

# **SOUTH NATION RIVER CONSERVATION AUTHORITY (SNC)**

## **Request for Quotation (RFQ)**

### **Tree Marking 2019**

#### **1 PURPOSE AND INTRODUCTION**

South Nation River Conservation Authority (SNC) is seeking quotes to supply all goods and services required to complete tree marking as described in the Description of Work, Tree Marking Specifications, Silvicultural Prescriptions and Site Plan(s) attached as schedules to this RFQ.

##### **1.1 List of Schedules:**

Schedule A: Description of Work  
Schedule B: Tree Marking Specifications  
Schedule C: Silvicultural Prescription(s) and Site Plan(s)  
Schedule D: RFQ Bid Document

#### **2 INTERPRETATION**

In the Agreement, the following terms will have the following meanings:

**Agreement** means the agreement between the SNC and the Contractor

**Contractor** means the successful bidder.

**Business Day** means any working day, Monday to Friday inclusive, excluding statutory and other holidays, namely: New Year's Day; Family Day; Good Friday; Easter Monday; Victoria Day; Canada Day; Civic Holiday; Labour Day; Thanksgiving Day; Remembrance Day; Christmas Day; Boxing Day and any other day on which the Owner has elected to be closed for business.

**Effective Date** means the date set out at the top of the Agreement.

**Expiry Date** means March 22, 2019.

**Extra Work** means an item of work not provided for in the Agreement as awarded but found essential, by the Owner's Representative, to complete the work within its intended scope.

**Parties** means the SNC and the Contractor.

**Party** means either SNC or the Contractor.

**Notice** means any communication given or required to be given pursuant to the Agreement.

**SNC Representative** Means authorized South Nation River Conservation Authority staff.

**Subcontractor** Any individual, firm or corporation to whom the Contractor, with the written consent of the Owner, sublets any part of the work.

**Work** means the undertaking described in Schedule "A".

#### **3 SUBMISSIONS REQUIREMENTS**

The Submission shall be typed or written in ink on the form provided (Schedule D). It shall contain original signatures where required and shall include one (1) copy of all submission requirements:

1. WSIB Clearance Certificate
2. Tree Marker Certification

Offers made in the Submission will be considered by SNC to be binding and irrevocable and shall remain open for acceptance by SNC for a period of sixty (60) days from the Quotation closing

Submissions will be considered if submitted by mail or courier with sufficient postage or delivery charges, addressed to:



**South Nation Conservation  
38 Victorian Street  
Finch, Ontario  
K0V 1K0**

**Request for Quotation: Tree Marking 2019**

Faxed or emailed submissions will also be accepted. Time registered on SNC's digital phone and/or computer system will be considered the official time to determine exact time of submission. Submissions received after the Closing will not be accepted.

**Closing Date: March 1, 2019**

**Errors and Omissions:** SNC accepts no legal liability for any errors or omissions in any part of this RFQ. If SNC, for any reason, determines that it is necessary to provide additional information relating to the Request for Quotations, such information will be communicated to all Bidders through the SNC Contact by addenda. Each addendum forms an integral part of the RFQ.

**Questions:** Bidders may only contact the SNC designated representative, in writing only, by email with questions related to this Request for Quotations. All other SNC employees and Board Members are not permitted to discuss this RFQ. Bidders are cautioned therefore, to deal exclusively with the SNC contact person referenced in this section.

**Request to Adjust a Submission Before Closing:** A Bidder wishing to make adjustments to a Submission must supersede it with a later Submission, which must be received by the closing time.

**Request to Withdraw a Submission Before Closing:** A Bidder who has submitted a Quotation may request that their Submission be withdrawn before the closing time. The request must be provided in writing, on company letterhead, and include contact information for verification. Authenticity of the request may be confirmed by SNC. Submissions withdrawn under this procedure cannot be reinstated.

#### **4 SNC REPRESENTATIVE**

Pat Piitz, R.P.F.  
Team Lead Property  
[ppiitz@nation.on.ca](mailto:ppiitz@nation.on.ca)

#### **5 ACCEPTANCE**

SNC may accept or reject all, or any part of a quote. Adjustments to quotes will not be considered. Should a supplier wish to alter their quote, they must withdraw it and submit a new quote using the form provided in Appendix D prior to the Closing Date.

#### **6 EVALUATION OF SUBMISSIONS**

Quotes will be evaluated based on supplier's response to all information requested in this Request for Quotations, including but not limited to the proposed pricing, the time frame proposed for delivery of the services, and any other requirements specified by SNC in the RFQ documents

#### **7 EXECUTION**

The successful tree marking contractor will enter into a contract with SNC to perform the work and provide proof of contractor's General Liability Insurance to an inclusive limit of not less than two million dollars (\$2,000,000.00) per occurrence, name SNC as an additional insured, contain a cross-liability clause, and require 30-day written notice of alteration or cancellation. The contractor will also maintain, at its own expense, vehicle liability insurance on all owned or leased vehicles used to perform the Work with a limit of liability not less than two million dollars (\$2,000,000.00) per occurrence including bodily injury, death, property damage and basic accident benefits, and require 30-day written notice of alteration or cancellation.



**Schedule A**  
**Description of Work**

**SNC -TM001-19**

**Completion Date: March 22, 2019**

SNC25: Part Lot 6 Concession 4 (Geographic Township of Roxborough) North Stormont.

1. Layout of approximately 1,475 metres of forest management boundary adjacent to private land
2. No known Area of Concern within harvest block.
3. 20 ha. – systematic 1 in 3 row removal in White Spruce plantation
4. 5.4 ha – systematic 1 in 4 row removal in Red Pine with single-tree selection on remaining rows.
5. 5.0 ha – systematic 1 in 4 row removal in Jack Pine mixed plantation with single-tree selection on remaining rows
6. Identify and report to South Nation Conservation any previously unidentified values in the harvest area (e.g. raptor nests, cultural heritage features, etc.)

**SDG -TM001-19**

**Completion Date: March 22, 2019**

SDG 21/22/23: Parts of Lots 2, 3 & 4 Concession 3 (Geographic Township of Roxborough) North Stormont.

1. Layout of approximately 1,900 metres of forest management boundary adjacent to private land
2. No known Area of Concern within harvest block.
3. 23.7 ha – single-tree selection thinning in White Spruce to target basal area.
4. Identify and report to South Nation Conservation any previously unidentified values in the harvest area (e.g. raptor nests, cultural heritage features, etc.)



## **Schedule B**

### **Tree Marking Specifications**

#### **B.1 General**

- B1.1 SNC is certified under the Forest Stewardship Council. All activities within the forest shall be governed by the Forest Certification Policies and Procedures Manual (EOMF Information Report No. 51.v.3 December 2014).
- B1.2 The successful tree marking contractor will enter into a contract with SNC to perform the work.

#### **B.2 Prescriptions**

- B2.1 Forest Operations (Silvicultural) Prescriptions (FOP) will be prepared by stand or harvest block under the direction of the Forest Manager.
- B2.2 Additional direction regarding prescriptions to be applied may be provided in writing by the Forest Manager.
- B2.3 Actual stand conditions may dictate modifications to those prescriptions. Major prescription changes are to be discussed with the Forest Manager before marking.
- B2.4 Implementation of the FOP will result in trees being retained for non-timber objectives. Known non-timber values are specified in the FOP as Areas of Concern (AOC) or Integrated Resource Management (IRM) objectives.
- B2.5 All new values encountered must be mapped, documented on the appropriate form, and submitted to the Forest Manager.
- B2.6 The Contractor is responsible for painting area of concern (AOC) and block boundaries. AOC boundaries are shown on the maps and identified in the legend. The maps are a guide and the placement of AOC boundaries shall be governed by actual ground conditions. Upon completion of marking in a block the Contractor must submit a clear and detailed map showing area marked and location of reserve and modified boundaries.

#### **B.3 Qualifications**

- B3.1 All tree marking is to be carried out by or directly supervised by tree markers certified by the Ontario Ministry of Natural Resources & Forests and approved by the Forest Manager.
- B3.2 A minimum of one provincially certified tree marker must be with the crew at all times.
- B3.3 The contractor will submit the name(s) and certification number(s) of Certified Tree Markers to the Forest Manager.

#### **B.4 Paint Application**

- B4.1 SNC will supply all tree marking paint in aerosol tin form. All empty paint tins shall be returned to SNC for disposal.
- B4.2 The contractor will ensure that all personnel involved in tree marking work are familiar with the tree marking paint product and its proper use as described in the manufacturer's Material Safety Data Sheet (MSDS).
- B4.3 For all marked trees, two distinct applications are required; a **top mark** and a **butt mark**.
- B4.4 The top mark will consist of a complete ring, in the designated paint colour, around the tree at breast height (1.3 m.)
- B4.5 The butt mark consists of a vertical line a minimum of 30 cm. in length from the root collar. Avoid applying paint on moss, ice or snow.

#### **B5. Audits:**



- B5.1 Acceptance of the work will be based on an audit of the completed work.
- B5.2 SNC will perform a preliminary audit **within 2 working days** of the start of work to ensure compliance with the FOP.
- B5.3 SNC will perform a final audit of invoiced areas **within 5 working days** of receipt of the invoice which must include the supporting map and documentation as described in B2.5 and B2.6.
- B5.4 Tree marking audits will be based on a minimum of 10 plots for the first 20-hectare block area and 1 plot for every 5 hectares above 20 hectares. All trees 10 cm. and larger will be assessed in each sample plot.
- B5.5 Tree infractions will be determined from individual sample plot data and stand level infractions will be determined from all sample plots assessed and from visual observations of AOCs and Integrated Resource Management (IRM) considerations.

## **B6. Infractions**

- B6.1 Tree Infractions (assessed on a plot by plot basis) include:
- **Paint Application:** Poor stump or Dbh marks that are not readily visible, faint or subject to weathering.
  - **Spacing:** Improper spacing affecting crown closure or release of crop trees. Standards are specified in the FOP.
  - **Species Priority:** Species priorities are specified in the FOP.
  - **Quality (crop trees) priority:** selection of crop trees inconsistent with the crop tree guidelines specified in the FOP.
  - **Size priority:** For shelterwood and selection marking, residual size class groups inconsistent with target size groups necessary to meet stand structure objectives specified in FOP.
- B6.2 Stand Infractions include:
- **Marking in reserves:** any unauthorized marking that could lead to removal of trees within a reserve.
  - **Marking outside the harvest block:** any marking outside the approved allocation.
  - **Integrated Resource Management:** non-compliance with stand-level IRM targets specified in FOP.
  - **Residual basal area:** for an audit to be acceptable the actual basal area must be within 10% of the target basal area described in the FOP.
  - **Residual crown closure:** overall crown closure objectives are specified in the FOP. If overall crown closure objectives are not met, the marking is deemed unsatisfactory.

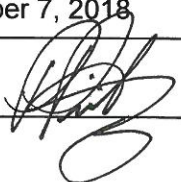
## **B.7 Acceptance:**

- B7.1 Upon receipt of an invoice and subsequent audit, the area is deemed to meet prescription standards, payment will be made at the unit area rate for the area completed as agreed upon in the contract documents.
- B7.2 If the marked area does not meet prescription standards, the work is deemed unacceptable. SNC will provide a summary of non-compliance issues and direction on corrective measures. Remarketing will be at Contractor's expense.





# Harvest Plan

**Compartment:** SNC 25  
**Township:** North Stormont  
**Lot & Con** Pt. W1/2 Lot 6 & S1/2 Lot 7 Con. IV  
**Township:** North Stormont (Roxborough)  
**Prepared by:** Pat Piitz, R.P.F.  
**Date:** November 7, 2018  
**Signature:** 

I certify that the forest operations prescribed in this Harvest Plan are appropriate for the actual conditions encountered.



signature

Date 11 / 07 / 18  
mm dd yy

## Harvest Summary

<b>Total Planned Timber Harvest Area:</b>	<b>30.4</b>	<b>Ha</b>
Estimated Harvest Volumes:		
Species: White Spruce (Sw)	972 m <sup>3</sup>	741.6 GMT
Species: Red Pine (Pr)	412 m <sup>3</sup>	403.3 GMT
Species: Jack Pine (Pj)	222 m <sup>3</sup>	179.4 GMT

## Comments / Issues:

## General Forest Condition

The harvest area is composed of a mix of young conifer plantations situated on upland glacial tills with shallow soils over limestone bedrock.

## Access

(major problems, how much road construction anticipated, AOC crossings)

Access to the harvest area is directly off two maintained municipal roads; Bender Road and Robinsons Corners Road. Two culverts are required to ford roadside ditches.

## Lines

## What's required

<b>Cut layout</b> Red flagging on inside boundaries	Red dashed line on map
<b>Private boundary</b> -Red flagging	Solid red line on map
<b>AOC</b> Reserves - pink flagging Modified - orange flagging	

## Values

Value	Description of Value	Prescription
Drainage Ditches	Shallow (< 1.5 meter depth) Intermittent drains, typically formed field boundaries.	No specific AOC. Avoid marking trees directly adjacent to ditch unless severely declining. All crossings to be rehabilitated after use to ensure free flow of water.
Intermittent Watercourse	Moderate to deep (> 1.5 meter depth) May be intermittent or permanent drains or natural watercourses.	15 Meter AOC from water's edge marked in orange. Reserve width is approximately 5 meters from bank edge. Minimize disturbance in remaining area of AOC by retaining crown closure of >70% and limiting vehicle traffic.
Creek	Permanent Stream	No harvest reserve on all steep slopes. Additional reserve of 15m from bank edge.

## Harvest Monitoring

Activity	Minimum Monitoring Frequency	Responsibility
Contract Tree Marking	- 1 inspection	SNC
Road Construction	- 1 inspection during project	SNC
Harvest/ Skidding	- 1st inspection in first week of activity - 2 <sup>nd</sup> inspection within 2 weeks of 1 <sup>st</sup> inspection - 1 inspection for each 6 hectares harvested subsequently, or 1 inspection per month, whichever is less. - 1 formal logging damage assessment	SNC
Wood Movement	- Ongoing	SNC
Non-compliance	- Follow-up inspection within 5 days of a significant non-compliance report.	SNC
Job Completion	- 1 at Completion	SNC

TREATMENT BLOCK PRESCRIPTION		Block	Sw
Total Area for Treatment [ha]		20.0	
<b>Description:</b>  Harvest block consists of a 34-year old White Spruce plantation. Species composition is Sw <sub>8</sub> Pj <sub>1</sub> Ag <sub>1</sub> . Diameter ranges from 10 cm. to 34 cm. with a mean diameter (Dbhq) of 21.8 cm. Stand density is 1810 stems per hectare. Basal area ranges from 24 m <sup>2</sup> /ha to 40 m <sup>2</sup> /ha with an average BA of 29.1 m <sup>2</sup> /ha. Average stand height is 14.9 m.			
<b>Objectives:</b>		Create access and release residual White Spruce.	
<b>Stand Numbers:</b>	25(c); 25(d); 25(f); 25(g); 25(h); 25(i)		

TREE MARKING			
Paint colour scheme	Standard	"Other" marking	Other
Row removals	Every tenth tree in row		Diagonal slash
<b>Prescription Details:</b>  Remove 1 in 3 row removal reducing BA to a minimum of 20 m <sup>2</sup> /ha.			
See AOC section of this FOP for marking prescription in Areas of Concern.			

HARVEST			
Permitted Harvest Timing:	Summer, Fall, Winter		
Estimated Volume per Hectare:	Volume estimate based on cruise data, local volume table, and DMD.		
Species Sw	48.6 m <sup>3</sup> /ha	37.08	gt/ha
Species			
Species			
Equipment & Harvest System	Feller-buncher; Forwarder		
Other:			

RENEWAL & TENDING
None scheduled.

Future Treatments (recommendation)
<b>Next cut (time):</b> 2 <sup>nd</sup> Thinning 15-20 years

Guidelines: unless directed otherwise, apply Standard Guidelines for Wildlife Trees and Uncommon Tree Species as attached.



TREATMENT BLOCK PRESCRIPTION		Block	Pr
Total Area for Treatment [ha]		5.4	
<b>Description:</b> Harvest block consists of a 39-year old Red Pine plantation. Species composition is Pr9Sw1. Diameter ranges from 12 cm. to 34 cm. with a mean diameter (Dbhq) of 24.0 cm. Stand density is 899 stems per hectare. Basal area ranges from 20 m <sup>2</sup> /ha to 54 m <sup>2</sup> /ha with an average BA of 32.5 m <sup>2</sup> /ha. Average stand height is 15.8 m. Average stand height is 12.8 meters.			
<b>Objectives:</b> Create access and release residual Pr crop trees.			
<b>Stand Numbers:</b>		25(e)	

TREE MARKING			
Paint colour scheme	Standard	"Other" marking	Other
<b>Row removals</b>	Every tenth tree in row		Diagonal slash
<b>Single-tree Selection</b>	All trees marked orange		Ring at Dbh or higher with butt mark
<b>Prescription Details:</b> Reduce BA using 1 in 4 row removal with selection on remaining. The target BA is 22.7 m <sup>2</sup> /ha with a minimum of 20.0 m <sup>2</sup> /ha. BA is highly variable, and selection should be continuously monitored. Total removal should not reduce the basal area by more than one third. Priority crop trees should have: <ul style="list-style-type: none"> <li>• Dominant/co-dominant crown position</li> <li>• Few stem defects</li> <li>• Single stem</li> <li>• Good self-pruning</li> </ul>			
See AOC section of this FOP for marking prescription in Areas of Concern.			

HARVEST			
<b>Permitted Harvest Timing:</b>	Summer, Fall, Winter		
<b>Est. Volume per Hectare:</b>	Volume estimate based on cruise data, local volume table, and DMD		
<b>Species:</b>	Pr	76.2 m <sup>3</sup> /ha	74.68 gt/ha
Species			
Species			
Equipment & Harvest System			
Other:			

RENEWAL & TENDING
None

Future Treatments (recommendation)
<b>Next cut (time):</b> 2 <sup>nd</sup> Thinning 15-20 years

Guidelines: unless directed otherwise, apply Standard Guidelines for Wildlife Trees and Uncommon Tree Species as attached.

<b>TREATMENT BLOCK PRESCRIPTION</b>	<b>Block</b>	<b>Pj</b>
<b>Total Area for Treatment [ha]</b>	5.0	
<b>Description:</b> Harvest block consists of a 35-year-old mixed conifer plantation. Species composition is Pj <sub>9</sub> Sw <sub>1</sub> . Diameter ranges from 10 cm. to 38 cm. with a mean diameter (Dbhq) of 19.2 cm. Stand density is 1017 stems per hectare. Basal area(BA) ranges from 10 m <sup>2</sup> /ha to 34 m <sup>2</sup> /ha with an average BA of 23.3 m <sup>2</sup> /ha. Average stand height is 12.8 meters.		
<b>Objectives:</b> Release of Sw crop trees.		
<b>Stand Numbers:</b>	25(b)	

<b>TREE MARKING</b>			
<b>Paint colour scheme</b>	Standard	"Other" marking	Other
<b>Trees to harvest</b>	All trees marked orange		
<b>Trees to retain</b>			
<b>Prescription Details:</b> Reduce BA using 1 in 4 row removal with selection on remaining. The target BA is 24.0 m <sup>2</sup> /ha with a minimum of 20.0 m <sup>2</sup> /ha. BA is highly variable, and selection should be continuously monitored. Total removal should not reduce the basal area by more than one third.			
<b>Crop Tree Release</b> Priority crop trees should have: <ul style="list-style-type: none"> <li>• Preference to Sw crop trees</li> <li>• Dominant/co-dominant crown position</li> <li>• Few stem defects</li> <li>• Good self-pruning</li> </ul>			
See AOC section of this FOP for marking prescription in Areas of Concern.			

<b>HARVEST</b>	
Permitted Harvest Timing:	Summer, Fall, Winter
Estimated Volume per Hectare:	Volume estimate based on cruise data, local volume table, and DMD
Species: Pj	43.8 m <sup>3</sup> /ha
Species	
Species	
Equipment & Harvest System	
Other:	

<b>RENEWAL &amp; TENDING</b>

<b>Future Treatments</b> (recommendation)
<b>Next cut (time):</b> 2 <sup>nd</sup> Thinning 15 -20 years

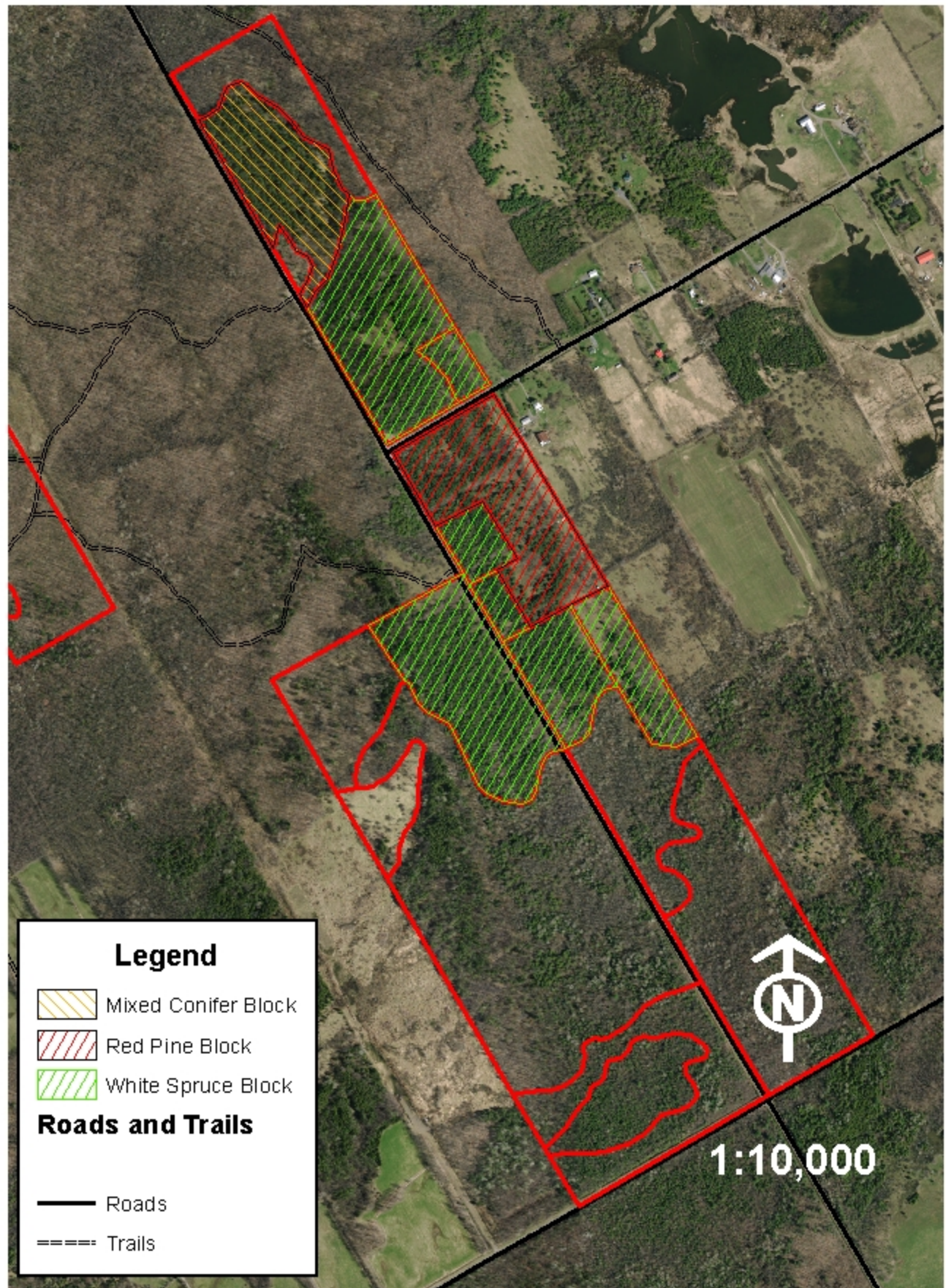
Guidelines: unless directed otherwise, apply Standard Guidelines for Wildlife Trees and Uncommon Tree Species as attached.

**GUIDELINES FOR WILDLIFE TREES AND UNCOMMON TREE SPECIES**  
**JANUARY 17, 2001**

<u>Item</u>	<b>Target</b>	<b>Details</b>
1. Cavity Trees	Retain 6 per hectare – No Safety concerns – Minimum 25 cm dbh, >40 cm dbh preferred	Property Rating: 1. Pileated Woodpecker Roost Trees 2. Pileated Woodpecker Nest Trees 3. Other Woodpecker Nest Trees 4. Escape Cavities 5. Feeding Cavities 6. Potential Cavity Trees Dispersion: uniform
2. Mast Trees	Retain 7-8 per hectare – dominant, co-dominant trees with vigorous crowns	Priorities are Oak, Beech, Hickory, Butternut, Black Cherry, Basswood and Ironwood
3. Isolated Conifers	Retain 10 conifers/hectare when available – Minimum 25 cm dbh, >40 cm dbh preferred	Priority species are white and red pine, red and white spruce and hemlock. Super-canopy trees are 1 <sup>st</sup> priority Dispersion: clumped
4. Stick Nests	Depends upon species	Notify forest technician immediately.
5. Uncommon Tree Species	Retention of AGS uncommon tree species will take preference over other crop tree priorities	3 categories 1. species reduced from historical distribution (e.g., white pine) 2. Species which make up a minor percentage of the stand (e.g., black cherry) 3. Species under stress (e.g., Butternut)
6. Wildlife Trees in Removal Cuts/Clearcuts	Retain 10 wildlife trees/ hectare when available	Priority 1. Cavity Trees 2. Isolated Conifers 3. Mast Trees

<b>Average Tree Size</b>	<b>Stem Target</b>	<b>Basal Area (m<sup>2</sup>/ha)</b>	<b>Approximate Spacing (see details: Dispersion)</b>
35 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	.6 1.0	40 m 30 m
40 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	.75 1.25	40 m 30 m
45 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	1.0 1.6	40 m 30 m
50 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	1.2 2.0	40 m 30 m

# Harvest Plan





# Harvest Plan

**Owner:** United Counties of Stormont, Dundas & Glengarry

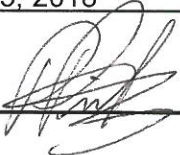
**Compartment:** 20, 21, 22, 23

**Township:** North Stormont (Roxborough)

**Lot and Conc.** Pt. Lots 1, 2, & 3 Concession III

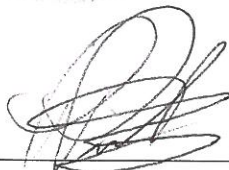
**Prepared by:** Pat Piitz, R.P.F.

**Date:** August 15, 2018

**Signature:** 

I certify that the forest operations prescribed in this Harvest Plan are appropriate for the actual conditions encountered.



R.P.F. signature   
 Date 11 / 23 / 2018  
 mm dd yy

## Harvest Summary

<b>Total Planned Timber Harvest Area:</b>		<b>45.8 Ha</b>
Estimated Harvest Volumes (estimates only not guaranteed):		
Species: Sw	1,262.2	GMT
Species: Pw	1,757.6	GMT
Species:		GMT

## Comments / Issues:

## General Forest Condition

Mixed 58-year old conifer plantations of White Pine and White Spruce.

## Access

(major problems, how much road construction anticipated, AOC crossings)

Access from the north is possible using an unmaintained portion of Cumming Road. that is currently used as a snowmobile trail. The unmaintained portion of Gravel Hill Road, running along the northern boundary of compartments 20, 21 and 22, could also be used for access. Both ROW's accommodate ½ ton travel but may require upgrades to accommodate the haul trucks. The trail that was used to access Compartment 21-3 can be upgraded to provide access to the southern portion of the harvest area.

## Lines

## What's required

<b>Cut layout</b> Red flagging on inside boundaries	Solid green line on map
<b>Private boundary</b> -Red flagging	Solid red line on map
<b>AOC</b> Reserves - pink flagging Modified - orange flagging	No AOC within operational area.

## Values

Value	Description of Value	Prescription

## Harvest Monitoring

Activity	Minimum Monitoring Frequency	Responsibility
Contract Tree Marking	- 1 inspection	SNC
Road Construction	- 1 inspection during project	SNC
Harvest/ Skidding	- 1st inspection in first week of activity - 2 <sup>nd</sup> inspection within 2 weeks of 1 <sup>st</sup> inspection - 1 inspection for each 6 hectares harvested subsequently, or 1 inspection per month, whichever is less. - 1 formal logging damage assessment	SNC
Wood Movement	- Ongoing	SNC
Non-compliance	- Follow-up inspection within 5 days of a significant non-compliance report.	SNC
Job Completion	- 1 at Completion	SNC

TREATMENT BLOCK PRESCRIPTION		Block	Sw - Selection
Treatment Block Area		23.7 ha	
<b>Description:</b> Treatment block is composed of Sw plantations with varying composition: 21(3) – Sw <sub>8</sub> Aw <sub>1</sub> Bd <sub>1</sub> ; 22(1)-Sw <sub>7</sub> Po <sub>2</sub> Ew <sub>1</sub> ; 22(3) -Sw <sub>10</sub> ; 22(5)-Sw <sub>10</sub> ; 22(9)-Sw <sub>10</sub> ; 22(10)-Sw <sub>8</sub> Aw <sub>1</sub> Bd <sub>1</sub> ; 23(1)-Sw <sub>10</sub> . Spacing at time of planting was 1.8m X 1.8m. All compartments were subject to 1 in 3 row removal in 2002.  Average diameter is 27.0 cm. Average Basal Area is 37.4 m <sup>2</sup> /ha. Basal Area ranges from 20 m <sup>2</sup> /ha to 50 m <sup>2</sup> /ha. Average stand height is 19.6 m.			
<b>Objectives:</b> Stand growth and yield improvement			
<b>Stand Numbers:</b>	21(3)-13.0 ha, 22(1)-0.4 ha; 22(3)-0.5 ha; 22(5)-0.3 ha; 22(9)-3.7 ha; 22(10)-0.2 ha; 23(1)-5.6 ha		

TREE MARKING			
Paint colour scheme	Standard	"Other" marking	Other
<b>Trees to harvest</b>	All trees marked orange		
<b>Trees to retain</b>	Not marked.		
<b>Prescription Details:</b> Reduce BA/ha to target 28 m <sup>2</sup> /ha (minimum 24 m <sup>2</sup> /ha) by thinning from below to remove suppressed trees and trees with intermediate dominance. Removal should focus on removal of UGS stems. Total removal not to exceed 1/3 of the initial basal area. Retain all AGS hardwoods in the plantation. For equipment access, minimum spacing required on previously removed rows is 3.4m. Marking should be adjusted to accommodate equipment spacing requirements.			
See AOC section of this FOP for marking prescription in Areas of Concern.			

HARVEST	
Permitted Harvest Timing:	Summer, Winter, Fall
Estimated Volume per Hectare:	69.8 m <sup>3</sup> /ha
Species: Sw	53.26 gt/ha
Species	gt/ha
Species	gt/ha
Equipment & Harvest System	Feller-buncher and forwarder.
Other:	Volume based on cruise data using DMD.

RENEWAL & TENDING
Not required at this time.

Future Treatments (recommendation)
<b>Next cut (time):</b> 15 – 20 years

Guidelines: unless directed otherwise, apply Standard Guidelines for Wildlife Trees and Uncommon Tree Species as attached.

TREATMENT BLOCK PRESCRIPTION		Block	Pw – Uniform Shelterwood
Treatment Block Area		22.1 ha	
<b>Description:</b> Treatment block is composed of 58-year-old Pw plantations with varying composition: 20(1) – Pw <sub>10</sub> ; 20(2) – Pw <sub>6</sub> Sw <sub>2</sub> Ew <sub>2</sub> ; 21(6) – Pw <sub>8</sub> Ew <sub>1</sub> Mh <sub>1</sub> . White pine diameters range from 14-42 cm with a Dbhq of 26.3 cm. Stand density is 839 stems per hectare. Basal area ranges from 26-50 m <sup>2</sup> /ha with an average of 40 m <sup>2</sup> /ha. Stand height is 20.0m.			
<b>Objectives:</b> Crop Tree Release and removal of undesirable species.			
<b>Stand Numbers:</b>	20(1) – 11.0 ha; 20(2) – 2.0 ha; 21(6) – 9.1 ha		

TREE MARKING			
Paint colour scheme	Standard	“Other” marking	Other
<b>Trees to harvest</b>	All unmarked trees		
<b>Trees to retain</b>	Trees marked with <u>blue</u>		
<b>Prescription Details:</b> Uniform shelterwood preparatory cut. Crop trees should be selected to achieve 50% crown closure by providing crown spacing of 4-5 m. between crop trees. Residual crop trees should be: <ul style="list-style-type: none"> <li>dominant or co-codominant</li> <li>uniformly distributed through stand</li> <li>desirable species (Pw)</li> <li>Other desirable species may be left to maintain crown closure objectives and for wildlife considerations.</li> </ul> There are several patches where blow-down has occurred in the Pw plantation. Salvage all downed-woody debris with a viable product and any tree that is noticeably displaced from its natural position.			
See AOC section of this FOP for marking prescription in Areas of Concern.			

HARVEST	
Permitted Harvest Timing:	Summer, Fall
Estimated Volume per Hectare:	Cruise unmarked trees to determine volume estimate.
Species Pw	93.1 m <sup>3</sup> /ha 79.53 gt/ha
Species	
Species	
Equipment & Harvest System	
Other:	

RENEWAL & TENDING
Not required at this time. Regeneration survey in 5 years.

Future Treatments (recommendation)
<b>Next cut (time):</b> 20 years

**Guidelines:** unless directed otherwise, apply Standard Guidelines for Wildlife Trees and Uncommon Tree Species as attached.

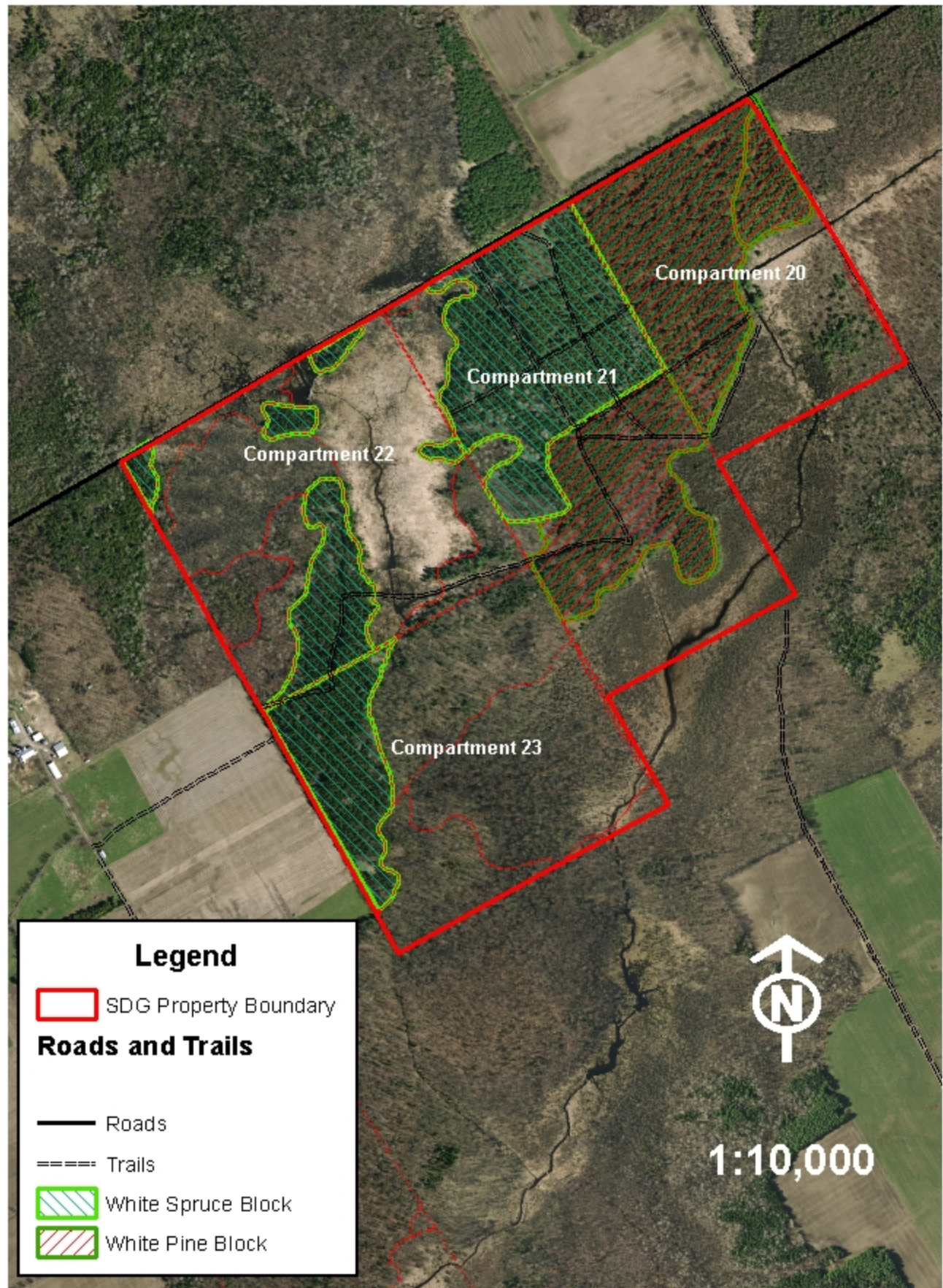


**GUIDELINES FOR WILDLIFE TREES AND UNCOMMON TREE SPECIES  
JANUARY 17, 2001**

<u>Item</u>	<b>Target</b>	<b>Details</b>
1. Cavity Trees	Retain 6 per hectare – No Safety concerns – Minimum 25 cm dbh, >40 cm dbh preferred	Property Rating: 1. Pileated Woodpecker Roost Trees 2. Pileated Woodpecker Nest Trees 3. Other Woodpecker Nest Trees 4. Escape Cavities 5. Feeding Cavities 6. Potential Cavity Trees Dispersion: uniform
2. Mast Trees	Retain 7-8 per hectare – dominant, co-dominant trees with vigorous crowns	Priorities are Oak, Beech, Hickory, Butternut, Black Cherry, Basswood and Ironwood
3. Isolated Conifers	Retain 10 conifers/hectare when available – Minimum 25 cm dbh, >40 cm dbh preferred	Priority species are white and red pine, red and white spruce and hemlock. Super-canopy trees are 1 <sup>st</sup> priority Dispersion: clumped
4. Stick Nests	Depends upon species	Notify forest technician immediately.
5. Uncommon Tree Species	Retention of AGS uncommon tree species will take preference over other crop tree priorities	3 categories 1. species reduced from historical distribution (e.g., white pine) 2. Species which make up a minor percentage of the stand (e.g., black cherry) 3. Species under stress (e.g., Butternut)
6. Wildlife Trees in Removal Cuts/Clearcuts	Retain 10 wildlife trees/ hectare when available	Priority 1. Cavity Trees 2. Isolated Conifers 3. Mast Trees

<b>Average Tree Size</b>	<b>Stem Target</b>	<b>Basal Area (m<sup>2</sup>/ha)</b>	<b>Approximate Spacing (see details: Dispersion)</b>
35 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	.6 1.0	40 m 30 m
40 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	.75 1.25	40 m 30 m
45 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	1.0 1.6	40 m 30 m
50 cm	1) Cavity Trees (6 hectare) 2) Mast Trees & Isolated Conifers (10 hectare - each)	1.2 2.0	40 m 30 m

# Harvest Plan



**Schedule D**  
**REQUEST FOR QUOTATION**  
**SUBMISSION FORM**  
**TREE MARKING 2019**

<b>Contract Number</b>	<b>Forest Unit(s)</b>	<b>Total Area (ha.)</b>	<b>Total Price (\$)</b>
SNC- TM001-19	Pr, Sw, Pj	30.4	
SDG- TM001-19	Sw	23.7	

List of documents to be included with submission (please indicated documents included):

- ☐ Proof of Insurance (attached)
- ☐ WSIB Clearance Certificate (attached)
- ☐ Copy of Tree Marker Certification (attached)

Company Name: \_\_\_\_\_

Company Representative \_\_\_\_\_

Title \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_