.
 - .2 Departmental Representative Inspection:
 - .1 Departmental Representative and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Work: complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Departmental Representative and Contractor.
 - .2 When Work incomplete according to Departmental Representative, complete outstanding items and request re-inspection.
 - .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
 - .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
 - .7 Final Payment:
 - .1 When Departmental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 Work deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.

- .8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.2 FINAL CLEANING

- .1 All disturbed areas including laydown shall be return to original condition or better.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 INTRODUCTION

- .1 The Best Management Practices (BMP) for Watershed-Scale Danger Tree Removal identifies a suite of mitigation measures to address potential effects from project activities related to danger tree removal in Waterton Lakes National Park such that that no significant adverse residual environmental effects are expected.

1.2 MANAGEMENT CONTEXT

- .1 This BMP was prepared to support the Waterton Lakes National Park Danger Tree Management Plan. This Management Plan outlines the approach for how danger trees are managed in WLNP and is consistent with the Wildlife Tree Committee of British Columbia's Wildlife/Danger Tree Assessor Parks and Recreation Sites Module. The Module is a well- established standard that provides the most appropriate guidance for the types of land use, tree species and terrain that exist in WLNP.
- .2 In addition, the BMP supports routine tree removal and brush thinning as a component of fuel reduction to reduce the hazard of wildfire to infrastructure, facilities, and townsites.

1.3 APPLICATION

- .1 The BMP impact assessment pathway is applied when there is a suite of routine, repetitive projects or activities, with well understood and predictable effects. This fulfils Parks Canada's obligations under the Canadian Environmental Assessment Act 2012 as a manager of federal land, see the Guide to the Parks Canada EIA Process.
- .2 The BMP for Danger Tree Removal can be applied in the following ways ensure no significant adverse residual effects occur from danger tree removal activities:
 - .1 Direct application: Use the standard mitigation measures in the BMP when the proposed project activities are entirely within the scope of the BMP and all standard mitigation measures can be followed.
 - .2 Application with supplemental mitigations: Additional mitigations or minor modifications to the standard mitigations are required to provide project-specific clarifications or direction (e.g., clarify critical timing windows, Species at Risk (SAR) or cultural resource considerations).
 - .3 Application as part of a Basic Impact Analysis (BIA) or Detailed Impact Analysis (DIA): Where one or more BMPs may not address all of the potential adverse effects of a proposed project, the BMP(s) can be applied as part of a BIA or DIA.
- .3 If the Field Unit Superintendent or designate determines that with application of the standard mitigation measures in this BMP and any project-specific supplemental mitigations outlined in the Parks Canada EIA Requirement Checklist, the project is unlikely to result in significant adverse environmental

effects, then the BMP impact assessment pathway may be applied to a proposed project.

1.4 DEFINITION

- .1 For the purposes of this BMP, a danger tree is one that has been identified for intervention following the processes outlined in the Waterton Lakes National Park Danger Tree Management Plan.

1.5 SCOPE

- .1 Project activities covered under the scope of this BMP are limited to fuel reduction and danger tree removal within approximately 1 ½ tree lengths of existing Park infrastructure including roads, buildings, trails, campgrounds and Day Use Areas.
- .2 Safety of workers and the public is paramount during all operations. Site security, worker safety and visitor safety are not included in the scope of this document. The Contractor will be required to submit a Safety Plan for approval by the Project Manager prior to project initiation. If there is conflict between safety practices and the mitigation measures in this BMP, consult with the Environmental Assessment Officer to determine if this BMP is appropriate for the Project, or if review and revision of the BMP is warranted.

1.6 EXCEPTIONS

- .1 There are specific circumstances when the standard mitigations in this BMP would not apply or must be used in conjunction with additional analysis and supplemental mitigations, including the following:
 - .1 Danger tree removal in Zone I – Special Preservation or in designated Environmentally Sensitive Sites (e.g., Maskinonge Area).
 - .2 Work has potential to affect individuals, residences or critical habitat of a Species at Risk listed in Schedule 1 of the Species at Risk Act (SARA) (e.g., Little Brown Myotis, Half-moon Hairstreak).
 - .3 Work is proposed within a riparian zone (i.e. within 30 m of the high water mark) of any watercourse, lake, pond, river, or wetland.
 - .4 Removal of trees that are known to be infected with disease or infested with pests (e.g., Mountain pine beetle).
 - .5 Work involves the off-road use of mechanized falling methods such as harvesters and feller- bunchers or heavy machinery to move large logs or pile debris.
 - .6 Work results in a significant change in land use (e.g., new project development) or is beyond 1 and 1/2 tree lengths of existing infrastructure.
 - .7 Work involves excavation of soil.
 - .8 Work has the potential to directly impact a known cultural resource such as work is occurring in a known archaeological site or could impact an object such as a Culturally- Modified Tree. Additional analysis and consultation with the Cultural Resource Management Advisor is required.

- .9 Work related to the maintenance of FortisAlberta infrastructure and facilities is subject to the Environmental Protection Plan for Operation and Maintenance off Electrical Power Distribution Facilities in Waterton Lakes National Park and is outside the scope of this BMP.
- .10 Tree removal completed by leaseholders in the Waterton Townsite is managed through a Vegetation Removal Restricted Activity Permit and is outside the scope of this BMP.
- .2 Any circumstances where the BMP does not address known environmental issues associated with the proposed work, the potential environmental impacts of the proposed work are not fully understood, or when additional review is in the public interest.

1.7 RESPONSIBILITIES

- .1 The Environmental Assessment Officer (EAO) will review proposed danger tree removal activities and advise the proponent if the work falls within the scope of this BMP. The EAO will also determine whether supplemental mitigation measures are required, and will identify those in consultation with Field Unit subject matter experts. The EAO will provide a recommendation as to whether application of the mitigation measures in the BMP will adequately address all of the potential adverse effects of the project. The EAO will summarize this information in the Parks Canada EIA Requirement Checklist and present the completed BMP and EIA Checklist to the Resource Conservation Manager for review.
- .2 The Resource Conservation Manager will review the Parks Canada EIA Requirement Checklist and review if the BMP is a suitable EIA pathway for the scope of work outlined by the Project Manager.
- .3 Project Managers are responsible for ensuring all mitigation measures applicable to the work are added to the terms and conditions of any permits or contracts issued for the project and recommend the EIA Checklist.
- .4 The Field Unit Superintendent (FUS) or designate will approve the use of this BMP as the appropriate EIA pathway for the work based on the analysis provided by the EAO. The FUS or designate may determine that this BMP alone is not sufficient to make a determination of significance or may not adequately prevent significant adverse environmental effects. In these cases, the FUS will recommend an alternate EIA pathway or request additional analysis.

1.8 POTENTIAL EFFECTS ON VALUED COMPONENTS

- .1 Potential adverse effects from fuel reduction and danger tree management activities are well understood and predictable. Components of the environment that may be impacted are identified as Valued Components. Potential effects from danger tree removal on Valued Components are summarized in Table 1 below.

Table 1: Potential Adverse Effects on Valued Components from Danger Tree Removal Activities

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities
Soil and Land	<ul style="list-style-type: none"> • Slope instability, due to soil exposure or improper log handling.

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities
Resources	<ul style="list-style-type: none"> • Rutting, admixing and/or soil erosion. • Soil contamination (e.g. leaks and accidental spills).
Air Quality	<ul style="list-style-type: none"> • Decreased ambient air quality (i.e. from dust, equipment emissions, etc.). • Short-term increase of ambient noise levels.
Aquatic Resources	<ul style="list-style-type: none"> • Impacts to surface and groundwater quality (e.g., surface run-off; storm-water drainage that may occur due to erosion of bare ground; sedimentation; transportation of debris; or contamination from leaks and accidental spills) • Alteration of riparian habitat through loss of shade, leaf litter, and nutrient inputs.
Vegetation	<ul style="list-style-type: none"> • Damage or removal of non-target species or individuals. • Introduction of non-native species populations, or expansion of existing populations, particularly in ditches or areas where soil is disturbed • Changes in understory species composition including potential for choking of understory due to improper debris management. • Increased wind effect on remaining trees. • Increased fuel loading from improper debris management practices.
Wildlife	<ul style="list-style-type: none"> • Alteration of wildlife movement and foraging patterns due to short term sensory disturbance. • Medium term changes to microhabitat. • Damage to nests, dens, roosts; disruption and/or mortality of breeding animals and their young. • Increased potential for human-wildlife conflict during removal activities or resulting from proliferation of food plants after removals.
Cultural Resources	<ul style="list-style-type: none"> • Impacts to archaeological resources (known or potential).
Visitor Experience	<ul style="list-style-type: none"> • Temporary decreased quality of visitor experience due to temporary area closures, operation of equipment, traffic disruption and sensory disturbance. • Aesthetic impacts, including removal of important tree screens on roads and trails.

1.9 STANDARD MITIGATION MEASURES

- .1 Mitigation measures in Table 2 are developed to reduce potential effects on VCs from danger tree and fuel reduction management activities. Where certain mitigations are not feasible for a specific project, supplemental or modified mitigation measures will be developed in consultation with the EAO (Environmental Assessment Officer).

- .1 The following general mitigation measures will also apply to every project:
 - .1 All potential danger trees must be assessed following the requirements of the Waterton Lakes National Park Danger Tree Management Plan.
 - .2 No work is permitted outside the project boundaries unless approved by the EAO.
 - .3 Workers are responsible for avoiding culturally and environmentally sensitive areas as identified in the supplemental mitigations.
 - .4 Burning of felled debris is not permitted.
 - .5 Broadcast dispersal of wood chips is not permitted.
 - .6 Tree felling will only occur during daylight hours.
 - .7 Tree removal within two tree lengths of power lines requires consultation with the appropriate utility company.
 - .8 All employees must attend an environmental briefing with the EAO before beginning work at the site to review and explain the mitigations that are conditions of the project approvals. Employees must attend this briefing before beginning their work at this site. Notice of at least one business day must be given to the EAO to schedule the briefing.
 - .9 All equipment and vehicles will be made available for inspection by the EAO on arrival to WLNP. Notice of at least one business day must be given to the EAO to schedule the inspection.
 - .10 All contractors and sub-contractors require a valid Parks Canada business licence.
 - .11 All contractors require a valid Restricted Activity Permit for Vegetation Removal.
 - .12 All work must adhere to the Canada National Parks Act and Regulations and any other applicable legislation.

Table 2: Standard Mitigation Measures to Address Potential Adverse Effects on Valued Components from Danger Tree Removal Activities

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities	Mitigation Measure
Soil and Land Resources	Slope instability, due to soil exposure or improper log handling.	Where appropriate, fallers may position fallen logs to assist in stabilizing slopes and reducing potential for erosion.
		Flush-cut stumps and brush unless using stumps; leave stump and roots in place. Flush-cutting means cutting trees, stumps, or vegetative growth to within 75 mm of the ground, leaving the root structure undisturbed.
	Rutting, admixing	Conduct tree removal when ground is frozen or firm and

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities	Mitigation Measure
	and/or soil erosion.	<p>dry.</p> <p>Avoid ground disturbance by using low-impact harvesting methods.</p> <p>Minimize full removal and retain vegetation when possible to reduce erosion.</p> <p>Outside landscaped areas retain some whole logs on-site as coarse woody debris to provide erosion control, moisture retention and microsites for regeneration and site diversity. The goal for woody material volumes is approximately 40 m³/ha with coverage targets of 10-25% of the disturbed area, (50-100 trees per 100 m x 100 m area).</p> <p>Do not leave woody materials in piles that could pose a fire danger or leave mats of chips on site. If chipping occurs, chips must be removed and disposed of outside WLNP. During fuel reduction projects, lower woody debris objectives may be set by the Fire Management Officer and outlined in the supplemental mitigations.</p>
	Soil contamination (e.g. leaks and accidental spills).	<p>Use biodegradable chain oils and lubricants. Perform refueling and maintenance of chainsaws over impervious mini-berms with spill pads onsite.</p> <p>If contamination is found, cease work immediately and if necessary, implement the Emergency Response Plan.</p> <p>A spill kit capable of handling 110% of the total fuels on-site must be available at worksite and all personnel trained in its use.</p> <p>In the event of a spill, implement spill response procedures immediately. Report all spills greater than 5 liters, and any spills in water to the Parks Canada EAO (or designate). Spills will be remediated to the satisfaction of Parks Canada.</p>
Air Quality and Noise	Decreased ambient air quality (i.e. from dust, equipment emissions, etc.).	<p>Equipment must be in good working order, free of leaks (e.g. fuel, oil and grease) and fitted with standard air emission control and spark arrestor devices prior to arrival on site.</p> <p>Minimize idling of engines at all times.</p> <p>Schedule work during periods with lower wind speeds.</p>
	Short-term increase of ambient noise levels.	Refer to mitigation measures intended to reduce the impact of noise levels on the Wildlife and Visitor Experience valued components.

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities	Mitigation Measure
Aquatic Resources	Impacts to surface and groundwater quality (e.g., surface run-off; storm-water drainage that may occur due to erosion of bare ground; sedimentation;	In consultation with the EAO, trees should be felled to mimic natural pattern, including into and across watercourses, riparian zones and wetlands. Care must be taken to avoid unnatural debris piling or sediment release. Tree must only be felled into sensitive areas if they are to remain there.
	Transportation of debris; or contamination from leaks and accidental spills).	<p>Do not block culverts or ditches with debris and brush.</p> <p>Logs and other salvage materials shall not be skidded through wetlands, waterways or water bodies.</p> <p>Vehicle and equipment refueling must take place at licensed facilities (i.e., gas station), or on impervious surfaces (e.g., paved surfaces) > 100 m from waterbodies and watercourses. The refueling location should be determined in consultation with the EAO.</p> <p>Do not store fuel, lubricants, petro-gels or oils within 100 m of waterbodies and watercourses unless approved by the Parks Canada EAO due to site-specific limitations. In this case, the contractor must submit a secondary containment and a spill prevention plan.</p>
	Alteration of riparian habitat through loss of shade, leaf litter, and nutrient inputs.	Retain 30 metre vegetated buffer around watercourses, wetlands, and riparian zones; where disturbance in this buffer is unavoidable < 30 metres due to safety constraints, minimize full removals and use removal methods that limit ground disturbance such as hand falling.
Vegetation	Damage or removal of non-target species or individuals.	<p>Use non-permanent markings such as temporary marking paint or biodegradable flagging tape to identify trees for removal and remove on project completion. Do not spray paint or scar trees that will not be removed.</p> <p>Minimize damage to root systems of remaining plants and trees by not stockpiling materials within drip line of retained trees and restricting vehicle and equipment access and disturbance of the area.</p>
	Introduction of non-native species populations, or expansion of existing populations, particularly in ditches or areas where soil is	<p>In areas with known weed infestations, reduce weed spread through vegetation removal prior to seed set, typically before June 1 or by completing weed control that reduces risk of transfer (e.g., remove seed heads).</p> <p>Clean equipment (e.g., brushed off/compressed air) prior to moving it from a weed infested to a non-weed infested work area. Workers must brush soil and seeds off protective</p>

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities	Mitigation Measure
	disturbed	<p>clothing and boots each workday.</p> <p>Restore disturbed areas, as soon as practical following tree removal to promote re-establishment of native vegetation, reduce erosion, and control of non-native plant species. See supplemental mitigations section for restoration requirements applicable to the scope and scale of individual projects.</p> <p>Note that all seeding in WLNP is subject to strict controls and requires Certificates of Analysis be provided to Parks Canada for approval. Do not purchase seed until written approval for individual lots is obtained.</p> <p>Machinery must arrive on site in a clean and dry condition and be maintained free of fluid leaks, vegetative material (i.e., invasive species, noxious weeds) and soils from off-site. All construction equipment from outside WLNP will be washed prior to arrival to minimize the risk of introducing weeds or aquatic invasive species.</p>
	Changes in understory species composition including potential	Where possible within the objectives of removal, maintain overstory and canopy cover to reduce shrubby growth and changes in understory.
	For choking of understory due to improper debris management.	Unless approved by the EAO due to site specific limitations, retaining chippings onsite is not permitted. If chipping is approved, the chip depth is to be a maximum of 5 cm (2 inches), spread over area no greater of 5m x 5m per hectare so as to not cover underlying vegetation, prevent new native seedlings from sprouting, and cause soil/seed bank sterilization.
	Increased wind effect on remaining trees.	Retain strong rooted, long-lived wind firm trees, and tree clumps to minimize wind throw.
	Increased fuel loading from improper debris management.	See debris management requirements in the soil and land resources section.
Wildlife	Alteration of wildlife movement and foraging patterns due to short term sensory disturbance.	If wildlife is observed at or near the work site, allow the animal(s) the opportunity to leave the work area and away from areas of potential conflict.
	Medium term changes to wildlife microhabitat.	Logs left on-site should include a wide range of sizes and lengths. Logs should lie flat on the soil surface with branches intact as long as they do not provide ladder fuels

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities	Mitigation Measure
		<p>into the forest canopy.</p> <p>Avoid work during the following sensitive species timing windows: Breeding Birds: April 1 to August 31 Bat General Activity Period: April 1 to September 30</p> <p>If work cannot be rescheduled outside this time period, or an immediate safety issue requires work inside this period see supplemental mitigations section.</p> <p>If previously unidentified sensitive features are found, notify the EAO immediately (e.g., raptor nest).</p> <p>Following the guidance of the WLNP Danger Tree Management Plan, avoid unnecessary removal of high value wildlife trees. If a high value wildlife tree, the assessor must consider prescription alternatives to complete removal of the tree (see Appendix 1).</p> <p>Notify the Parks Canada Dispatch (1-888-WARDENS) of any potential wildlife conflict (e.g., aggressive behaviour, persistent intrusion), distress, entrapment or mortality. In the case of aggressive behaviour or persistent intrusion, stop work and evacuate the area.</p> <p>Contractor will make bear spray, bear spray training, and wildlife awareness training mandatory to all workers on site.</p> <p>No feeding, baiting or luring of any wildlife (including bears, small mammals, birds); do not approach or harass wildlife in any way.</p> <p>Notify the EAO immediately if wildlife obtain garbage or human food. If wildlife get into attractants that have been intentionally or accidentally left out, individuals or the contractor could be charged under the Canada National Parks Act Regulations.</p>
	Increased potential for human- wildlife conflict due to growth of berry shrubs in understory.	Parks Canada will notify the human wildlife conflict specialist of project scope and monitor if additional vegetation management to reduce berry growth is required. <i>*Parks Canada is responsible for implementation of this mitigation.</i>
Cultural Resources	Impacts to archaeological resources (known or potential).	Parks Canada will consult with the CRM advisor to determine whether there are any known cultural resources and or archaeological sites within the proposed work area. Any additional mitigations will be identified in the

Valued Component	Potential Adverse Effects from Danger Tree Removal Activities	Mitigation Measure
		<p>supplemental mitigations section for individual projects.</p> <p>All work in WLNP is subject to the accidental finds clause whereby on finding any unexpected Cultural Resources or potential Cultural Resources (e.g., Telegraph Poles, culturally modified trees, bison bones), workers shall stop work in the immediate area and notify the SO. Parks Canada's Terrestrial Archaeology section will provide advice and assessment of significance and determine requirements to mitigate the chance find. Crews will be made aware of the Accidental Finds Procedure during the environmental briefing with the EAO prior to beginning work.</p>
Visitor Experience	<p>Temporary decreased quality of visitor experience due to temporary area closures, operation of equipment and sensory disturbance.</p> <p>Aesthetic impacts, including removal of important tree screens on roads and trails.</p>	<p>Parks Canada will consult with the Visitor Experience and External Relations Managers in advance of any anticipated access impacts to visitor facilities and if necessary for the scope of work, ensure an appropriate communications plan is developed.</p> <p><i>*Parks Canada is responsible for implementation of this mitigation.</i></p> <p>In areas frequented by visitors, assessors must consider aesthetics when determining prescriptions (refer to Appendix 1).</p> <p>Leave doglegs or screening at road and trail intersections. Where tree removal will result in the loss of important tree screens on roads and trails, discuss alternative options to satisfy clearing requirements with Parks Canada.</p>

1.10 PRE-PROJECT CHECKLIST

- .1 The EAO will complete the following checklist for individual projects and determine if supplemental mitigations or additional analysis is required. The findings of the pre-project checklist will be included in the Parks Canada EIA Requirement Checklist.

1.11 WORK AREA DEFINITIONS

- .1 The tree removal is required for safety purposes and is within 1 ½ tree lengths of existing Park infrastructure.
- .2 The proposed location and extent of tree removal is clearly defined and outlined on figures.
- .3 Ensure no tree removal is proposed in Zone I – Special Preservation. If so, identify supplemental mitigation measures in Section 2.0.
- .4 If in consultation with the Vegetation Ecologist, the scope of work is such that restoration is required, include restoration requirements in the supplemental mitigations section.

- .5 Module 11 of the approved Waterton Lakes National Park General Projects Best Management Practices provides suitable restoration standards.

1.12 SPECIES AT RISK

- .1 There is no potential for adverse effects to a species at risk, its residence or critical habitat with application of the standard mitigation measures and any supplemental mitigations included in section 2.0.

1.13 WILDFIRE

- .1 Consult current databases, the Human Wildlife Conflict Officer, Wildlife Biologist, and if required complete field surveys to confirm there is low potential for active wildlife features (e.g., dens, breeding sites, amphibian habitat) in the proposed work area.
- .2 If wildlife features are potentially present, include avoidance mitigations or timing windows in the supplemental mitigations section.

1.14 NESTING BIRDS

- .1 If tree removal is required between April 1 and August 31, identify areas with potential for nesting birds and breeding or roosting bats. Supplemental mitigations may apply such as those provided in the Parks Canada National Best Management Practices for Migratory Birds.

1.15 AQUATIC RESOURCES

- .1 All work areas are at least 30 m from watercourses and water bodies. If there are areas <30 m from riparian zones, watercourses or water bodies, apply supplemental mitigation measures.

1.16 VEGETATION

- .1 Consult current databases and the Vegetation Ecologist regarding potential for, and known occurrence of rare plants and ecological communities, as well as known weed occurrences in the proposed project area; and if required complete field surveys to confirm there is low potential to impact vegetation resources in the proposed work area. If rare plants, rare ecological communities or weed species are confirmed or have high potential to be present, include supplemental mitigations.
- .2 Ensure the debris processing, removal and disposal plan for the work area is detailed and is aligned with the standard mitigation measures. Apply any site-specific prescription modifications if required to meet visitor experience, cultural resource or natural resource management objectives. See Appendix 1.0 for suggestions of site-specific prescriptions as modified from the Draft Waterton Lakes National Park Management Plan for Trees Affected by Wildfire (Walton, 2018).
- .3 Consult the Fire Management Officer to determine if lower than typical debris management targets are required. Indicate targets in supplemental mitigations.

1.17 CULTURAL RESOURCES

- .1 Terrestrial archaeology has reviewed the proposed work and indicated if any supplemental mitigations or analysis such as an Archaeological Overview Assessment is required.

1.18 SUPPLEMENTAL MITIGATIONS

- .1 If additional mitigations are identified by the Pre-Project Checklist, the Parks Canada Environmental Assessment Officer will complete the following table and include it in the Parks Canada EIA Requirement Checklist.

Valued Component	List additional mitigations or identify what document includes these mitigations.	Notes

1.19 APPENDIX 1 - SITE SPECIFIC PRESCRIPTIONS

- .1 As identified in the mitigations, the certified assessor will recommend site-specific prescriptions where danger tree removal is to occur in areas with key objectives for visitor experience, wildlife and wildlife habitat or environmentally sensitive areas, as required. Potential prescription options may include, but are not limited to, the following table:

Management Objective	Site Specific Consideration or Constraint	Potential Prescription
Visitor Experience	Tree stumps are not part of a desired visual landscape.	Cut stumps flush to ground level. Cover stumps or dust them with ash to make them less visible. In the front country, a stump grinder may be an option. Position felled branches and stems with the cut end away from the trail or facility to reduce the appearance of a modified landscape. Fell trees parallel to trails to reduce the appearance of a modified landscape.
	Non-formalized social trails have caused trail braiding.	Cover trail with tree debris to prevent additional trail braiding.
Wildlife and Wildlife Habitat	Wildlife use (e.g., bat, bird, mammal, etc.) use is confirmed or suspected and tree is not an imminent threat to safety.	Leave tree as is. Consider area closure or move target. Delay tree removal until the end of the timing window.
	Wildlife use (e.g., bat, bird, mammal, etc.) use is confirmed or	Confirm species and whether there is alternative nesting / roosting habitat in the

Management Objective	Site Specific Consideration or Constraint	Potential Prescription
	suspected and tree is an imminent threat to safety.	vicinity. If the species using the tree is a Species at Risk, consider an Authorization to destroy critical habitat or residence. Modify tree if possible, including removing only the hazard item on the tree (e.g., branch or dangerous top).
Environmentally Sensitive Areas	Danger tree removal in environmental sensitive areas (e.g., within 30m of watercourses or water bodies).	In areas with a possible target or imminent threat to safety, ensure trees are felled by hand and debris is not to be left within 30m of a watercourse or water body.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 SUMMARY

- .1 Contractor is responsible for the complete demolition and removal of the buildings at Knight's Lake and Hay Barn DUA's, including mechanical and electrical equipment, exterior envelope, and structure material.
- .2 Contractor is responsible for the removal of the burnt structure material debris from Little Prairie and McNeely's DUA's, including mechanical and electrical equipment, exterior envelope, and any other remaining material.
- .3 Photos of the buildings and structure material debris are shown on the site specific drawings.
- .4 The foundation of all buildings and portions are to remain and any services (water, sewage, etc.) are to be removed and/or capped. All access hatches and/or openings must be covered and fastened in a secure manner.

1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate with Departmental Representative for the material ownership as follows:
 - .1 Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Departmental Representative property, demolished materials shall become the Contractor's property and shall be removed from Project site.
 - .2 Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Departmental Representative that may be encountered during demolition remain Departmental Representative's property:
 - .1 Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Departmental Representative.
 - .2 Coordinate with Departmental Representative's, who will establish special procedures for removal and salvage operations.
- .2 Pre-Demolition Meetings:
 - .1 Convene pre-demolition meeting 1 week prior to beginning work with Departmental Representative in accordance with Section 01 31 19- Project Meetings to:
 - .1 Verify project requirements.
 - .2 Verify existing site conditions adjacent to demolition work.
 - .3 Co-ordination with other construction subtrades.
 - .2 Departmental Representative will provide written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.

- .3 Scheduling:
 - .1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.
 - .1 In event of unforeseen delay notify Departmental Representative in writing.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit copies of weigh bills, bills of lading or receipts from authorized disposal sites and reuse and recycling facilities for material removed from site on a weekly basis or upon request of Departmental Representative.

1.4 QUALITY ASSURANCE

- .1 Regulatory Requirements: Ensure Work is performed in compliance with TDGA, CEPA, CEAA, and applicable Provincial regulations.
 - .1 Comply with hauling and disposal regulations of Authority Having Jurisdiction.
- .2 Regulatory Requirements: Perform work of this Section in accordance with the following:
 - .1 Alberta Workers' Compensation Board.
 - .2 Alberta Occupational Health and Safety Standards and Programs, Government of Canada, Labour Program: Workplace Safety.

1.5 SITE CONDITIONS

- .1 Environmental protection:
 - .1 Ensure Work is done in accordance with Section 01 35 43- Environmental Procedures.
 - .2 Ensure Work does not adversely affect adjacent watercourses, groundwater and wildlife (especially Little Brown Myotis), or contribute to excess air and noise pollution.
 - .3 Fires and burning of waste or materials is not permitted on site.
 - .4 Do not bury rubbish waste materials.
 - .5 Do not dispose of waster volatile materials including but not limited to: mineral spirits, oil, petroleum-based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.
 - .6 Ensure proper disposal procedures are maintained throughout project.
- .2 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances.
- .4 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .5 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .6 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

- .7 Conduct structure demolition so operations will not be disrupted:
 - .1 Provide not less than 72 hours' notice to Departmental Representative of activities that will affect operations.
 - .2 Maintain access to existing walkways, exits, and other adjacent occupied or used facilities:
 - .1 Do not close or obstruct walkways, exits, or other occupied or used facilities without written permission from Departmental Representative.
- .8 Departmental Representative assumes no responsibility for buildings and structures being demolished:
 - .1 Conditions existing at time of inspection for bidding purpose will be maintained by Departmental Representative as far as practical.
 - .2 Remove, protect and store salvaged items as directed by the Departmental Representative before structure demolition.
 - .3 Deliver to Departmental Representative as directed.

1.6 EXISTING CONDITIONS

- .1 Existing Conditions: Condition of materials identified as being demolished are based on their observed condition at time of site examination before tendering.
- .2 Discovery of Hazardous Substances: Immediately notify Departmental Representative if materials suspected of containing hazardous substances that are not already documented are encountered and perform the following activities:
 - .1 Hazardous substances will be as defined in the Hazardous Products Act.
 - .2 Stop work in the area of the suspected hazardous substances.
 - .3 Take preventative measures to limit users' and workers' exposure, provide barriers and other safety devices and do not disturb.
 - .4 Hazardous substances will be removed by Departmental Representative under a separate contract or as a change to the Work.
 - .5 Proceed only after written instructions have been received from Departmental Representative.

Part 2 Products

2.1 EQUIPMENT

- .1 Equipment and heavy machinery:
 - .1 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

Part 3 Execution

3.1 EXAMINATION

- .1 Survey existing conditions and correlate with requirements indicated to determine extent of structure demolition required.
- .2 Inventory and record the condition of items being removed.

- .3 When unanticipated mechanical, electrical, or structural elements are encountered, investigate and measure the nature and extent of the element.
- .4 Promptly submit a written report to Departmental Representative.
- .5 Verify that Hazardous Substances have been remediated before proceeding with structure demolition operations.

3.2 PREPARATION

- .1 Surface Preparation:
 - .1 Disconnect and re-route electrical and telephone service lines entering buildings to be demolished.
 - .1 Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.
 - .2 Disconnect and cap designated mechanical services.
 - .1 Natural gas supply lines: remove in accordance with gas company requirements.
 - .2 Sewer and water lines: remove in accordance with authority having jurisdiction.
 - .3 Other underground services: remove and dispose of to property line.
 - .3 Do not disrupt active or energized utilities traversing premises.

3.3 DEMOLITION

- .1 Protect demolition work in accordance with CSA S350, unless otherwise specified.
- .2 Blasting operations not permitted during demolition.
- .3 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal.
- .4 Demolish structures and services to the structures.
- .5 At end of each day's work, leave Work in safe and stable condition.
- .6 Demolish to minimize dusting.
- .7 Remove structural framing.
- .8 Contain fibrous materials to minimize release of airborne fibres while being transported within facility.
- .9 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.
 - .1 Use natural lighting to do Work where possible. Shut off lighting except those required for security purposes at end of each day.

3.4 CLEANING

- .1 Leave work area clean at the end of each day.
- .2 Remove debris, trim surfaces and leave work area clean upon completion of work.

- .3 Use cleaning solution and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or groundwater.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Removal of existing roofing in preparation for a new roof system.

1.2 SYSTEM DESCRIPTION

- .1 Roof Areas as Indicated: Remove existing shingle roof, perimeter flashings, base flashings, counter flashings and vapour retarder.

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination:
 - .1 Coordinate with other work having a direct bearing on work of this section.
 - .2 Schedule work to coincide with commencement of installation of new roofing system.
 - .3 Remove only existing roofing materials that can be replaced with new materials the same day OR as the weather will permit.
 - .4 Coordinate the work with other affected mechanical and electrical work associated with roof penetrations.

1.4 QUALITY ASSURANCE

- .1 Materials Removal: Conform the requirements of the Alberta Roofing Contractors Association.

1.5 ENVIRONMENTAL REQUIREMENTS

- .1 Do not remove existing roofing membrane when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- .2 Maintain continuous temporary protection prior to and during installation of new roofing system.

Part 2 Products

2.1 MATERIALS

- .1 Temporary Protection: Sheet polyethylene.
- .2 Protection Board: to CAN/ULC-S706 cellulose fibre board.

Part 3 Execution

3.1 EXAMINATION

- .1 Verify that existing roof surface is clear and ready for work of this section.

3.2 PREPARATION

- .1 Sweep roof surface clean of loose matter. Remove loose refuse and dispose of site.

3.3 MATERIALS REMOVAL

- .1 Remove existing shingle roofing, perimeter flashings, flashings around roof protrusions, pitch pans and pockets.
- .2 Remove vapour retarder.
- .3 Prepare existing deck surface to provide smooth working surface for new roof system.

3.4 PROTECTION OF FINISHED WORK

- .1 Provide temporary protective sheeting over uncovered deck surfaces.
- .2 Turn sheeting up and over parapets and curbing. Retain sheeting in position with temporary fasteners.
- .3 Do not permit traffic over unprotected or repaired deck surface.

END OF SECTION

Part 1 General

1.1 SUMMARY

- .1 This Section includes requirements for supply and installation of factory formed, site assembled, non-structural, metal roofing system; including accessories required for weather tight installation; job site manufactured materials will not be acceptable for this project.
- .2 Drawings indicate size, profiles, and dimensional requirements of metal roofing system and are based on the specific system indicated; do not modify intended aesthetic effects.

1.2 DEFINITIONS

- .1 Metal Roofing System Assembly: Metal roofing system, attachment system components, miscellaneous metal framing, thermal insulation, and accessories necessary for a complete weather tight roofing system.
- .2 Core Metal Thickness: Minimum thickness of base metal without metallic coatings or painted finishes.

1.3 REFERENCE STANDARDS

- .1 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- .2 ASTM A755/A755M, Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products
- .3 ASTM A792/A792M, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
- .4 ASTM D1970/D1970M, Standard Specification for Self- Adhering Polymer Modified Bituminous Sheet Materials used as Steep Roofing. Underlayment for Ice Dam Protection.
- .5 CSSBI 20M, Sheet Steel Cladding for Architectural, Industrial and Commercial Building Applications
- .6 SMACNA Architectural Sheet Metal Manual.

1.4 SYSTEM REQUIREMENTS

- .1 Refer to Drawings for loads and deflections.
 - .1 Design to provide for movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Construction Meeting: Arrange a pre-construction meeting with Construction Manager, Trade Contractor and Consultant present before starting roof construction; purpose of meeting is to review methods and procedures related to roof construction and metal roofing system including; but not limited to, the following:
 - .1 Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - .2 Review methods and procedures related to metal roofing system installation, including manufacturer's written instructions.
 - .3 Examine conditions for compliance with requirements, including flatness and attachment to structural members.
 - .4 Review structural loading limitations of sheathing during and after roofing.
 - .5 Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect metal roofing system.
 - .6 Review temporary protection requirements for metal roofing system during and after installation.
 - .7 Review roof observation and repair procedures after metal roofing system installation.

1.6 COORDINATION:

- .1 Coordinate metal roofing system with rain drainage work, flashing, trim, and construction of decks, parapets, walls, and other adjoining work to provide a leak proof, secure, and non-corrosive installation.

1.7 SUBMITTALS

- .1 Comply with requirements of Section 01 33 00.
- .2 Product Data: Submit product data including; but not limited to, construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal roofing system and accessory.
- .3 Shop Drawings: Submit shop drawings indicating fabrication and installation layouts of metal roofing system; details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details, identify between factory and site assembled work, include details for the following:
 - .1 Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
 - .2 Shop Drawings shall bear the seal and stamp of a Professional Engineer experienced in design of this work and licensed in the province of Alberta and shall indicate:
 - .1 calculations for loadings and stresses.

- .2 member sizes.
- .3 materials.
- .4 design thickness exclusive of coatings, coating specifications.
- .5 layout.
- .6 screw sizes and spacing.
- .7 anchors.
- .8 maximum sizes of cut-outs.
- .9 flashing details and accessories.
- .10 weather barriers and self-adhesive membrane.
- .11 seal to penetrations.
- .3 Submit complete with seal of a Professional Engineer registered to practice in Alberta certifying that the work of this Section meets or exceeds the snow and wind loading requirements of the Alberta Building Code, latest editions.
- .4 Accessory details drawn at minimum 1:10 scale including; but not limited to, the following:
 - .1 Flashing and trim
 - .2 Roof curbs
 - .3 Snow guards
- .5 Samples: Submit one (1) sample for each type of exposed finish required for Consultant's verification of finishes, prepared in sizes as follows:
 - .1 Metal roofing system: 300 mm long by actual panel width; include fasteners, clips, closures, and other metal roofing system accessories.
 - .2 Trim and Closures: 300 mm long; include fasteners and other exposed accessories.
 - .3 Vapour Retarders: 150 mm square samples.
 - .4 Accessories: 300 mm long samples for each type of accessory.
- .6 Informational Submittals: Provide the following submittals when requested by the Consultant:
- .7 Coordination Drawings: Coordination drawings drawn at minimum 1:100 indicating locations of penetrations and roof mounted items including; but not limited to, the following:
 - .1 Roof systems and attachments.
 - .2 Equipment supports
 - .3 Pipe supports and penetrations
 - .4 Lighting fixtures
 - .5 Items mounted on roof curbs

1.8 PROJECT CLOSEOUT SUBMISSIONS

- .1 Operation and Maintenance Data: Submit manufacturers written maintenance data for metal roofing system, include name of original installer and contact information for inclusion in maintenance.

1.9 QUALITY ASSURANCE

- .1 Qualifications: Provide proof of qualifications when requested by Consultant:
- .2 Manufacturer: Obtain each type of metal roofing system through one source from a single manufacturer.
- .3 Perform work in accordance with ARCA standard details and requirements unless modified by this Section to exceed minimum 10 year warranty.
- .4 Fabricator Qualifications: Company specializing in manufacturing the Products specified in this section.
- .5 Installer Qualifications: Company specializing in performing the work of this section approved by the manufacturer. Installer: Use only installers that are trained and qualified by factory formed roofing panel manufacturer, and who have experience in projects of similar complexity and scope.
- .6 Contractors Field Supervision: Maintain dedicated full time supervisor/ foreman on site while roofing work in progress. Supervisor must have roofing trade certification in roofing work similar in nature and scope of specified roofing. Roofing crew makeup shall be trade qualified journeyman roofers and registered apprentices in ratio of no more than 1 to 1 (at least one journeyman to one apprentice). Qualifications may be reviewed prior to award of contract or on site by the Consultant and/or roofing inspector.

1.10 DELIVERY, STORAGE, AND HANDLING

- .1 Delivery and Acceptance Requirements: Deliver components, sheets, metal roofing system, and other manufactured items to prevent damage or deformation; package metal roofing system for protection during transportation and handling.
- .2 Storage and Handling Requirements: Unload, store, and erect metal roofing system in a manner to prevent bending, warping, twisting, and surface damage, and as follows:
 - .1 Protect metal roofing system to prevent wetting of materials, and as follows:
 - .2 Stack metal roofing system on platforms or pallets, covered with suitable weather tight and ventilated covering.
- .3 Do not store metal roofing system in contact with other materials that might cause staining, denting, or other surface damage.
- .4 Protect strippable protective covering on metal roofing system from exposure to sunlight and high humidity, except to extent necessary for period of metal roofing system installation.
- .5 Protect foam plastic insulation from surface degradation, and as follows:
- .6 Do not expose to sunlight, except to extent necessary for period of installation and concealment.
- .7 Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.

- .8 Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.11 SITE CONDITIONS

- .1 Site Measurements: Verify locations of roof framing and roof opening dimensions by site measurements before metal roofing system fabrication and indicate measurements on shop drawings.
- .2 Established Dimensions: Establish framing and opening dimensions and proceed with fabricating metal roofing system without site measurements where site measurements cannot be made without delaying the Work, or allow for site trimming of panels; coordinate roof construction to ensure that actual building dimensions, locations of structural members, and openings correspond to established dimensions.
- .3 Ambient Conditions: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal roofing system in accordance with manufacturers' written instructions and warranty requirements.

1.12 WARRANTY

- .1 Provide manufacturer's standard form of warranty stating that manufacturer agrees to repair or replace components of metal roofing system that fail in materials or workmanship within specified warranty period; failures will be considered to include; but are not limited to, the following:
 - .2 Structural failures, including rupturing, cracking, or puncturing.
 - .3 Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - .4 Deterioration of finishes, peeling or cracking of coating, failure to adhere to bare metal, colour fading and chalking.
 - .5 Warranty Period:
 - .1 Metal Roof System: Two (2) years from date of Substantial Performance.
 - .2 Finishes: Forty (40) years from date of Substantial Performance.
 - .3 Weather Tightness: Five (5) years from date of Substantial Performance stating that manufacturer agrees to repair or replace metal roofing system failing to remain weather tight; including leaks, within specified warranty period.

Part 2 Products

2.1 METAL ROOFING SYSTEM

- .1 Performance Requirements: Provide metal roofing system in accordance with performance requirements specified in this Section and as follows:
 - .1 Design and construct roof so that completed installation will not leak.

- .2 Provide maximum deflection not exceeding 1/180 under system weight plus snow load and build-up, and wind and suction loads acting normal to the plane in accordance with the Building Code Climatic Data, wind load for 1:50 years.
 - .3 Provide movement of components without causing buckling, failure of joint seals, undue stress on fasteners when subject to seasoned temperature range, from -40°C to +50°C, and preceding noted wind and suction loads.
 - .4 Provide expansion joints to accommodate movement in wall system and between wall system and building structure where these movements are caused by deflection of building structure, without permanent distortion, damage to in-fills, racking of joints, breakage of seals, or water penetration into system.
 - .5 Provide for positive drainage to the exterior of all water entering or condensation occurring within the system.
- .2 Panel Materials: Coated steel sheet with coil coating having galvanized finish using hot dip process and pre-coated using coil coating process in accordance with ASTM A755M, and as follows:
- .1 Galvanized Steel Sheet: ASTM A653M, having Z275 coating designation; structural quality.
 - .2 Surface: smooth finish.
 - .3 Core Metal Thickness: Nominal 0.76 mm.
 - .4 Profile: as indicated on Drawings
 - .5 Panel Width: 500 mm.
- .3 Finish: Two-coat fluoropolymer finish consisting of 0.2mil primer and 0.8 mil 70% PVDF fluoropolymer top coat, colours as indicated on Drawings.
- .4 Ice and Water Shield Membrane: Self adhering, granular faced sheet manufactured in accordance with ASTM minimum 1.4 mm thick, consisting of glass fibre mat reinforcing and SBS modified asphalt, granule faced, with release paper backing; cold applied; provide primer when recommended by ice and water shield manufacturer.
- .5 Metal Framing Fasteners: Type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates as recommended by manufacturer.

2.2 ACCESSORY MATERIALS

- .1 Provide components required for complete metal roofing system assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items; match material and finish of metal roofing system.
- .2 Bituminous Coating: Cold applied asphalt mastic, SSPC-Paint 12, compounded for 0.4 mm dry film thickness per coat; inert type non-corrosive compound free of asbestos fibres, sulphur components, and other deleterious impurities.

- .3 Flashing and Trim: Pre-finished flashing materials to match roofing materials in accordance with Section 07 62 00.

2.3 FABRICATION

- .1 Fabricate and finish metal roofing system and accessories at the factory to greatest extent possible, using manufacturer's standard procedures and processes to obtain the indicated profiles and meeting dimensional and structural requirements for the Project.
- .2 Fabricate flashing and trim in accordance with SMACNA recommendations that apply to the design, dimensions, metal, and other characteristics of item indicated.

2.4 FINISHES, GENERAL

- .1 Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- .2 Variations in appearance of abutting or adjacent pieces are acceptable if they are within ½ the range of reviewed samples:
- .3 Noticeable variations in the same piece are not acceptable.
- .4 Variations in appearance of other components are acceptable if they are within the range of reviewed samples and are assembled or installed to minimize contrast.

Part 3 Execution

3.1 EXAMINATION

- .1 Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal roofing system supports, and other conditions affecting performance of work.
- .2 Examine primary and secondary roof framing to verify that angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roofing system manufacturer.
- .3 Examine roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roofing system manufacturer.
- .4 Examine roughing-in for components and systems penetrating metal roofing system to verify actual locations of penetrations relative to seam locations of metal roofing system before metal roofing system installation.
- .5 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- .1 Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.

- .2 Install auxiliary levelling substrate boards over steel deck; attach with mechanical fasteners into top flutes of steel to prevent wind uplift.
- .3 Install flashings and other sheet metal in accordance with requirements specified in Section 07 62 00.
- .4 Install eave angles, furring, and other miscellaneous roof system support members and anchorage in accordance with metal roofing system manufacturer's written recommendations.

3.3 ICE AND WATER SHIELD INSTALLATION

- .1 Install self-adhering sheet ice and water shield, wrinkle free, on roof sheathing under metal roofing system.
- .2 Apply primer if required by manufacturer and install in accordance with temperature restrictions of ice and water shield manufacturer; use primer rather than nails for installing ice and water shield at low temperatures.
- .3 Apply over entire roof in shingle fashion to shed water, with end laps of not less than 150 mm staggered 600 mm between courses and as follows:
 - .4 Overlap side edges not less than 90 mm.
 - .5 Extend ice and water shield into gutter trough.
 - .6 Roll laps with roller.
 - .7 Cover ice and water shield within 14 days.
- .8 Install flashings to cover ice and water shield in accordance with requirements specified in Section 07 62 00.

3.4 METAL ROOFING SYSTEM INSTALLATION

- .1 Install metal roofing system in accordance with manufacturer's written instructions and as modified by this Section.
- .2 Provide metal roofing system of full length from eave to ridge, unless restricted by shipping limitations.
- .3 Anchor metal roofing system and other components of the Work securely in place, with provisions for thermal and structural movement:
- .4 Site cutting of metal roofing system by torch is not permitted.
- .5 Rigidly fasten eave end of metal roofing system and allow ridge end free movement due to thermal expansion and contraction; pre-drill panels before installing fasteners.
- .6 Provide metal closures at peaks, rake edges, rake walls and each side of ridge and hip caps.
- .7 Flash and seal metal roofing system with weather closures at eaves, rakes, and at perimeter of all openings; fasten with self tapping screws.
- .8 Locate and space fastenings in uniform vertical and horizontal alignment.
- .9 Locate panel splices over, but not attached to, structural supports.

- .10 Stagger panel splices and end laps to avoid a four-panel lap splice condition.
- .11 Lap metal flashing over metal roofing system to allow moisture to run over and off the material.
- .12 Protect against galvanic action where dissimilar metals contact each other or corrosive substrates, by painting contact surfaces with bituminous coating, by applying rubberized asphalt ice and water shield to each contact surface, or by other permanent separation as recommended by metal roofing system manufacturer.
- .13 Seal metal roofing system end laps with double beads of tape or sealant, full width of panel.
- .14 Seal side joints where recommended by metal roofing system manufacturer.
- .15 Prepare joints and apply sealants in accordance with requirements in Section 07 90 00.
- .16 Align bottom of fascia panels and fasten with blind rivets, bolts, or self tapping screws; flash and seal panels with weather closures where fascia meet soffits, along lower panel edges, and at perimeter of all openings.

3.5 ACCESSORY INSTALLATION

- .1 Install accessories with positive anchorage to building and weather tight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.
- .2 Install components required for a complete metal roofing system assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
- .3 Install flashing and trim in accordance with performance requirements, manufacturer's written installation instructions, and SMACNA recommendations; provide concealed fasteners where possible, and set units true to line and level; install work with laps, joints, and seams that will be permanently watertight and weather resistant.
- .4 Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
- .5 Provide for thermal expansion of exposed flashing and trim:
- .6 Space movement joints at equally spaced intervals to a maximum of 3 metres o.c. with no joints allowed within 600 mm of corner or intersection.
- .7 Form expansion joints of intermeshing hooked flanges, not less than 25 mm deep, filled with mastic sealant concealed within joints where lapped or bayonet type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof.
- .8 Form flashing around pipe penetration and metal roofing system; fasten and seal to metal roofing system as recommended by manufacturer.

3.6 ERECTION TOLERANCES

- .1 Shim and align metal roofing system units within installed tolerance of 6 mm in 6 metres on slope and location lines as indicated and within 3 mm offset of adjoining faces and of alignment of matching profiles.

3.7 SITE QUALITY CONTROL

- .1 Engage a factory authorized service representative to inspect completed metal roofing system installation, including accessories and to report results in writing to Owner and Consultant.
- .2 Remove and replace applications of metal roofing system where inspections indicate that they do not comply with specified requirements.
- .3 Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.8 CLEANING AND PROTECTION

- .1 Remove temporary protective coverings and strippable films, if any, as metal roofing system is installed, unless otherwise indicated in manufacturer's written installation instructions.
- .2 Clean finished surfaces as recommended by metal roofing system manufacturer upon completion of metal roofing system installation; maintain in a clean condition during remainder of construction.
- .3 Replace metal roofing system components that become damaged or have deteriorated beyond successful repair by finish touch-up or similar minor repair procedures.

END OF SECTION

Part 1 General

1.1 INTENT

- .1 Sheet metal flashings used with roofing are intended to protect the roof from accelerated deteriorating effects of the elements, and, with few exceptions (e.g. penetration pockets, scuppers), are not intended to protect the building from direct migration of moisture.
- .2 Sheet metal flashings and trims required to complete wall, window and door assemblies and to provide closures to building envelope, and where indicated on drawings.

1.2 REFERENCES

- .1 Alberta Roofing Contractors Association Ltd. (ARCA) "Roofing Application Standards Manual", current edition.
- .2 American Society for Testing and Materials (ASTM):
 - .1 ASTM D4586 Asphalt Roof Cement, Asbestos Free.
 - .2 ASTM D226 Asphalt Saturated Organic Felt Used in Roofing and Waterproofing.
- .3 SMACNA (Sheet Metal and Air Conditioning Contractors' National Association) Architectural Sheet Metal Manual.

1.3 QUALITY CONTROL

- .1 Construct and install roof metal flashings in accordance with ARCA Manual details. If requirements conflict, this specification takes precedence over the manual.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Stack preformed and pre-finished material in manner to prevent twisting bending and rubbing.
- .2 Provide protection for galvanized surfaces.
- .3 Prevent contact of dissimilar metals during storage and protect from acids, flux, and other corrosive materials and elements.
- .4 Protect pre-finished surfaces from scratches and from rust staining.

Part 2 Products

2.1 METAL FLASHING

- .1 Metal flashing (pre-finished): Factory finish baked enamel paint to Dofasco/Stelco 8000 Series meeting standards specified in CSSBI Technical Bulletin 20M91 zinc-coated steel. Galvanized zinc coating minimum 275 g/m². Colour as indicated on drawings.

2.2 MISCELLANEOUS MATERIALS

- .1 Flashing Nails: 2.67 mm (0.105") hot dipped zinc coated, annular ringed
- .2 Flashing Screws: Hot-dipped zinc coated, self drilling
- .3 Bituminous Paint: To CAN/CGSB1.08M
- .4 Plastic Cement: To CAN/CGSB37.5M

2.3 FABRICATION

- .1 Make flashings of pre-finished metal for all cap flashings, for all flashings adjacent to roofing at roof edges and area dividers and where exposed to view from ground. Make flashings for other locations, of plain galvanized metal as follows:
 - .1 Use 0.45 mm (0.017") metal core thickness except where otherwise indicated
 - .2 Use 0.62 mm (0.023") metal core thickness wherever a flat length exceeding 305 mm (12") wide occurs
 - .3 Use 0.80 mm (0.031") metal core thickness for concealed fastening strips
- .2 All straight run joints shall be SLock in roof flashings.
- .3 Make joints to allow for thermal movement, space SLock joints at 1500 mm (5 feet) maximum centers.
- .4 Make flashings for building into masonry and concrete so that joints can be lapped 100 mm (4") or more.
- .5 Strengthen free edges of metal flashings by folding to form a 13 mm (½") hem.
- .6 Make flashings to curbs, walls and parapets a minimum of 200 mm (8") high, where possible.
- .7 Where curb mounted roof penetrations are not required, provide flashing sleeves and collars for all pipes and conduit extending through the roof. Sleeves shall be soldered to a piece of sheet metal extending at least 150 mm (6") onto the surrounding roof.

- .8 Make joints for corners and intersections with standing seams except where exposed of pre-finished metal when seams shall be flat locked.
- .9 All bends machine made; sharp, straight and true to line.
- .10 Back paint all metal flashings with bituminous paint prior to installation.

Part 3 Execution

3.1 INSPECTION

- .1 Verify that solid wood blocking or sheathing provided to backup all flashings and that all nails, screws set and wood provides a smooth flat plane.
- .2 Verify that all reglets, provided under other Sections or built-in by other trades, properly and securely located, true and level in line.

3.2 METAL FLASHINGS

- .1 Apply metal roof flashings to ARCA recommended requirements as a minimum.
- .2 Do not install metal flashings over flexible roof flashing until the flexible roof flashing has been inspected and approved by the Roofing Inspector. This includes curbs for roof mounted items.
- .3 Fasten metal base flashing to walls or up-stands along top of flashing. Do not secure to cant strip. Form lapped corner joints. Extend rolled edge of base flashing approximately 25 mm (1") on to roof from toe of cant, and rest on top of roof surface.
- .4 Allow for thermal expansion and contraction in all exterior sheet metal work.
- .5 Do not use exposed fastening unless indicated, or concealed fastening is not possible. Locations and methods shall be approved by the Consultant.
- .6 All exposed and pre-finished flashings to provide a smooth flat surface free of indentations, bumps, oil canning, or twists, all edges, bends hard, sharp and true to line.

END OF SECTION

Part 1 General

1.1 BRUSHING

- .1 Perform brushing in accordance with the requirements as outline within the WLNP Best Management Practices for Watershed-Scale Danger Tree Removal (BMP) and WLNP General Projects Best Management Practices (BMP) Ver 2.0.

1.2 MEASUREMENT PROCEDURES

- .1 Measure following item is in square meters within limits as shown on site specific drawings:
 - .1 Brushing

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Arrange for a Site meeting, before Work starts, with Departmental Representative identifying the following activities:
 - .1 Verify project requirements.
 - .2 Examine existing Site conditions and adjacent areas to construction's work, before Work starts.
 - .3 Identify potential environmental impact on existing Site conditions.
- .2 Contractor is responsible for obtaining or coordinating any permits required for clearing and grubbing works.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.5 STORAGE AND PROTECTION

- .1 Prevent damage to natural features, water courses, site appurtenances, existing buildings, utility lines, existing pavement, unmarked trees, existing root systems of trees, bench marks, shrubs, fencing which are to remain.
- .2 Repair damaged items to approval of Departmental Representative.
- .3 Replace trees designated to remain, if damaged, as directed by Departmental Representative.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 EROSION AND SEDIMENTATION CONTROL

- .1 Inspect, repair, and maintain erosion and sedimentation control measures daily during construction.
- .2 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PREPARATION

- .1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.
- .2 Survey boundaries and confirm with the Departmental Representative prior to mobilisation. All Work shall remain within established work boundaries.
- .3 Inspect site and verify with Departmental Representative, any items designated to remain.
- .4 Locate and protect utility lines: preserve in operating condition active utilities traversing Site.
 - .1 Notify Departmental Representative immediately of damage to or when unknown existing utility lines are encountered.
- .5 Notify utility authorities before starting brushing.
- .6 Keep roads and walks free of dirt and debris.

3.3 BRUSHING

- .1 Brushing shall consist of removal of vegetation including but not limited to small standing trees (< 100 mm dia.), brush, grasses, shrubs, coarse woody removed at or close to existing grade and satisfactory disposal of all organic debris and other vegetation designated for removal, including downed timber, snags, rubbish brush, occurring within brushed boundary.
- .2 Brush as directed Departmental Representative, by cutting at height of not more than 25 mm above ground.
- .3 Archaeology constraints apply and an orientation will be required. Certain areas may require assessment and abatement in frozen ground conditions.
- .4 No ground disturbance outside of the approved Work area is permitted at any time. If ground outside of the approved work areas is disturbed, notify the Departmental Representative immediately as archaeological monitoring may be required. Artifacts may be present at any site, and ground disturbance has the potential to damage such artifacts.
- .5 All disturbed areas outside of the approved Work area are to be restored to condition existing at start of construction and as directed by the Departmental Representative. All costs associated with restoration are considered incidental to the Work, and no separate or additional payment will be made.

3.4 REMOVAL AND DISPOSAL

- .1 Minimize the use of heavy equipment within the approved Work are. Take all reasonable measure to ensure heavy equipment is keep on existing hardened surfaces (i.e. roads, campsites, etc.). Make good any damage caused by such equipment.
- .2 All debris generated by brushing must be removed from site. No piles, clumps or branches are to remain on site.
- .3 Remove organic materials off site outside of WLNP to an appropriately licensed facility or as indicated by Departmental Representative.

3.5 FINISHED SURFACE

- .1 Leave ground surface in condition "as is" or to the approval of Departmental Representative.
- .2 All disturbed areas outside of Work including laydown areas and rutting caused by construction vehicles within vegetated areas shall be return to original condition or better.

3.6 CLEANING

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Do not clean equipment in the waterbody or where the wash-water can enter the waterbody.
- .3 Maintain tidy Work area, free from accumulation of waste products and debris.

END OF SECTION

Part 1 General

1.1 TREE REMOVAL

- .1 Perform tree removal in accordance with requirements as outlined within the WLNP Danger Tree Management Plan and WLNP General Projects Best Management Practices Ver 2.0.
- .2 Cut trees are as low to the ground as possible. Do not leave stumps higher than 75 mm above the surrounding ground surface.

1.2 MEASUREMENT PROCEDURES

- .1 Measure following item will be identified as Unit Price per tree to be removed within limits as shown on site specific drawings:
 - .1 Tree Removal

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Arrange for a Site meeting, before Work starts, with Departmental Representative identifying the following activities:
 - .1 Verify project requirements.
 - .2 Examine existing Site conditions and adjacent areas to construction's work, before Work starts.
 - .3 Identify potential environmental impact on existing Site conditions.
- .2 Contractor is responsible for obtaining or coordinating any permits required for tree removal.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.

1.5 STORAGE AND PROTECTION

- .1 Prevent damage to natural features, water courses, site appurtenances, existing buildings, utility lines, existing pavement, unmarked trees, existing root systems of trees, bench marks, shrubs, fencing which are to remain.
- .2 Repair damaged items to approval of Departmental Representative.
- .3 Replace trees designated to remain, if damaged, as directed by Departmental Representative.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 EROSION AND SEDIMENTATION CONTROL

- .1 Inspect, repair, and maintain erosion and sedimentation control measures during construction.
- .2 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PREPARATION

- .1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.
- .2 Survey boundaries and confirm with the Departmental Representative prior to mobilisation. All Work shall remain within established work boundaries.
- .3 Inspect site and verify with Departmental Representative, items designated to remain.
- .4 Locate and protect utility lines: preserve in operating condition active utilities traversing site.
 - .1 Notify Departmental Representative immediately of damage to or when unknown existing utility lines are encountered.
- .5 Notify utility authorities before starting hazardous tree removal.
- .6 Keep roads and walks free of dirt and debris. The roadway may be open to the public during the activities. Provide spotters and signage to ensure the safety of the public. Area closures may also be implemented during the felling activities, at the sole discretion of the superintendent.

3.3 TREE REMOVAL

- .1 Tree Removal shall consist of removal of dead and/or living trees and disposing of all debris generate by felling the tree. Cut trees as low to the ground as possible. Do not leave stumps higher than 75 mm above the surrounding ground surface.
- .2 The Level of Disturbance shall be bumped up to account for the construction activities and potential wind speed equivalents.
- .3 Hand felling with chainsaws is preferred method for tree felling. Processors, heavy equipment, excavators, loaders and other equipment maybe permitted only if approved in advance, in writing by the Departmental Representative.
- .4 Archaeology constraints apply and an orientation will be required. Certain areas may require assessment and abatement in frozen ground conditions.
- .5 No ground disturbance outside of the approved Work area is permitted at any time. If ground outside of the approved work areas is disturbed, notify the Departmental Representative immediately as archaeological monitoring may be required. Artifacts may be present at any site, and ground disturbance has the potential to damage such artifacts.
- .6 All disturbed areas outside of the approved Work area are to be restored to condition existing at start of construction and as directed by the Departmental

Representative. All costs associated with restoration are considered incidental to the Work, and no separate or additional payment will be made.

- .7 Fell trees and remove debris in the direction towards the parking areas and away from areas where the vulnerable site features may be located. If this is not possible, notify the Departmental Representative and wait for further instructions. Archaeological monitoring of tree felling/removal activities at this location may be required.

3.4 REMOVAL AND DISPOSAL

- .1 Minimize the use of heavy equipment within the approved Work area. Take all reasonable measure to ensure heavy equipment is keep on existing hardened surfaces (i.e. roads, campsites, etc.). Make good any damage caused by such equipment.
- .2 All debris generated by felled trees must be removed from site. No piles, clumps or branches are to remain on site.
- .3 Remove organic materials offsite outside of WLNP to an appropriately licensed facility or as indicated by Departmental Representative.

3.5 FINISHED SURFACE

- .1 Leave ground surface in condition "as is" or to the approval of Departmental Representative.
- .2 All disturbed areas outside of Work including laydown areas and rutting caused by construction vehicles within vegetated areas shall be return to original condition or better.

3.6 CLEANING

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Do not clean equipment in the waterbody or where the wash-water can enter the waterbody.
- .3 Maintain tidy Work area, free from accumulation of waste products and debris.
Cleaning

END OF SECTION