2023–2024 Annual Work Schedule
April 1st 2023 to March 31st 2024

Whiskey Jack Forest - Management Unit 490
2012-2024 Forest Management Plan

ANNUAL WORK SCHEDULE
for the
Whiskey Jack Forest

Kenora District, Northwest Region,
Ontario Ministry of Natural Resources and Forestry

for the one-year period from April 1, 2023 to March 31, 2024

We hereby confirm that this annual work schedule has been prepared in accordance with the requirements of the *Forest Management Planning Manual* and the *Forest Information Manual*, and is consistent with the approved forest management plan.

Prepared by: _____ March 14, 2023
Kurt Pochailo, R.P.F. [date]
Management Forester, Miisun IRM

Submitted by: _____ March 14, 2023
Shannon Rawn, R.P.F. [date]
General Manager, Miisun IRM

I hereby certify that the access, harvest, renewal and maintenance operations which are scheduled in this annual work schedule have been developed in accordance with the requirements of the *Forest Management Planning Manual*.

_____ _____ _____
[R.P.F. Seal] Kurt Pochailo, R.P.F. [date]
Management Forester, Miisun IRM

NRIP Submission Identifier: FM-490-2023-AWS-280

The original signed and stamped version of this page is retained at the MNRF Kenora District Office.

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HIGHER RISK WATER CROSSING APPROVAL PAGE
for the
WHISKEY JACK FOREST
MNRF Kenora District, Northwestern Region

Miitigoog LP
for the one-year period from April 1, 2023 to March 31, 2024

We hereby confirm that this annual work schedule has been prepared in accordance with the requirements of the Forest Management Planning Manual and the Forest Information Manual, and is consistent with the approved forest management plan.

Prepared By: _____ March 14, 2023
Kurt Pochailo, R.P.F., (date)
Miisun Integrated Resource Management Co.

Submitted By: _____ March 14, 2023
Shannon Rawn, R.P.F. (date)
General Manager, Miisun IRM

I hereby certify that the forest operations which are scheduled in this annual work schedule have been developed in accordance with the requirements of the Forest Management Planning Manual.

_____ March 14, 2023
RPF Seal Kurt Pochailo, R.P.F. (date)
Miisun Integrated Resource Management Co.

I have read this higher risk water crossing submission, and found it to be complete and consistent with the approved forest management plan.

Approved By: _____ _____
Brian Kilgour (date)
MNRF Kenora District Manager

NRIP Submission Identifier: FM-490-2023-AWS-280

The original signed and stamped version of this page is retained at MNRF Kenora District office and the Miitigoog/Miisun office in Kenora.

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3.1 Introduction

The Whiskey Jack Forest (**Figure 1**) is located within the Kenora District and the Northwest Region of the Ministry of Natural Resources and Forestry. The Whiskey Jack Forest is a Crown Management Unit that is currently being managed by Miisun Integrated Resources Management Co. through a Forest Resource Licence / Forest Agreement (FRL/FA) with the Ministry of Natural Resources and Forestry, Kenora District. The Annual Work Schedule serves as the basis for the issuance of Forest Resource Licences under the Crown Forest Sustainability Act (CFSA).

All operations will be conducted in compliance with conditions found in the 2023-2024 Annual Work Schedule. Conditions on Regular operations identified in the Forest Management Plan will be followed in the implementation of the Annual Work Schedule. Monitoring and reporting of forest activities will be executed according to the approved Forest Operations Compliance Plan in effect for the Whiskey Jack Forest within the 2012-2024 Forest Management Plan.

Direction for implementing and revising the Annual Work Schedule will be provided by the *Forest Management Planning Manual for Ontario's Crown Forests* (MNRF, 2020) and the *Forest Information Manual* (MNRF, 2020).

The Annual Work Schedule is a combination of text, tabular and spatial (map/layers) information. The digital versions of the text, tables and spatial maps/layers were submitted through the Government of Ontario's Forest Information Portal as part of our commitment to managing information that supports sustainable management of Ontario's forests. The text, tables and maps are available for public viewing on Ontario's Natural Resources Information Portal (NRIP) website (www.nrip.mnr.gov.on.ca).

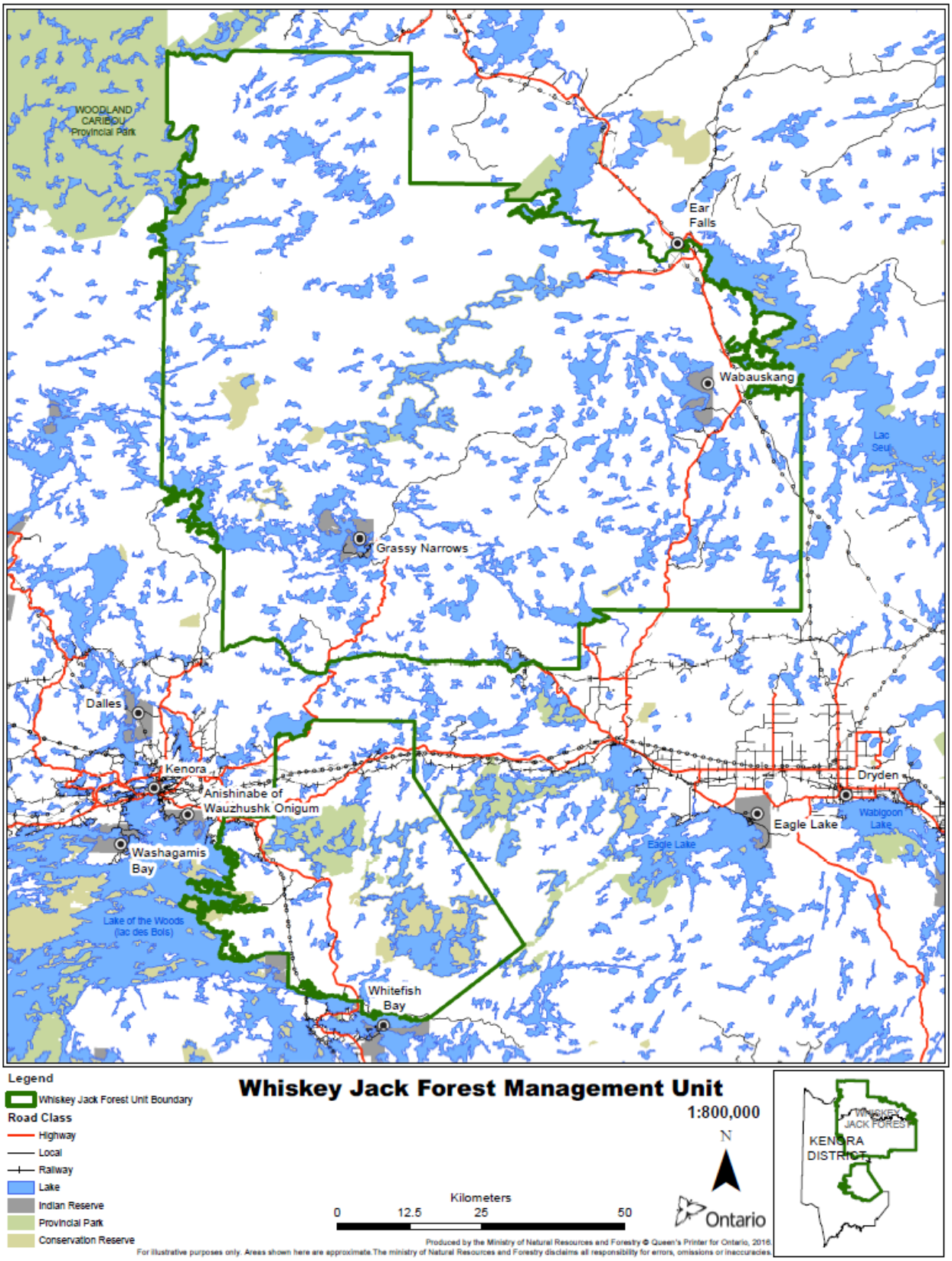

Figure 1: Location Key Map

3.2 Harvest Area

The information source for harvest areas is Table FMP-11 Planned Harvest Areas and Section 8.3 Harvest Operations of the 2012-2024 Forest Management Plan. The harvest areas can be viewed on the Annual Work Schedule Summary and Index Maps.

There is a total of 4,879 hectares scheduled for harvest in 2023-2024. The annual average harvest area for Phase 2 of the 2012-2024 Forest Management Plan is 5,059.3 hectares. The Forest Management Planning Manual (2020) allows for the identification of up to two years of the average annual available harvest areas by forest unit for operational flexibility. *Table 1: Area scheduled for harvest by forest unit* summarizes the harvest areas within the Annual Work Schedule.

Table 1: Area scheduled for harvest by forest unit.

Forest Unit	Area (ha)
BFM	162
CMX	785
HMX	1168
PJD	711
PJM	337
POD	677
PRW	45
SBL	87
SPD	437
SPM	469
Total	4879

The actual harvest level on the Whiskey Jack Forest is not expected to exceed 2,000 hectares across the entire forest. The area identified in the AWS is larger than the expected harvest and is so, to provide for operational flexibility as well as to facilitate advanced road construction.

Additional harvest blocks may be revised into the Annual Work Schedule throughout the April 1st 2023 – March 31st 2024 operating year. Annual Work Schedule Revisions will be communicated as per the Forest Management Planning Manual (2020) and when appropriate to affected parties if an interest has been identified by the party regarding the area impacted by the Revision and appropriate contact information has been provided.

The silviculture system/harvest method will be consistent with regulated manuals and guidelines for the boreal forest of Ontario. Stand level residual area requirements from the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales*

will be addressed as per the 2012-2024 Forest Management Plan, Section 8.3.1.1. Stand Level Residual in Harvest Areas.

Areas available for Fuelwood - Fuelwood is available at any approved FMP block. Fuelwood from these areas includes cull wood brought to roadside or wood in slash piles. The public is to obtain personal use fuelwood authorization from the MNRF prior to harvesting fuelwood.

Fuelwood will only be available if timber was not left on site for a specific reason. In all blocks, timber will be left standing intentionally to enhance wildlife habitat and natural disturbance patterns and will be unavailable for fuelwood. No fuelwood will be considered available within a block once renewal activities have commenced, or after a period of two years after harvest operations have ended. This strategy is intended for the protection of regenerating trees, whether they were initiated naturally or artificially.

There is currently an interest in verifying salvage opportunities for commercial operations in insect (i.e. Jack Pine budworm), wind and snow damaged stands within the Whiskey Jack Forest. If this endeavour is pursued and if salvage operations are warranted, the Annual Work Schedule will be revised to accommodate the change.

3.2.1 Wood Storage Yards

There are no wood storage yards identified currently in this AWS.

3.2.2 Renewal and Maintenance

The information source for renewal and maintenance is Section 8.4 Renewal and Tending Operations of the 2012-2024 Forest Management Plan. The renewal and tending areas can be viewed on the Annual Work Schedule Summary and Index Maps. Renewal and maintenance activities that are scheduled include mechanical site preparation, regeneration, chemical tending, slash piling and slash pile burning.

In addition to the areas identified for renewal activities, all areas identified for harvest are eligible for renewal and tending activities.

Mechanical Site Preparation
There is no Mechanical Site Preparation scheduled to take place during this AWS. Areas may be added to the AWS through a revision should areas be identified. If Site Preparation is added to the AWS it will be conducted using mechanical and/or hydraulic disk trenchers.

Regeneration
Regeneration in the FMP includes planting, seeding and natural regeneration assessments, the following identifies the regeneration activities planned for this AWS.

There are 473,340 seedlings ordered for the 2023 spring tree plant program and 597 hectares identified to be planted. All the areas scheduled to be planted were to be site prepared, however, the actual area planted will include some non-site prepared ground due to the operational constraints associated with the mechanical site preparation program. Any areas not planted will be carried over to the following year.

There are currently no areas identified within this Annual Work Schedule for seeding applications. Areas that are candidates for natural regeneration will be identified during postharvest surveys and assessed the next season. No natural regeneration areas are currently identified.

An assessment of areas that require reporting for natural regeneration will take place during the summer of 2023.

Tending

Chemical tending is not currently scheduled on the Whiskey Jack Forest. Additional plantation assessments will be conducted in the early parts of the operating season and if required, additional areas will be revised into the Annual Work Schedule.

If an aerial application of herbicide is planned, a project description and plan will be developed and available for public inspection prior to implementation.

Slash Piling and Slash Burning

Slash piling will occur on all round wood full tree operations and all chipping operations will follow the Whiskey Jack Forest Chipper Debris Management Guidelines.

All areas that are piled for ignition, from current or previous years, will be included in the 2023 slash burning program, including current harvest areas that will be completed prior to ignition. A Low Complexity Prescribed Burn Plan will be prepared and revised into the Annual Work Schedule in the summer of 2023.

Supporting Activities

A cone collection program may be initiated during the AWS to increase the amount of red pine and white spruce seed in the seed inventory for the forest. There is no plan to conduct any orchard work during this AWS.

3.2.3 Roads

The 2012-2024 Forest Management Plan contains road documentation that describes the road maintenance, access control and decommissioning strategies for individual roads. The information source for construction of new roads can be found in the Supplemental Documentation for Roads. Information sources for existing roads can be found in Table FMP-18 Road Construction and Use Management. General roads information can be found in Section 8.5 Roads of the 2012-2024 Forest Management Plan. Existing Roads and Road Corridors can be viewed on the Annual Work Schedule Summary and Index Maps. Operational road boundaries can be viewed on the Annual Work Schedule Operations Maps.

Within this AWS there are no roads scheduled for construction that will have new access controls established.

Primary and Branch Road Corridors

There are three road corridors that are scheduled to have some level of construction; Witch Bay/Loon Lake Road, Lost Lake Road, Gerrard Lake Road/April South Road and Bug Lake. The Loon Lake Road is an extension of the Witch Bay Road and there is only minor construction left in this FMP. Construction activities on the Loon Lake Road were initiated in 2016 and will be continuing this year pending progression with the 2024-2034 Whiskey Jack FMP. The Lost Lake Road will continue to be developed to access additional blocks further along the corridor. The Gerrard Lake Road is a branch road off of the April South Road and the construction began in 2018, only minor work remains on this road system and will only be undertaken should harvesting operations use the road. The Bug Lake road corridor may see some improvements to facilitate the harvesting of block 22.100 and the expected areas that will be harvested in the 2024-2034 Whiskey Jack FMP.

Operational Road Boundaries

Any operational road that is developed within an operational road boundary is subject to road use management strategy for that area. Any conditions on the location and construction of operational roads within Areas of Concern have been determined and identified within designated operational road boundaries and documented in the Area of Concern Supplementary Documentation and Table FMP-10 Operational Prescriptions for Areas of Concern.

Existing Roads

Operational roads constructed prior to April 1, 2023 will be used to facilitate access for forestry operations including site preparation, planting, tending and regeneration assessments.

Any existing road that does not cross an Area of Concern will be subject to the Conditions on Roads, Landings, and Aggregate Pits, Section 8.5.5 of the 2012-2024 Forest Management Plan.

The objective of maintenance activities is to:

- Protect the structural integrity of the road cross-section and cleared area;
- Keep drainage systems functional;
- Minimize sediment movement and the effects on other resources;
- Ensure the safe movement of people and equipment for harvest, log hauling and silviculture activities.

Routine maintenance activities may include but are not limited to graveling, ditching, culvert replacement and unplugging, brushing, slope stabilization, grading, snow plowing, and sanding.

Road Abandonment

Abandonment of roads is currently not being planned during this Annual Work Schedule. Where access has been adversely impacted by unplanned events, access may not be restored in a timely manner.

3.2.3.1 Water Crossing Construction

Table AWS-1 and Operations Maps depict the forecast of water crossing installations for primary, branch and operational roads. Staff are required to follow the water crossing standards within the FMP and where required MNRF staff will review water crossings in accordance with the MNRF/Department of Fisheries and Oceans Protocol – located in Appendix C.

All waterbodies with the potential to sustain fisheries and water quality values will be protected using area of concern reserves. Area of concern prescriptions will specify reserve widths ranging from 30 to 90 metres for all streams, as per specifications in 2012-2024 Forest Management Plan, Table FMP-10.

Timing Restrictions:

- No in-water works to occur in **cold water** stream habitats between **Sept 1st and June 15th inclusive** and will strive to occur during the low flow period.
- No in-water works to occur in **cool water** stream habitats between **April 1st and June 20th inclusive**, and will strive to occur during the low flow period.
- If it is unknown whether a stream is coolwater or coldwater, or what species are present in it, then it will be assumed to be coldwater (September 1st- June15th).

Where water crossings have been adversely impacted by unplanned events, water crossings may not be restored in a timely manner and remedial work may be limited to only eliminating or reducing safety hazards and /or interim measures to stop environmental damage. All actions must be consistent with the Use Management Strategy for the road/road network.

3.2.3.2 Other Crossings of Areas of Concern

There are currently no crossings of areas of concern other than water crossings identified for this AWS.

3.2.3.3 Water Crossing Decommissioning

Operational roads are not intended for long term use and there is no commitment to maintain these road networks for continuous public access. There two water crossings on the Mac Lake Road that are identified for removal during this AWS. Additional water crossings on operational roads may be identified during the operating season and if required will be revised into the AWS. Any crossing revised into the AWS for decommissioning will be reviewed as per the MNRF/DFO Water Crossing Protocol.

Table AWS-2 identifies water crossings scheduled to be decommissioned.

3.2.3.4 Aggregates

The existing Forestry Aggregate pits that will be used for construction and maintenance of roads during the year are identified on the AWS operational maps and associated digital coverage.

New Forestry Aggregate pits may be created throughout the year within approved harvest blocks, within 500 metres of any primary or branch road corridors or within the operational road boundary. All Forestry Aggregate Pits must meet the eligibility requirements and be operated as per the operational standards described within the Forest Management Planning Manual 2020.

There are currently no Forestry Aggregate pits scheduled for rehabilitation activities. There are currently no aggregate pits identified for which Category 9 permit application will be prepared.

3.2.4 Fire Prevention and Preparedness

A detailed fire plan is located in **Appendix B** of this Annual Work Schedule. The purpose of the Fire Plan is to clearly describe the fire prevention and fire response responsibilities of the MNRF, Forest Resource Licence holders, Overlapping Forest Resource Licence holders and silviculture contractors for fire prevention and detection strategies, communications, training, equipment lists and rates for hire as well as invoicing procedures. Included with the Fire Plan are the MNRF's Guidelines for Modifying Forest Operations in Response to Fire Danger. Appendix B and the appendices contained within it make up the fire related activities for this Annual Work Schedule.

3.2.5 Monitoring and Assessment

Forest Operations Inspections

Through the FRL/FA with MNRF, Miisun is responsible for all compliance roles and responsibilities as described within the Forest Management Plan and Annual Work Schedule. An Annual Compliance Plan has been prepared detailing the responsibilities for planning, monitoring, reporting and education/prevention on the Whiskey Jack Forest for each operation.

A description of the forest operations inspection program that will be implemented as part of the AWS can be found in the Annual Compliance Plan located in **Appendix A**.

Exception Monitoring

Forest Management Plan exceptions such as full tree logging on ecosites 11/12, will be monitored and reported on during the yearly submission of the Annual Report. Monitoring and assessment of these exceptions are discussed in the 2012-2024 FMP in Section 8.7.2.

Monitoring of Ecosite 11 and 12 - Full tree logging on ecosites 11 and 12, where total organic matter plus soil depth is less than 20 cm and rotation age is less than 80 years, is designated as a 'not recommended' practice in the silviculture guide for Northwestern Ontario. As part of the monitoring program, these shallow sites have been identified in the Annual Work Schedule operations maps. Operations will be conducted in accordance with the Best Management Practices (BMP) approved for these conditions. The BMPs applied will be reported in subsequent Annual Reports.

Assessment of Renewal Success

All areas harvested between four and five years ago will have an on the ground assessment completed to determine if any supplemental treatments are required prior to meeting regeneration standards, as determined by the Whiskey Jack Forest silvicultural ground rules (SGR).

All harvest areas that were planted are monitored for a five-year period starting in the fall of the year of establishment. These areas are monitored to determine seedling survival rates, the amount of natural ingress, competing species and supplemental treatment requirements.

Areas harvested between nine and twelve years ago will be assessed for establishment during the period of this AWS. Additional areas may be identified for establishment assessments and be revised into the AWS by June 1st.

All tree plant and site preparation operations will receive quality assessments to determine contractor payment but also to determine if the treatment is achieving the density requirements associated with the applicable SGR.

Roads and Water Crossing Monitoring

Primary and branch roads and associated water crossings will be monitored as per Section 8.7.4 - Road Maintenance and Abandonment of the 2012-2024 FMP. Operational roads and associated water crossings will be monitored as per Section 8.7.4 - Operational Road Conditions section of the 2012-2024 FMP.

Miitigoog/Miisun, as part of their normal field duties, will observe, on a continual basis, the condition of water crossings on maintained roads, particularly with respect to the

potential for washouts or blockages of culverts. Problems will be reported to the party responsible for the road.

All roads which are not being maintained and are listed in this AWS for monitoring will be inspected at least once during this AWS period and more frequently where circumstances, such as abnormal rainfall, warrant.

Reports from the general public and other user groups will also contribute to the monitoring of the condition of the roads and water crossings. Additional monitoring will be considered based upon a risk assessment approach following severe weather conditions (e.g. heavy rainfall).

APPENDIX A

2023-2024
Annual Compliance Schedule
for the
Whiskey Jack Forest

Introduction

This annual compliance plan is a guide to conducting forest operations inspections on activities planned as part of the 2023-2024 Annual Work Schedule (AWS) for the Whiskey Jack Forest.

The Whiskey Jack Forest is a Crown Management unit that is currently being managed by Miisun Integrated Resource Management Co. (Miisun), through a FRL/FA with the MNRF. Miisun is responsible for all compliance roles and responsibilities as described within the Forest Management Plan (FMP) and Annual Work Schedule.

Annual Compliance Priorities and Risked Based Management Approach

The annual schedule of operations is contained within the Whiskey Jack Forest 2023-2024 Annual Work Schedule.

Harvest blocks are currently proposed only in the southern and eastern portions of the Whiskey Jack Forest. Forest Resource License holders are currently using the mechanical full tree system for wood harvest. Trees are cut with feller bunchers and forwarded to roadside with grapple skidders. For dimensional operations (cut to length operations), delimbers are used to remove tops and limbs, while slashers saw and sort the wood according to product specifications. Chipping operations entails the use of grapple skidders that directly feed full trees to chippers that automatically chip and fill haul trucks for delivery to the mill. Cut-to-length processors may also be utilized on the forest and these operations will have a processor that fells, delimbs and cuts the wood to product length. A forwarder then loads the product and takes it to roadside for hauling.

Risk Analysis

A risk analysis has been completed for harvest areas identified in this Annual Work Schedule (see Table 1 for ranking of harvest blocks). The risk ranking system utilized, assigns a numeric value to a harvest operation based on criteria such as, type of operation (full tree, chipping, cut-to-length), season of operation, operator compliance history, forest stand and soil conditions, water crossings and the number of Area of Concerns or values present.

Areas of Concern are scored individually, per occurrence and are given an assigned numeric value from zero to three based on the complexity and type of value being protected. Each operation is tallied for a total score, which ranks the operations risk from high to low. High rankings have a greater chance of having a compliance issue and therefore require a higher level of monitoring while low rankings will require less monitoring.

As a Crown Management Unit, monitoring and forest operation inspections are completed on 100% of forest operations. The risk analysis, that is prepared, ranks the risk for each harvest block and assists the inspectors to determine the intensity of

monitoring required. No additional means of documentation, such as International Standards Organization and Environmental Management System Certification occurs on a Crown Forest.

Table 1 Harvest Block Risk Analysis

Block ID	Risk Rating	Block ID	Risk Rating
12.114	11	19.106	7
12.116	22	19.108	23
12.176	33	19.110	26
12.210	25	19.112	15
12.295	12	19.114	14
12.307	11	19.116	3
12.313	12	19.124	32
12.315	54	19.134	13
12.317	18	19.204	15
12.319	22	19.206	23
12.322	48	19.210	13
12.324	8	19.212	10
12.330	37	19.214	15
12.335	9	19.216	10
12.336	3	19.220	17
12.337	11	19.222	18
12.355	16	19.224	17
12.761	38	22.100	19
12.767	24	22.101	13
12.772	23	22.102	9
12.888	18	22.103	9
19.102	12		

Timing, Frequency and Inspection Intensity of Operations

Forest Management activities contained in the 2023-2024 Whiskey Jack Forest AWS have been prioritized through the Risk Ranking Analysis. Miisun will be inspecting every operation with greater emphasis on the operations that have a higher risk analysis assessment.

During this operating season the contractors/Forest Resource Licence holders, Miisun, MNRF inspectors and field staff will work closely together to ensure all parties understand their obligations under their license or contract and to ensure all operations are performed as per the FMP and AWS.

Notification of Operations

Miisun Integrated Resource Management Co.
Miisun is responsible for the delivery and reporting of the forest compliance program. All inspections will be completed by Miisun inspectors using the Forest Operations Information Program, (FOIP).

MNRF Contacts:
Main Contact:

Sam Hawken	Management Forester	807-468-2597

Inspector:

Krista Prosser	Forestry Technical Specialist	807-407-9675

Approver:

Scott McAughey	Resources Management Supervisor	807-468-2579

FRL Holders
All FRL holders will be required to notify the MNRF in writing (email), within 5 days of the commencement of operations and within 10 days of the cessation of operations including suspended operations.

MNRF – Silviculture Operations
All silviculture operations will be performed under contract to MNRF by independent contractors. During the fire season the MNRF will notify the Kenora Fire Centre where silviculture operations are occurring.

Monitoring Compliance of Forest Operations

All harvesting on the Whiskey Jack Forest will be performed by independent contractors and authorized through the issuance of Overlapping Forest Resource Licences (OFRL). As an OFRL holder, the independent contractor is responsible for all operations, adherence to the rules and areas of concern within their harvest area. It is the OFRL holder's responsibility to continually assess for issues and correct or report issues to the MNRF. Miisun will work closely with the OFRL holder to monitor, conduct inspections and report on activities performed for each operation.

Roles and Responsibilities

Forest Resource Licence Holders

Harvest operations will be performed by competent independent contractors and authorized through the FRL approval process. FRL holders are fully responsible for adherence to the rules within the Forest Management Plan (FMP) and AWS that apply to the area being harvested.

FRL holders are responsible for the following:

- Pre-harvest meeting with Miisun inspector prior to commencement of operations.
- Marking of harvest block boundaries
- Marking of area of concern boundaries
- Adherences to the FMP/AWS requirements i.e. snag and slash management, low residual patches.
- All operations within their harvest area i.e. roads and landings, stream crossings, garbage.
- Notification to MNRF of Unidentified values (nests) and streams, and the protection of these values.
- Adherence to the Annual Fire Plan and Forest Fire Prevention Act
- Forestry Aggregate Pit safety, development and reporting.

Compliance Report Areas

Compliance Report Areas will not be utilized during this AWS. Harvest areas will be reported by harvest block. Silviculture areas will be grouped by the type of activity. i.e. tree plant, site preparation (SIP) and reported on one compliance report as a single activity.

Summary

The Ontario Ministry of Natural Resources and Forestry along with Miisun Integrated Resource Management Co. are committed to the development and implementation of its 2023-2024 Whiskey Jack Forest Annual Compliance Plan. The focus of this year's operations will be on working with our partners in achieving continual improvement on all aspects of forest operations and management.

APPENDIX B

2023 Annual Fire Plan
for the
Whiskey Jack Forest

DECLARATION

The following Fire Plan has been prepared for the 2023 fire season (April 1 to October 31), within the 2023-2024 AWS planning period.

Contractors are responsible for abiding by the conditions and requirements as outlined in this plan, unless the Contractor has an MNRF approved Fire Prevention & Preparedness Plan (FP&PP) of their own to cover their operations.

In the interest of fire prevention and preparedness the Crown staff may, at any time and at their discretion, impose upon any operations or activities covered under this plan:

1. *Additional modifications relating to woodlands operations, above and beyond those that may be required as per the Modifying Industrial Operations Protocol and / or*

2. *Additional requirements with respect to fire suppression equipment, training and overall fire preparedness.*

Table of Contents

1.0 INTRODUCTION

The Whiskey Jack Forest is a Crown Management Unit with Miisun providing the management of the unit through a Forest Resource Licence / Forest Agreement. All operations are conducted under Overlapping Forest Resource Licence Agreements (OFRLAs) where all OFRLAs work independently and are responsible for compliance to this Fire Plan, the Forest Fires Prevention Act and for all operations conducted within their licence areas.

All forest operations undertaken in Ontario must be performed with careful consideration for the prevention of forest fires. Accidental wildfire can have a considerable impact on both short term and long-term forest operations and forest sustainability. In the case of accidental fire, operators must be prepared to safely take initial action to prevent fire spread. Under the authority of the Forest Management Planning Manual and the Crown Forest Sustainability Act, conditions are placed on forest operations through the Annual Work Schedule (AWS) to provide Forest Fire Prevention and Preparedness. Contractors shall follow these guidelines to develop and describe conditions for forest operations which will prevent forest fires and/or minimize damage from a fire should one occur. Forest operators must also be aware of other prevention measures in the Forest Fires Prevention Act and associated regulations, Modifying Industrial Operations Protocol, Forest Fire Operations By Forest Industry – Business Practices", and the Crown Forest Sustainability Act, Part B: Annual Operations

2.0 SCOPE

Forestry operations are illustrated on a variety of maps available from the Kenora District MNRF. During a pre-harvest start-up briefing, all independent contractors are briefed and sign-off on their responsibilities under this Fire Plan.

3.0 FIRE POLICY

Contractors are to take all necessary precautions to prevent forest fires during the course of operations; to detect, report, and where possible take immediate initial suppression action to minimize any loss resulting from forest fires. Every reasonable attempt will be made to take action on fires on or near the Contractor's operating areas, to remain on site until the fire is considered to be out *or* until relieved by the MNRF *or* the situation becomes too dangerous to handle with the available level of skill and/or training.

4.0 FIRE PREVENTION

Contractors will utilize the information provided in the Modifying Industrial Operations Protocol to modify operations for the next day. When determining what modifications may be applicable for a particular operation, the closest operating weather station will be used as a default. If another weather station (other than the closest) is to be used to determine the modification(s) for a particular operation, this must be identified and

agreed upon by the local Fire Management Headquarters and Contractor personnel prior to operations commencing.

Forestry Operations personnel will comply with the relevant regional or provincial guidelines for *Modifying Industrial Operations* based on the fire danger, the Forest Fires Prevention Act (FFPA), and the *Forest Fire Operations by Forest Industry – Business Practices*. Operations staff will be responsible for determining the danger classification, as per the modification guidelines. Each operation will follow the guidelines as they relate to their operation, and any required modifications to forest operations will be relayed to the relevant personnel by Operations staff.

A number of Fire Prevention and Fire Hazard signs are maintained throughout the district, which are an effective tool for advising staff, as well as other forest users, of the local fire conditions on any given day. During periods of high fire danger, Contractor staff will conduct patrols of the operating area including, wherever possible, public use areas such as major access points and camping sites. Staff may also conduct patrols of operating areas after significant lightning events to aid in the detection of any fire starts.

Fire related inspections and audits of operations will continue throughout the fire season to ensure compliance with the AWS, FFPA & Regulations and Contractor policy. Any deficiencies found will be addressed and noted in Forest Operation Inspection Program (FOIP) as quickly as possible and may result in immediate corrective action(s) and/or a self-imposed shutdown of the activity in question. Fire suppression equipment may be removed from machinery or equipment while not being operated. As the fire hazard increases, Contractor staff will increase fire prevention and preparedness levels.

4.1 Fire Prevention Rules

1) Abide by the "No Smoking" rule. “No person shall smoke while walking or working in forest woodland during the fire season”.
2) No person shall throw or drop, in or within 300 meters of a forest or woodland:
    a) A lighted match, cigarette, cigar or other smoking material;
    b) Live coals, or;
    c) Hot ashes.
3) No person shall use or operate in or within 300 meters of a forest or woodland- any burner, chimney, engine, incinerator or other spark-emitting outlet that is not provided with an adequate device for arresting sparks.
4) A person who operates equipment or machinery involved in forest operations or the processing of forest resources in a forest or woodland during the fire season shall keep a fire extinguisher on the equipment or machinery or within five meters from it. The extinguisher must be a dry chemical extinguisher, in serviceable condition with a minimum rating of 6A:80B:C.
5) A person who operates equipment or machinery involved in forest operations or the processing of forest resources in a forest or woodland during the fire season must also comply with the minimum suppression equipment requirements, as outlined in FFPA.

6) A person who operates a power saw in a forest or woodland during the fire season:
   a) Shall not start the saw within 3 meters of the place where it is fuelled;
   b) Shall not place the saw on flammable material(s);
   c) Shall keep available, as a minimum, a serviceable dry chemical ABC type fire extinguisher of at least 225 grams.
7) All exhaust systems must have an adequate device for arresting sparks, to prevent burning carbon from coming in contact with forest fuels.
8) Heavy equipment / machinery, when not in use, are to be left in an area that is free of flammable material.
9) All heavy equipment are to be checked daily for any accumulation of flammable material and any accumulation found is to be removed and disposed of safely.
10) All welding is to be carried out on a site cleared to mineral soil, to a minimum of 3 meters in all directions from the point of welding, and at least 1 full / serviceable backpack pump, 1 axe, 1 shovel and 1 serviceable dry chemical fire extinguisher, with a rating of at least 6A:80B: C, is to be readily available. Fire watch should be maintained during welding operations.
11) Organize crews and assign key personnel duties that they are qualified to perform, maintain an active list of personnel and suppression training (SP-102), functions they shall perform in the event of a fire.
12) Serviceable firefighting equipment must be available for immediate use throughout the fire season, as required.
13) Ensure that regular and frequent fire prevention inspections are conducted including equipment, work sites, fire suppression equipment, personnel and campsites.
14) Ensure that workers know the location of the nearest fire cache and phone, as well as the contact / reporting numbers for the MNRF and the Company.
15) Ensure that workers are knowledgeable as to the location of water sources within their particular area of operation.

5.0 FIRE AWARENESS AND EDUCATION

a) The daily message will be utilized on the Whiskey Jack Forest. The MNRF Modifying Industrial Operations Protocol will be the source for modification information
b) Contractor Principals/Owners are expected to call or use the website on a daily basis after 15:00 (3:00PM) during the fire season for information on the hazard rating, codes and recommended practices. Daily information on the MNRF Modifying Industrial Operations Protocol Hotline can be accessed through the following:

Kenora Fire Management Headquarters – MIOPS 1-800-465-5311 or
1-807-548-1423 (sat ph. users)
Red Lake Fire Management Headquarters – MIOPS 1-807-727-2611 or
1-807-937-6883 (sat ph. users)
Website http:www.ontario.ca/page/fire-intensity-codes

c) Contractors Principals/Owners will inform their Supervisor of prevention and implementation plans prior to shift.
d) Contractor Supervisors will inform employees of prevention plans and their implementation prior to work commencement.

6.0 FIRE PREPARDNESS TRAINING

Personnel in harvesting and site preparation operations will be trained to the SP-102 Industry Certification with refresher training required every four years (see **Appendix G – Whiskey Jack Forest Independent Operation/Contractor Fire Information**). Planting and Manual Tending operations will be trained by their respective Contractors to a competent level of fire knowledge based on the fire equipment in their operations. The Contractor will strive to ensure that all operations meet the criteria for "trained and capable" designation, including the requirement that at least 25% of the workers on any particular site be trained to a minimum SP-102 standard. Operations that are unable to satisfy all of the "trained and capable" criteria will be considered as "limited".

7.0 FIRE DETECTION

When employees/supervisors locate a forest fire they will:

1. If safe to do so extinguish or contain the fire to the best of their ability and resources on hand.
2. Report the fire directly to: 310-FIRE(3473) or Directly to the appropriate FMH:
    a. Kenora Fire Management Headquarters SRO Line (807) 548-5837
    b. Red Lake Fire Management Headquarters SRO Line (807) 727-2055/2056
3. Report the fire to Miisun Personnel – Management Forester or General Manager

The following information is to be provided:

1. YOUR NAME (and # where you may be contacted)
2. LOCATION of fire (preferably UTM Basemap & block number)
3. CONDITION OF FIRE
4. FUEL TYPE
5. SIZE
6. VALUES
7. ACTION TAKEN

Reference will be made to the *Forest Fire Operations by Forest Industry – Business Practices*, to address such matters as:

Hiring rates

- Conditions for the use of Contractor personnel
- Conditions for the use of Contractor equipment
- Working relationship, and the transition of responsibility, between the Contractor and MNRF
- Compensation to which the Contractor may be entitled

8.0 EQUIPMENT STANDARDS

Each Independent Operator is responsible to have the minimum Forest Fire Suppression Equipment available and maintained, as per O. Reg. 207/96 Section 26 (https://www.ontario.ca/laws/regulation/960207).

Suppression Equipment Required by Operation			
Operations	Number of Machines	Number of Equipment Caches **	Backpack Pumps*
Heavy equipment with tire chains or tracks, working in forest fuels.	1 – 5 6+	0 1	 1/machine
OR**: Heavy equipment at work within a 10km. radius of each other (includes hot work)	1 – 9 10+	0 1	1/machine or hot operation
Tree plant, manual tending or other labour-intensive operations		0	1 for every 4 Workers, to a Maximum of 10/site.

*A serviceable pressurized water delivery system located on a machine can replace a backpack pump.
** Only one fire equipment cache will be required on site, providing it is within 20 minutes (by ground transportation) of all equipment.

Fire Equipment Cache means a supply of standard firefighting tools, pumping unit and equipment in planned quantities located at a strategic point for the exclusive use of fire suppression.

As per O. Reg. 207/96 Section 26(2) (https://www.ontario.ca/laws/regulation/960207):

“backpack pump” means a container with a minimum of 18 litres of water which is equipped with a serviceable single action hand pump to disperse the water;

“pumping unit” means a unit consisting of,

a) A water pump not affixed to another machine that is capable of maintaining a minimum pressure of 60 pounds per square inch when used with a nozzle with a half inch opening attached directly to the pump,
b) A toolbox, containing nozzles with assorted tip sizes, wyes, stranglers, hose wrenches, hose wrenches, spark plugs and assorted hand tools such as screw drivers and pliers,
c) A minimum of 20 litres of fuel appropriate to operate the pump,
d) One intake hose that is a minimum of eight feet long with a foot valve, and
e) One-and-a-half-inch fire hoses measuring in total a minimum of 2,400 feet in length;

9.0 COMMUNICATIONS

A comprehensive communication plan must address ability to call out and be able to receive messages. Options currently available to users of the Whiskey Jack Forest are:

1. 24-hour response line

2. Telephone
3. Satellite phone
4. Cellular phone
5. Radio phone
6. FAX
7. E-mail
8. Two-way FM radio

10.0 AREAS OF OPERATION

During the annual spring fire meeting between the Contractor and MNRF, maps showing the Contractor's intended areas of operation will be reviewed and made available to MNRF Fire Managers - in digital format. If at any time throughout the fire season additional copies of maps are required, please direct requests to the Forester, or the primary/alternate contact for the given operating area, as listed in this plan.

The following items should be considered for discussion during the annual spring fire meeting:

- Operating schedule, by block (harvest &silviculture)
- Forest composition, fuel types of the operating areas
- Risk classification
- Scale of operation
- Type of equipment
- Class of operation (Trained & Capable or Limited)
- Modifying Industrial Operations Protocol review
- Weather stations
- Communication strategy
- Values (priorities)
- Road maintenance and development
- Forestry camps (location, fuel caches, values)

11.0 CONTRACTOR RESOURCES – Requisition & Transfer

Resource Requests

To request Company resources, please contact primary and/or provided all alternate Company personnel as listed within ***Appendix A – Contacts***. Anytime that the MNRF wishes to assume care and control of Company equipment and resources, which would result in absence of direct Company involvement, the transferring of said equipment and resources should be documented in writing in a manner that would provide both the Company and the MNRF with an itemized hard copy of the details of the transfer. The MNRF *Transfer Record of Equipment and Supplies Loaned ("195")* form will be used.

See **Appendix B - Modifying Industry Operations Protocol**

ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY and FORESTRY CONTACTS

Kenora Fire Management Headquarters **1-807-548-1919**
Kenora FMH Sector Response Officer (S.R.O.) **1-807-548-5837**
MNRF MIOPS – Kenora FMH **1-800-465-5311**
MNRF MOIPS – Kenora FMH (Sat Ph. Users) **1-807-548-1423**
24-Hour Forest Fire Reporting **310-FIRE (3473)**
24-Hour Forest Fire Reporting (Sat Ph. Users) **1-807-937-5261**

KENORA FIRE MANAGEMENT HEADQUARTERS				
	WORK	**HOME**	**CELL**	**POSITION**
Pat Harvey	548-5720	464-2450	467-1297	Fire Management Supervisor
Ben Wilkinson	548-8416		407-8255	Fire Operations Supervisor
John Mash	548-6195	464-0754	464-0754	Fire Operations Supervisor

Red Lake Fire Management Headquarters **1-807-727-2000**
Red Lake Sector Response Officer (S.R.O) **1-807-727-2055/2056**
MNRF MIOPS – Red Lake FMH **1-807-727-2611**
MNRF MIOPS – Red Lake FMH (Sat Ph. Users) **1-807-937-6883**
24-Hour Forest Fire Reporting **310-FIRE (3473)**
24-Hour Forest Fire Reporting (Sat Ph. Users) **1-807-937-5261**

RED LAKE FIRE MANAGEMENT HEADQUARTERS				
	WORK	**HOME**	**CELL**	**POSITION**
Randy Crampton	727-2041	727-2088	727-0242	Fire Management Supervisor
Zack Morin	727-4015		727-0246	Fire Operations Supervisor
Clinton Glendinning	727-2073		629-7847	Fire Operations Supervisor
Kat Polatynski	727-2065		464-3871	Fire Operations Supervisor

Appendix A

MNRF CONTACTS

KENORA DISTRICT				
	WORK	**HOME**	**CELL**	**POSITION**
Sam Hawken	468-2597		465-1659	Management Forester
Krista Prosser	407-9675		407-9675	Forestry Technical Specialist
Scott McAughey	468-2517		466-3836	Resources Management Supervisor

CONTRACTOR - CONTACTS
HARVEST / ROAD CONSTRUCTION OPERATIONS

MAKOOSE WOOD INNOVATIONS AKA DOUG RIFFEL HARVESTING				
	WORK	**HOME**	**CELL**	**POSITION**
Doug Riffel		529-3026	221-6019	Owner
John Meek	937-4154		221-6033	Operations Forester

MIISUN INTEGRATED RESOURCE MANAGEMENT COMPANY				
	WORK	**HOME**	**CELL**	**POSITION**
Shannon Rawn	467-3351	548-7628	464-0066	General Manager Miisun I.R.M.
Kurt Pochailo	467-3351	548-8241	466-3802	Management Forester Miisun I.R.M.

COMMERCIAL FUELWOOD				
	WORK	**HOME**	**CELL**	**POSITION**
TBD				

SILVICULTURE OPERATIONS

CONTRACTOR	**CONTACT**	**PHONE**	**FAX**
Dorsey Contracting - Site Preparation	Mark Illott	548-8785 467-0540 (Cell)	548-8789

Contractor contacts will be revised into the 2023 Fire Plan as operations commence and operators are known.

Appendix B

MODIFYING INDUSTRY OPERATIONS PROTOCOL

The Modifying Industrial Operations Protocol is broken into six keys. These keys will determine the degree of fire risk for each operation and site, and the level of forest operations modifications (restrictions) required. An actual field verification done prior to or at the time of operations will take place at the work site for that day. This will then guide the operations to the level of work modification that will be required. The keys account for leaf off and leaf on conditions in addition to the following:

Spring/Summer Conditions:

The following daily activities may be implemented based on the Protocol:

- High risk operations being moved to medium or low risk sites.
- Short shifting part or all operations as conditions require. “SS = Short Shift Operations are not permitted between 12:00 and 19:00, local daylight savings time. Prevention measures still apply and a dedicated patrol of the area must be carried out for one hour after operations shut down.”
- Consolidating operations where practical.
- Suspending part or all Whiskey Jack Forest Operations as conditions require.
- Implementation of Patrols and Fire Watch.

The Modifying Industrial Operations Protocol are implemented in the following sequence:

- The Modifying Industrial Operations Protocol is monitored on a daily basis.
- Forest operators are notified as to increasing conditions.
- Modifying Industrial Operations Protocol Charts are consulted to see what modifications apply.
- Direction to modify (move equipment to lower risk sites, shutdown, modified work hours, short shift, extra patrols, staff advisories) are considered by Contractor and Ministry fire management personnel.
- Considerations must be made as to “limited operators” (untrained) and to trained and capable operators.

Low to Moderate Fire Hazard:

- Normal operations will be carried out with the Modifying Industrial Operations Protocol reviewed daily with concern for high risk sites and operations.
- Forest fire suppression equipment as per F.F.P.A. Regulations and Section 3.3 will be on site at operations.

- Chain Saw and Brush Saw Operators will have a dry chemical fire extinguisher readilyavailable during the fire season. This extinguisher will be either on their person or at their power saw fuelling site.
- Mechanical equipment will have serviceable dry chemical fire extinguishers mounted on the machine as per the Contractor's Fire Protection Plan. Pack pumps will be located on each machine or work site.
- Mechanical equipment will be washed at the beginning of the fire season and regularly as required.
- Forest debris will be removed from mechanical equipment as required, but at least at the end of the shift.
- Mechanical equipment will be parked on mineral soil as per Contractor fire standards 30m apart for all large harvesting equipment.
- Master switches will be in the “OFF” position when the machine is parked.

High and Very High Fire Hazard:

- Supervisors remind their employees daily of the increase in the fire hazard.
- Supervisors check power saws and mechanical equipment under their control daily to assure that a fire hazard does not exist.
- Supervisors are to increase their efforts to assure that Contractor regulations pertaining to fire prevention and preparedness are being carried out.
- Supervisor will check fire equipment and caches for location and readiness.
- Utilizing patrols and fire watch crews as needed, a minimum of **one hour** after operations end.
- Short shifting or suspending part or all operations based on the Modifying Industrial Operations Protocol in consultation with the MNRF.

Appendix C

Forest Fire Operations by Forest Industry – Business Practices

PURPOSE

To ensure consistent operations with all forest management licensees and companies regarding the prevention, suppression and service of forest fires.

GENERAL PRINCIPLES

To ensure consistent operations with all forest management licensees and companies regarding the prevention, suppression and service of forest fires, the *Ministry of Northern Development, Mines, Natural Resources and Forestry* (MNRF) and forest industry will follow the procedures described below. These procedures were developed with the understanding that the forest industry is a partner in forest fire management with a vested interest in fire prevention and effective fire suppression.

Forest operations are regulated through the *Crown Forest Sustainability Act* (CFSA), *Forest Management Planning* (FMP), and associated approvals under the *Environmental Assessment (EA) Act*. Nothing in this procedure constitutes further requirements under the CFSA or Forest Management Planning system. Under the authority of the *FMP Manual* and the *CFSA,* the *Annual Work Schedule (AWS)* must describe plans for forest fire prevention and suppression preparedness. The intent of these requirements is to:

- minimize the impacts of wildfires in forested areas;
- minimize loss of wood supply, equipment, and wages for forestry workers;
- minimize impacts on communities (safety and economic impact);
- allow operations to continue, as long as safely possible.

The *Forest Fires Prevention Act (FFPA)* requires all persons who start a fire outdoors to keep the fire under control and to extinguish the fire before leaving the site. Also, any person that has started a fire that is not kept under control shall report the fire without undue delay.

To provide for the safety of all workers involved in forest fire suppression, consistent standards must be in place for forest fire suppression activities.

1. NORMAL OPERATIONS

The following procedures apply when forest operations are focused on their normal business. Under Normal Operations, forest industry involvement in forest fire management is focused on forest fire prevention and being prepared for action on a new fire they might discover.

1.1 The *"Fire Prevention and Preparedness Plan" is submitted as a* portion of the *AWS* and will be reviewed by the local Fire Management Supervisor prior to the *AWS* being approved by the District Manager.

1.2 Forest industry will report all fires found on or adjacent to their limits to the nearest MNRF Office or the MNRF Fire Reporting Line at 1 888 284-3473 (West Fire Region) as quickly as possible and will take action on the fire according to their capabilities.

1.3 One of the key features of fire fighter training is the ability to recognize unsafe situations. If forest industry personnel are not able to work safely and productively on the forest fire, they should leave the scene to a safe distance. MNRF fire staff arriving on the scene may direct forest industry personnel to leave the scene for safety reasons.

1.4 If industry personnel find, contain and extinguish a fire caused by lightning or human activity not associated with forest industry operations and if the forest Contractor has reported the fire as soon as possible to the nearest MNRF Fire Office or the MNRF Fire Reporting Line at 1 888 284-3473 (West Fire Region)

a. The MNRF will compensate the forest Contractor for action on these fires at a flat rate of $600.

b. Where the Contractor incurs costs in excess of $600, the Contractor may submit a detailed invoice within 30 days of the incident, itemizing its costs on the fire.

c. The MNRF will, with consideration of the investigation policies and operational limits, investigate the fire cause and create a fire report.

Note: Industry must report all fires to the local MNRF Fire Office to assist in the evaluation of the daily fire danger.

1.5 If under Subsection 1.4 (above) industry personnel take initial action or incur expenses trying to contain a forest fire but are unable to contain or extinguish the fire. The Contractor must report the fire as soon as possible to:

• the nearest MNRF Fire Office or the MNRF Fire Reporting Line at: **310-3473 (West Fire Region)**

a. The local Ministry Fire Office will send assistance, investigate the fire cause and create a fire report.
b. The MNRF will compensate the forest Contractor for action on these fires at a flat rate of $600.

c. Where the Contractor incurs costs in excess of $600, the Contractor may submit a detailed invoice within 30 days of the incident, itemizing its costs on the fire.

1.6 During normal operations when forest industry employees take initial action on a fire they remain employees of the forest industry for WSIB purposes.

2. ESCALATED FIRE OPERATIONS

Fire Operations are “escalated” when fire danger has increased to a critical level and/or a major fire situation has developed. The following procedures will prepare both the Ministry of Northern Development, Mines and Natural Resources and Forestry and the forest industry to better respond to emergency situations where the Ministry may need to request industry support or assistance.

2.1 In order for equipment and staff to be used on short notice during escalated operations, forest industry will provide rental and wage rates to the MNRF annually as part of the AWS. Forest industry should list all heavy equipment, firefighting equipment, vehicles, chain saw operators, support personnel and camp facilities that will be available under escalated operations.

- Rates for vehicles and heavy equipment (bulldozers, skidders, trucks, etc.) should include the float, working and a stand-by-rental rate of the machine including the operator wages, current fuel prices and maintenance costs.
- If an hourly float rate is identified in the rate schedule, float times will be calculated from the equipment’s originating location to a designated staging area or off-loading point nearest the fire line and return to original location.
- Per Diem rates for room and board at forest industry camps or facilities will include cooking, food, camp support, supplies, etc.
- Rates for chainsaw operators will include wages, saw rentals and saw maintenance.
- Equipment rental rates will not be charged during float transfers.

Note: When companies are supplying rates which include fuel costs, the rates should reflect the most current fuel prices available. In view of the volatile nature of current fuel prices local fire managers may renegotiate fuel costs at the time of hire (if conditions warrant).

2.2 If forest industry and the local MNRF Fire Office agree; agreed upon rates outlined in section 2.1 (above) can be submitted separately from the AWS submission. If industry cannot supply rates due to special circumstances, a standard rental offer for the use of heavy equipment will be completed at the time of hire to establish a rental rate for the piece of equipment.

2.3 MNRF will compensate companies for services, personnel and equipment where the MNRF has approved the use of the services in writing. The written approval will also describe the rates for special services not included in annual plans and

conditions that have been negotiated on the scene (e.g. helicopters, buses, GIS services, road graders, etc.).

2.4 MNRF will compensate forest industry for employees working directly as fire fighters only if they are certified SP-100 fire fighters. Staff trained to the SP-102 training standard for the purposes of fire prevention and initial action are not considered as trained for the purposes of extended fire suppression duties during Escalated Fire Operations.

Equipment operators, chain saw operators, and other forest industry personnel not directly fighting the fire do not require SP-100 to carry out their duties.

Heavy equipment operators and heavy equipment technical specialists (line locators) hired to construct fire line or fire guards must be trained to the SP-160 and SP-403 standards respectively. Heavy equipment operators without training may be used under direct supervision by MNRF or trained forest industry staff.

2.5 Forest industry employees working as crew bosses (supervising fire fighters on the fire line) must have SP-200 training.

2.6 MNRF will compensate the forest industry for fire fighters and crew bosses identified in Subsections 2.4 and 2.5, engaged in sustained firefighting duties at the established rate as outlined in section 2.1 or 2.2 (above).

2.7 Forest industry employees identified in Subsections 2.4 and 2.5 will be paid overtime of time and one half for all hours worked in excess of 8 hours per day, and for all hours worked on scheduled days off and statutory holidays.

2.8 If the AWS does not specifically set rates for personnel mentioned in subsections 2.6, the rate identified for the equivalent position in the current “PROVINCIAL EFF WAGE RATES” will be used.

2.9 MNRF will compensate the Contractor for supervisors and management personnel directly involved in fire operations at the rates established in the AWS annually. Contractor personnel visiting the fire to observe operations or assess impacts on Contractor interests will not be considered for compensation.

2.10 If not specified as being covered as part of the compensation rates as described in Subsections 2.5 or 2.8, MNRF will compensate the forest industry for employee benefits at the rate of 13.0% of total wage earnings.

2.11 For forest fires within designated fire regions, the MNRF is considered to be the summoning authority for WSIB purposes. Persons summoned in these circumstances are deemed as a worker for the MNRF. The MNRF will provide WSIB coverage for persons hired directly from forest industry during Escalated Fire Operations. This includes forest industry personnel engaged in ground firefighting duties, heavy equipment operators and operators of contract equipment

hired by the forest industry. In this regard, forest industry workers hired under this procedure are different from contractors because contracts for services provide for WSIB coverage under the contract. In the event of an injury, the employee must report that injury to the MNRF representative on site ensure that the proper WSIB reporting timeframes are met. The MNRF supervisor on site will investigate all injuries.

2.12 Where MNRF requests forest industry owned forest fire suppression equipment to be used in Escalated Fire Operations, the MNRF will pay the daily rates set according to Subsection 2.1 for the use of that equipment and will recycle all the equipment at no charge to the forest industry if the rental rate does not explicitly include the cost of recycle of the equipment by the forest industry.

For portable forest firefighting equipment (e.g. power pumps), MNRF will provide mixed fuel for the operation of the equipment (rented “dry”). Fuel for vehicles and heavy equipment will be included in the vehicle rental rate (rented “wet”) according to Subsection 2.1.

MNRF will replace or repair, forest industry owned forest fire suppression equipment that has been lost or damaged during the suppression of a forest fire. MNRF will not repair or replace any equipment damaged due to age or normal wear and tear (compensation for wear and tear should be factored into the rental rates established by the forest industry annually), or due to negligence, improper maintenance or improper operation by forest industry employees.

2.13 MNRF has the authority under the FFPA to use any equipment available in emergency situations (FFPA, Sections 7 and 26). Compensation for equipment used under these circumstances will be at the rates set according to Subsection 2.1 and 2.2.

2.14 When the MNRF contracts for the use of heavy equipment from the forest industry, the forest industry will be compensated for use according to rates quoted in advance, usually within the AWS. If the forest industry hires additional heavy equipment and/or support to assist MNRF in suppression efforts, compensation for any additional hires will be at the rates as defined within the applicable AWS

- Payment to any subcontractors will be organized through the hiring agent.
- MNRF will not directly accept invoices from any additional hires by forest industry.
- Invoices received directly by the MNRF will be returned to the Contractor for processing.

2.15 If equipment that is not insured for use in forest fire suppression, including subsequent loss or damage is directed to work on a forest fire by Ministry personnel in an emergency situation the MNRF will proceed as follows:

a) MNRF will compensate the forest industry for equipment that is lost or damaged by the wildfire, or directly as a result of suppression activities using "actual cash value".

b) If equipment is required for an extended operational period, equipment that is not insured for use in forest fire suppression, including subsequent loss or damage, will be replaced by properly insured equipment as soon as possible.

c) MNRF will not compensate the forest industry for equipment that is lost or damaged due to mechanical failure or operator error.

2.16 The forest industry will be required to submit, on a daily basis, a report detailing all costs incurred for that day. This report is to be approved and signed upon its receipt by the MNRF representative on site. A copy of the approved report will be provided back to the forest industry for their records.

2.17 The forest industry will invoice the designated MNRF office within thirty (30) days of when the costs were incurred.

2.18 The MNRF will process forest industry invoice(s) upon receipt and forward payment. Ministry payment terms are net 30 days from the date that the ministry office receives the Contractor invoice.

Appendix D

FIRE DETECTION REPORT- FORM:

Time Fire Noted: _____ Date: _____

Reported By: _____ Camp: _____

Location of Fire: General: _____

Geographic: _____

Access: Nearest Landable Lake: _____

Nearest Drivable Road: _____

Other Means _____

Size of Fire: _____

Fire Behaviour: _____

Is There Spread Potential: _____

Fresh Cutover: _____ Standing Timber: _____ Natural Boundaries: _____

Wind Direction/Speed: _____

Values to be Protected: _____

Buildings: _____

Machinery: _____

Wood: _____

Water Sources: Pumping Units _____ Distance _____

Personnel on Fire, or Action you have in mind: _____

_____

Person Taking Report: _____

Appendix E

Retrieval of Contractor Fire Equipment by MNRF (Letter from MNRF)

To ensure consistency in dealing with the maintenance and repair of Forest Industry fire equipment, this letter will provide you with the guidelines our program will follow this year. We will continue to retrieve your fire equipment that is used to fight forest fires at no cost, and retrieve any fire equipment used for training or other purposes, at our current billing rates.

We have found there is a continual problem in distinguishing the equipment used on forest fires from equipment used for other purposes when it is brought into the Thunder Bay Service Centre for repairs. To rectify this problem, we will require that, on a fire with an MNRF Incident Commander, your Contractor representative must **complete a form 195 (Transfer Record of Equipment and Supplies Loaned) or prepare a letter**, listing the Contractor equipment assigned to that fire. This form must be **signed by the MNRF Incident Commander** to be eligible for MNRF to cover the cost of equipment retrieval.

If a fire has **no MNRF Incident Commander** on site, your **Contractor representative must prepare either a form 195 or a letter** containing the same information, **for signature by the appropriate Fire Management Supervisor**, to be eligible for MNRF to cover the cost of equipment retrieval. This system will help expedite the retrieval of your equipment and reduce the chance of error in billing your Contractor for equipment retrieval work. We appreciate your cooperation and effort.

Pat Harvey
Fire Management Supervisor (MNRF)
Kenora Fire Management Headquarters

Appendix F

Whiskey Jack Forest Independent Operator / Contractor Fire Information

1. Operation Description

1.1. Operation Type (Harvest, Road Construction, Site Preparation):
_____

1.2. Company Name: ___ _____

1.3. Operation Contact Name and Mailing Address:
_____
_____
_____
_____

1.4. Contact Phone / Radio #s:
Telephone: _____
Radio: _____

1.5. Block Description: (If you require assistance completing this section, call your local planner)

Block no. and Map Sheet	Operating Period (by Block):	Location of Block: (described as simply as possible)	# of Persons on each shift ***
Example: Block - 35	July- August	10km up the Example Road from Hwy	6

*** Note: This column indicates personnel normally available on the site for fire suppression. Temporary personnel, i.e. haul truck drivers, would not count.

2. Communications

2.1. Able to meet the communications requirements for Trained and Capable status? (Circle answer) **Yes No**

2.2. Are personnel on site aware of fire reporting procedures? **Yes No**

2.3. Fire Reporting Numbers: **Ministry of Northern Development, Mines, Natural Resources and Forestry: 310-FIRE (3473)**

Fire Reporting Information

When reporting a forest fire, as much of the following information as possible will be provided:

• Your name address and phone number • The location- road, lake etc. • Size of the fire • Spread of the fire – ground, crowning etc. • Fuel type – muskeg, swamp, cut-over, plantation or good timber. • Identify any property values in immediate danger.	• Location, name and size of the nearest lake and distance to the fire • Wind direction and strength • Access to fight the fire – roads, water air. • People already present and available to fight the fire • Experience level of the people present. • Equipment already on hand.

3. **Equipment on site**

(Please use the extra spaces provided or back of second page to describe equipment not listed.)

Type of Equipment on the Operation	**Make, Model, Year**	**Firefighting rental rate / hour including fuel and operator.**	**# of units**	**On-board Fire Suppression systems?** **Yes / No**	**Tracked Vehicle (including rubber tired vehicles with bogey tracks or using chains)** **Yes / No**
Processor					
Feller Buncher					
Delimber					
Slasher					
Chipper					

Loader					
Forwarder					
Bulldozer					
Grapple Skidder					
Cable Skidder					
Backhoe					
Chainsaw					

Note: On-board fire suppression systems and fire extinguishers should be serviced regularly to ensure their operating status. Contact your supplier for details.

4. Fire Equipment

4.1 In compliance with minimum suppression equipment requirements as per Whiskey Jack Crown Forest Fire Plan? (Circle answer) **Yes** **No**

4.2 List of Fire Equipment available on site:

Fire Equipment Type	# of Units	Fire Equipment Type	# of Units
Back Pack Pumps		5 lbs. ABC	
Shovels		10 lbs. ABC	
Axes		20 lbs. ABC	
Fire Extinguishers		Fire Pump (as per Fire plan requirements)	
232 gm. ABC		Hose (100 ft lengths)	
		Radios	

5. Fire Training – SP-102

(Please list the names of the personnel on the operation and their respective fire training.)

Employee	Date of Training	Trainer
Howie Adams	May 13, 2022	Kurt Pochailo
Mark Scott	May 13, 2022	Kurt Pochailo
Shannon Rawn	May 13, 2022	Kurt Pochailo
Martin Wilcott	May 13, 2022	Kurt Pochailo

Gerald Ross	May 13, 2022	Kurt Pochailo
Macey Witzke	June 22, 2022	Kurt Pochailo
Fred Witzke	June 22, 2022	Kurt Pochailo
Noah Witzke	June 22, 2022	Kurt Pochailo
Chris Jansen	May 13, 2022	Kurt Pochailo
Dave Witzke	June 22, 2022	Kurt Pochailo
Rick Witzke	June 22, 2022	Kurt Pochailo
Dave Burt Jr.	May 13, 2022	Kurt Pochailo
Greg Mosioner	May 13, 2022	Kurt Pochailo
Shaun Morrison	May 13, 2022	Kurt Pochailo
Johnathan Beauchamp	May 13, 2022	Kurt Pochailo
Jon Wilson	May 13, 2022	Kurt Pochailo
Les Alcock	May 13, 2022	Kurt Pochailo
Ben Scott	May 13, 2022	Kurt Pochailo
Philip Boucha	May 13, 2022	Kurt Pochailo
Rob Boucha	May 13, 2022	Kurt Pochailo
Richard Schiebler	May 13, 2022	Kurt Pochailo
Lorne Poulin	May 13, 2022	Kurt Pochailo
Mel Michalchuk	May 13, 2022	Kurt Pochailo
Lawrence Derouard	May 13, 2022	Kurt Pochailo
Mark Wilcott	May 13, 2022	Kurt Pochailo
Dante Derouard	May 13, 2022	Kurt Pochailo
Davis Ross Giesbrecht	May 13, 2022	Kurt Pochailo
Tim Lightheart	May 13, 2022	Kurt Pochailo
Lenard Thain	May 13, 2022	Kurt Pochailo
Darrell Mosioner	May 13, 2022	Kurt Pochailo
Rob Neil	May 13, 2022	Kurt Pochailo
Tyler Nakka	May 13, 2022	Kurt Pochailo
Chris Wilcott	May 13, 2022	Kurt Pochailo
Austin Wilcott	May 13, 2022	Kurt Pochailo
John Meek	May 13, 2022	Kurt Pochailo

6. Prevention

6.1 Personnel aware of Contractor general prevention procedures as per Whiskey Jack Crown Forest Fire Plan? (Circle answer) **Yes** **No**

6.2 Are personnel familiar with the Guidelines for Modifying Forest Operations in Response to Fire Danger with the Modifying Industrial Operations Protocol and how to obtain the Modification codes for their operations?
(Circle answer) **Yes** **No**

6.3 Are personnel familiar with and willing to carry out enhanced prevention measures outlined in the Whiskey Jack Crown Forest,. Fire Plan when deemed necessary by the Modifying Industrial Operations Protocol?
(Circle answer) **Yes** **No**

7. Fire Safety

If operation threatened by fire are on site personnel aware of the evacuation procedures? (Circle answer) **Yes** **No**

8. Acknowledgment

I understand that the information presented in this package will be used to initially classify the operation as “Trained and Capable” or “Limited” as per the Modifying Industrial Operations Protocol.

Name: _____ Date: _____

Appendix G

CONTRACTOR EQUIPMENT RATES for 2023

The following 2023 equipment list shows contractor owned machines categorized into three weight classes. Factors considered when arriving at these rates were: horsepower, size and capabilities.

Equipment rates are “WET” rates and include the fuel costs associated with the operation of the equipment, as well as the operators’ and mechanics’ wages.

Equipment rates **do not include:** travel time, pick-up trucks, meals, accommodation or the costs associated with the retrieval / recycling of equipment. For requisitions that do not have an established rate, new rates may be negotiated between the Contractor and MNRF as required.

Equipment Rates

EQUIPMENT	Regular Time Per (per hour)	Rate after 8 hours (per hour)	Standby Rate / Rate (per hour)
All terrain vehicle	$75.00/day	N/A	N/A
Bulldozer, _ D6 size	$ 184.00	$ 211.60	$ 110.40
Bulldozer, D7 size	$ 201.25	$ 231.44	$ 120.75
Bulldozer, D8 size	$ 230.00	$ 264.50	$ 138.00
Chainsaw & Feller	$ 51.75	$ 59.51	N/A
Excavator	$ 207.00	$ 238.05	$ 124.20
Backhoe Loader	$ 150.00	$ 172.50	$ 90.00
Feller Buncher	$ 207.00	$ 238.05	$ 124.20
Grader > 21,000 kg	$ 145.00	$ 166.75	$ 87.00
Grader < 21,000 kg	$ 140.00	$ 161.00	$ 84.00
Loader, rubber tired (bucket)	$ 145.00	$ 166.75	$ 87.00
Pumping Unit (excluding hose)	$ 125.00	$ 143.75	N/A
Skidder	$ 150.00	$ 172.50	$ 90.00
Tanker Forwarder (<2,000 gal)	$ 149.50	$ 171.93	$ 89.70
Tanker Forwarder (2,001 – 3,000 gal)	$ 172.50	$ 198.38	$ 103.50
Tanker Forwarder (>3,001 – 5,000 gal)	$ 207.00	$ 238.05	$ 124.20
Truck, escort	$ 57.50	$ 66.13	N/A
Truck, float	$ 170.00	$ 195.50	N/A
Truck, gravel	$ 130.00	$ 149.50	$ 78.00
Truck with tank for fueling equipment	$172.50/day	N/A	N/A
Truck, pickup	$250/day	N/A	N/A
Washer, pressure	$ 74.75	$ 85.96	$ 44.85

* Additional cost of $0.56 per km after 225km/day
* Additional fuel surcharge of 15% applied to all invoices

APPENDIX C

WATER CROSSING STANDARDS

FOR THE

WHISKEY JACK FOREST

Water Crossing Standards

The Ministry of Natural Resources and Forestry/Fisheries and Oceans Canada Protocol for the Review and Approval of Forestry Water Crossings, 2017 (the Protocol) provides a risk-informed Proponent self-screening approach for lower-risk water crossings that utilizes pre-determined and mandatory technical water crossing standards to direct routine water crossing construction and decommissioning activities in a manner that protects the productivity of Ontario's commercial, recreational or Aboriginal (CRA) fisheries or fish that support such a fishery. Adopting this type of risk-informed and modernized approach will allow government and industry stakeholders to focus resources towards planning and reviewing water crossing activities that pose a greater potential risk of serious harm to Ontario's CRA fisheries or fish that support such a fishery.

The approved water crossing standards in the Protocol have been developed collaboratively with input from the Ministry of Natural Resources and Forestry (MNRF), Department of Fisheries and Oceans (DFO) and representatives from Ontario's forest industry. They represent minimum levels of performance requirements that must be met by the proponent when constructing and decommissioning water crossings using a proponent self-screening approval framework.

The conditions and requirements included in the general and specific water crossing standards have been deemed by MNRF and DFO staff as the necessary mitigation measures required to classify the water crossing project as not likely to result in serious harm to CRA fisheries or fish that support such a fishery. If a proponent determines that the requisite water crossing standards that apply to their specific project can be implemented, they may proceed with their activity, so long as the water crossing standards notification requirements are met, and forest management approval processes outlined in this Protocol and the appropriate version of FMPM are followed. In cases where a Proponent determines that the requisite water crossing standards that apply to their specific project cannot be implemented, a review and approval will be required by either MNRF and/or DFO as per the Protocol.

Failure to follow the requirements of these water crossing standards could result in compliance and enforcement actions under both the *Fisheries Act* and the *Crown Forest Sustainability Act* (CFSA).

Water crossings in which a water crossing standard is being proposed for construction or decommissioning will be approved in conjunction with the approval of, or revision to, the Annual Work Schedule (AWS).

General Water Crossing Standards That Apply to All Water Crossings

This general water crossing standard applies to all water crossings constructed or decommissioned under the authority of the CFSA for which a self-screening approval approach is being implemented. Additional measures that are specific to certain water crossing types or structures must also be implemented.

General Standards

- The implementation of water crossing standards (i.e. type and location of project) must be consistent with the applicable and approved FMP.
- The implementation of water crossing standards must be overseen or carried out by individuals who are trained and competent to:
  - Understand the intent and objectives of the specification's standards;
  - ensure that specification's water crossing standards and appropriate mitigation measures are satisfactorily applied; and
  - Recognize when water crossing standards and appropriate mitigation measures have not been satisfactorily implemented and understand the requirements to report and correct any mistakes that have occurred.
- The project must be compliant with applicable water crossing standards and guidelines in the most recent versions of Ontario's forest management guide(s) that address the conservation of biodiversity at the landscape scale and the stand and site scales and MNRF's Crown Land Bridge Manual.

Design and Location

- The project does not include watercourse realignment.
- Projects are designed and constructed in a way that minimizes loss or disturbance to riparian vegetation. The removal of riparian vegetation must be restricted to the disturbance footprint required for the construction, maintenance and decommissioning of water crossings.

Erosion and Sediment Control

- Erosion and sediment control measures must be installed prior to the commencement of construction or decommissioning activities to prevent the release of sediment or other deleterious substances to the watercourse. Erosion and sediment control measures will be:
  - Effective and installed properly with respect to the site conditions;
  - Inspected regularly during the course of construction with any necessary repairs being made if any damage occurs;
  - Maintained until the site has become stabilized through the permanent re-establishment of vegetation (i.e., a root mass has been established that ensures site stabilization), either naturally or through planting and tending activities within disturbed areas and approaches, and/or they have been stabilized with rip-rap, or appropriately sized non-erodible aggregate material.
- Fill material placed below the normal high water mark will be erosion-resistant and/or protected from erosion.
- Water crossings are to be constructed and decommissioned to help ensure that storm water runoff from bridge decks, side slopes, and road approaches and ditches are directed away from the watercourse and into a retention pond or vegetated areas to remove suspended solids, dissipate velocity, and prevent sediment and other deleterious substances from entering the watercourse. Erosion and siltation in ditch lines adjacent to watercourse crossing approaches

are to be controlled by using sediment traps such as rock/soil dams or log jams as site conditions warrant.

- Crossing sites are to be stabilized during and post construction and decommissioning, including any material stockpiling, spoil, and/or other waste materials to prevent sediment or other deleterious substances from entering the watercourse. Cut and fill slopes around the water crossing structure and decommissioned sites are to be stabilized at a 2:1 slope or stable angle of repose for the materials used using site appropriate methods.

CRA fisheries or fish that support such a fishery

- At any time of year, the free movement of water and the passage of fish may not be blocked or otherwise impeded up and down stream of the crossing, with the exception of potential and temporary blockage due to water crossing construction/decommissioning activities.
- All in-water construction and decommissioning activities must abide by the appropriate fisheries in-water timing windows documented in approved FMPs and/or forest management guides in order to avoid disrupting sensitive fish life stages. In cases where the fishery community inventories at the location of the proposed project are not well documented, the most restrictive in-water timing window must be used.
- All in-water construction and decommissioning activities must be undertaken in an uninterrupted fashion and be completed in an appropriate timeframe so as to minimize the potential for site disturbance.
- The construction and decommissioning activities must not employ the use of any explosives.

Construction and Maintenance

- Machinery must be maintained free of fluid and fuel leaks.
- Machinery must be operated on land with tracks/wheels above the normal high water mark, or on ice in a manner that avoids disturbance to the banks of the watercourse and adjacent riparian vegetation areas.
- Machinery must be washed, refueled and serviced a minimum of 30 metres away from the watercourse. Fuel and other materials for the machinery are to be stored a minimum of 30 metres away from the watercourse to minimize the chance of any deleterious substance from entering the water.
- Removal of riparian vegetation must be restricted to the disturbance footprint required for the construction, maintenance and decommissioning of water crossings. Site-specific operational and/or safety concerns that warrant the removal of additional riparian vegetation will be determined on a case-by-case basis and will be kept to a minimum within the road right-of-way in order to help maintain the stability of watercourse banks.
- All debris resulting from construction and decommissioning activities must be removed from the work site following the completion of the undertaking.

- If machinery fording the watercourse is required during the course of construction activities, it will be limited to a one-time event (over and back) per piece of equipment that is essential to implementation of the project, and must occur only if an existing crossing at another location is not available or practical to use.
  - If minor rutting is likely to occur, watercourse bank and bed protection methods (e.g., swamp mats, pads) are to be used provided they do not constrict flows or block fish passage;
  - Grading of the watercourse banks for the approaches is not permitted;
  - If the watercourse bed and banks are steep and highly erodible (e.g., dominated by organic materials and silts) and erosion and degradation are likely to occur as a result of equipment fording, a temporary crossing structure or other practice must be used to protect these areas;
  - The one-time fording must adhere to the appropriate in-water timing windows; Fording must occur under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.

Water Crossing Standards That Apply to Specific Water Crossings Structures/Practices

The following water crossing standards apply to specific water crossing structures and/or practices and must be implemented in addition to the general water crossing standards.

Water Crossing Standard Identifier: CONST-CLR-BRDG
Water Crossing Standards for the Construction of Clearspan Bridges

This water crossing standard applies to the construction of clear span bridges and their footprints, including associated abutments, cribs and/or sill logs.

General Standards

- The conditions and requirements of the general water crossing standards must be implemented in addition to, and in conjunction with, this water crossing standard.

Design and Location

- Bridges must not be located on meander bends, braided watercourses, alluvial fans, or any other area that is inherently unstable and may result in the alteration of natural stream functions or erosion and scouring of the water crossing structure.

Erosion and Sediment Control

- Appropriate site-specific mitigation measures must be enacted to ensure the construction of clearspan bridges, including bridge cribs, abutments, and associated fill slopes are not subjected to the impacts of long-term or ongoing erosion. At a minimum, measures must include:

  - Clearspan bridges, including bridge cribs and fill slopes must be stabilized with appropriately sized non-erodible material (e.g., rocks, cobble sized stones). Rock used to stabilize crossings and watercourse banks will be clean, free of fine materials, and of sufficient size to resist displacement during peak flood events. The rock must be placed at the original watercourse bank grade to ensure there is no infilling or narrowing of the watercourse.
  - Fill material placed below the normal high water mark of the watercourse must be erosion resistant and/or protected from erosion.

CRA Fisheries or Fish that Support Such a Fishery

- The project must not be located within 100 metres of fisheries spawning or sensitive habitat if any in-water work is a requirement of the project.

Construction and Maintenance

- The bridge, including its abutments, must be placed entirely outside the normal high water mark.
- The construction of clearspan bridges must not result in the alteration of the bed or banks of the watercourse or infilling or narrowing of the watercourse channel.

Water Crossing Standard Identifier: DECOM-CLR-BRDG
Water Crossing Standards for the Decommissioning of Clearspan Bridges

This water crossing standard applies to the decommissioning of clear span bridges and their footprints, including associated abutments, cribs and/or sill logs. In certain cases, local site conditions may create a higher likelihood for potential damage to watercourse banks and/or fish habitat when bridges abutments, cribs, and/or sill logs are completely removed as opposed to leaving them in place. In these cases, Proponents must ensure that appropriate sedimentation and erosion mitigation approaches, in addition to any necessary public safety actions, continue to be implemented.

General Standards

- The conditions and requirements in the general water crossing standards must be implemented in addition to, and in conjunction with, this water crossing standard.
- Decommissioning of water crossings will only occur if it is consistent with the approved road use management strategy in the applicable FMP and is scheduled for decommissioning in the current AWS (Table AWS-2).

Erosion and Sediment Control

- Upon decommissioning, including the removal of bridge abutments, cribs, and/or sill logs, the site must be stabilized and protected against erosion.
- Bridge abutments and cribs may be left in place if they are in good condition, stable for the long term, are not affecting watercourse or fish community dynamics, and are permissible in the approved FMP and/or AWS-2 table.
- Surface water runoff and road approaches and ditches must be directed away from the watercourse and into vegetated areas. Diagonal berms or waterbars

must be installed where the erosion potential of the road approaches is likely to result in the road's gravel surface and underlying fill being deposited into the watercourse over time. Sediment traps used within ditch lines adjacent to the watercourse crossing approach should be replaced and/or maintained to their original condition at the time of crossing decommissioning.

CRA Fisheries or Fish that Support Such a Fishery

- The project must not be located within 100 metres of fisheries spawning or sensitive habitat if any in-water work is a requirement of the project.

Construction and Maintenance

- The decommissioning of clearspan bridges, including the removal of bridge abutments, cribs and/or sill logs will not result in the alteration of the bed or banks of the watercourse or infilling or narrowing of the watercourse channel.

Water Crossing Standard Identifier: CONST-OPN-ARCH
Water Crossing Standards for the Construction of Open Bottom Arch Culverts

Arch culverts are open-bottom structures that typically span the width of the waterbody channel, require minimal in-water construction activities and result in minimal impacts to the banks of the waterbody.

General Standards

- The conditions and requirements in the general water crossing standards must be implemented in addition to, and in conjunction with, this water crossing standard.

Design and Location

- The arch culvert must not be located on meander bends, braided watercourses, alluvial fans, or any other area that is inherently unstable and may result in the alteration of natural steam functions or erosion and scouring of the water crossing structure.
- Culverts must be sized to a minimum Q25 design flow using MNRF water engineering/calculation software, or equivalent software programs deemed acceptable by the MNRF.

Erosion and Sediment Control

- Appropriate site-specific mitigation measures must be enacted to ensure the construction of arch culverts and associated footings and fill slopes are not subjected to the impacts of long-term or ongoing erosion. At a minimum, measures must include:
  - Stabilizing the crossing, including footings and fill slopes, with appropriately sized non-erodible material (e.g., rocks, cobble sized stones). Rock used to stabilize crossings and watercourse banks must be clean, free of fine materials, and of sufficient size to resist displacement during peak flood events. The rock must be placed at the original watercourse bank grade to ensure there is no infilling or narrowing of the watercourse.

- Fill material placed below the normal high water mark of the watercourse will be erosion resistant and/or protected from erosion.

CRA Fisheries or Fish that Support Such a Fishery

- The project must not be located within 100 metres of fisheries spawning or sensitive habitat if any in-water work is a requirement of the project.

Construction and Maintenance

- The project cannot result in any excavation and/or reconstruction of the streambed.
- The crossing must be installed under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.
- The culvert must be secured on continuous footings outside of the normal high water mark and will be constructed according to the manufacturer's specifications using materials that are appropriate for the site and expected loads.
- Where footings are constructed with concrete, appropriate measures must be taken to ensure concrete materials do not encroach into the bed of the watercourse.
- The construction of arch culverts must not result in the alteration of the bed or banks of the watercourse or infilling or narrowing of the watercourse channel.

Water Crossing Standard Identifier: CONST-SNOW-ICE
Water Crossing Standards for the Construction of Snow Fill and Ice Bridge Crossings

Snow fills and ice bridges, two types of water crossings that provide cost-effective access when lakes, rivers and streams are frozen, are typically used for temporary winter access in remote areas. Ice bridges are normally constructed on larger watercourses that have sufficient stream flow and water depth to prevent the ice bridge from coming into contact with the stream bed or restricting water movement beneath the ice. Snow fills, however, are temporary crossings constructed by filling the channel of a watercourse with clean compacted snow.

General Standards

- The conditions and requirements of the general water crossing standards must be implemented in addition to, and in conjunction with, this water crossing standard.

Design and Location

- The work must not include dredging, placing fill, or grading or excavating the bed or banks of the watercourse.

Erosion and Sediment Control

- No earth fill or aggregate is permitted below the normal high water mark of the watercourse. Crossings must be constructed of clean water, ice and snow that are free of dirt and debris.

CRA fisheries or fish that support such a fishery

- Snow fills and ice crossings must not restrict water flow within the watercourse where it occurs naturally during winter conditions, or otherwise completely obstruct fish passage at any time.
- The project must not be located within 100 metres of fisheries spawning or sensitive habitat.

Construction and Maintenance

- Appropriate seasonal conditions must be present (e.g., adequate depth of snow and ice, winter temperatures) to provide certainty that the construction and removal water crossing standards can be satisfactorily implemented.
- Aggregate or loose woody material cannot be used to top the crossing.
- If logs or corduroy are used to stabilize the approaches of ice and snow fill crossings:
  - The logs must be clean;
  - The logs may be securely bound together to facilitate removal and minimize site disturbance;
  - No logs or woody debris can be left within the watercourse;
  - Corduroy (if used) adjacent to the watercourse banks must be removed and placed outside the floodplain to help prevent a damming effect on the site. Corduroy that is frozen or embedded into the road approaches or watercourse banks must be left in place so as to not expose mineral soil adjacent to the watercourse. The remaining snow and ice can be left to melt in the spring. If required, remedial work will be carried out on the site after the crossing is removed to ensure that no logs or woody debris can wash back into the watercourse.
  - Logs may be placed on road approaches to assist in diverting runoff away from the watercourse; however, they must be placed outside of the floodplain and in such a manner as to ensure that they do wash back into the watercourse.
- Sanding of snow and ice crossings must be kept to a minimum and within the bounds of operational health and safety considerations.
- Corduroy logs or brush mats must be installed on the approaches to the watercourse crossing when conditions are soft in order to avoid disturbing the banks and crossing approaches.
- If water is being pumped from a watercourse to reinforce the crossing, the intakes must be sized and adequately screened to prevent debris blockage and fish entrainment.

Water Crossing Standard Identifier: CONST-SM-CULV
Water Crossing Standards for the Construction of Single, Small Closed-Bottom Round Culverts

This water crossing approval specification applies to the construction of single, round, corrugated, closed-bottom steel, aluminum, or plastic culverts that are less than or equal to 1200 millimeters (4') in diameter and do not require site-specific engineering approval (i.e., span less than three (9.8')), as per MNRF's Crown Land Bridge Manual, 2008.

General Standards

- The conditions and requirements in the general water crossing standards must be implemented in addition to, and in conjunction with, this water crossing standard.
- The project does not:
  - Replace an existing open-bottom crossing (e.g., clear span bridge, arch culvert);
  - Replace an existing closed-bottom culvert that is larger in diameter than that being installed; or
  - Involve the installation of more than one closed-bottom culvert at the crossing location.

Design and Location

- Culvert crossings must be located, designed and constructed to minimize the likelihood of ongoing outlet scour, culvert undermining and/or the erosion of fill in order to provide for stable and non-perched crossing sites that can provide for fish passage.
- The culvert must not be located on meander bends, braided watercourses, alluvial fans, or any other area that is inherently unstable and may result in the alteration of natural stream functions or erosion and scouring of the crossing structure.
- Culverts must be sized to a minimum Q25 design flow using MNRF water engineering/calculation software, or equivalent software programs deemed acceptable by MNRF.
  - In cases where an unmapped watercourse is encountered during the construction of a road, and where a proper watershed analysis cannot be completed to determine the Q25 design flow, the culvert must be sized to ensure that it spans from bank to bank within the watercourse.
- Culverts must not be installed where the channel slope at the crossing location (i.e., physical rise over run of the culvert footprint prior to construction) is of a gradient greater than 2.0%.
- Culverts must not be installed where the slope of road approaches or either of the bank approaches is greater than 30%/17˚.
- Crossing locations must be selected where culverts can be embedded below the grade of the watercourse bed. The amount of embedment should be determined by local conditions.

Erosion and Sediment Control

- Appropriate site-specific mitigation measures must be enacted to ensure the construction of the culvert crossing does not result in the ongoing erosion of fill. At a minimum, measures must include:
  - Both the inlet and outlet ends of the culvert must be stabilized with appropriately sized non-erodible material (e.g., rocks, cobble sized stones) to prevent erosion of the fill slope and the watercourse bed. Rock used to stabilize crossings and watercourse banks must be clean, free of fine materials and of sufficient size to resist displacement during peak flood events. The rock shall be placed at the original watercourse bank grade to ensure that there is no infilling or narrowing of the watercourse.
  - Fill material placed below the normal high water mark of the watercourse must be erosion resistant and/or protected from erosion.

CRA fisheries or fish that support such a fishery

- The project must not be located within 100 metres of fisheries spawning or sensitive habitat.
- The project must not be located within 500 metres of any brook trout spawning or upwelling areas.
- The project must not be located on any watercourses or tributaries that flow into, and are within 500 metres, of known naturally reproducing brook trout lakes.
- The combination of culvert size, length, slope and drainage area will not create accelerated water velocities that will consistently and predictably impede the passage of fish.

Construction and Maintenance

- The crossing must be installed under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.
- Both the interior and exterior of round, closed bottom culverts that are installed on CRA fisheries or fish that support such a fishery waterbodies must be corrugated to ensure structural stability and facilitate fish passage.
- The grade of the culvert must reflect the grade of the natural watercourse bed.
- Backfill must be adequately compacted around the culvert. Only clean sand or gravel can be used as backfill and must be compacted around the culvert in layers.
- Culverts must be the correct length to permit banks to be sloped at an angle of 2:1 or a stable angle of repose for the materials used.

Water Crossing Standard Identifier: DECOM-SM-CULV
Water Crossing Standards for the Decommissioning of Single, Small Closed-Bottom Round Culverts

This water crossing approval specification applies to the decommissioning of all round, closed-bottom steel, aluminum, or plastic culverts that are less than or equal to 1200 millimeters (4') in diameter.

General Standards

- The conditions and requirements in the general water crossing standards must be implemented in addition to, and in conjunction with, this water crossing standard.
- Decommissioning of water crossings will only occur if it is consistent with the approved road use management strategy in the applicable FMP and is scheduled for decommissioning in the current AWS (Table AWS-2).
- If the construction of the crossing was originally reviewed and approved by MNRF and/or DFO, all applicable conditions of approval must be fulfilled.

Erosion and Sediment Control

- Upon decommissioning, the site must be stabilized and protected against erosion. Approaches to the watercourse should be stabilized at a 2:1 slope or stable angle of repose for the materials used using site appropriate methods.
- All exposed soil must be seeded and/or stabilized immediately following completion of activities. Erosion and sediment control measures must be appropriate for the site conditions and maintained until vegetation has become permanently re-established within disturbed areas and/or exposed mineral soils have been stabilized with rip-rap or appropriately sized non-erodible rock material.
- Materials removed or stockpiled during decommissioning (e.g. grubbing, overburden fill) must be deposited outside the floodplain and stabilized/protected against erosion to ensure material does not enter the watercourse.
- Surface water runoff and road approaches and ditches must continue to be directed away from the watercourse and into vegetated areas. Diagonal berms or waterbars must be installed where the erosion potential of the road approaches is likely to result in the road's gravel surface and underlying fill being deposited into the watercourse over time. Sediment traps used within ditch lines adjacent to the watercourse crossing approach must be replaced and/or maintained to their original condition prior to the construction of the crossing.
- Appropriately sized erosion-resistant materials must be used below the normal high water mark for stream bank rehabilitation.

CRA Fisheries or Fish that Support Such a Fishery

- The project must not be located within 100 metres of fisheries spawning or sensitive habitat if any in-water work is a requirement of the project.

Construction and Maintenance

- The crossing must be decommissioned under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.
- The watercourse must be restored as closely as possible to its original condition prior to the construction of the crossing, including retaining as close as possible the original stream alignment.
- All crossing infrastructure must be completely removed from the site.
- Grubbing must be minimized to leave as much of the existing vegetation intact.