



MICHIGAN DEPARTMENT OF NATURAL RESOURCES  
FOREST, MINERAL AND FIRE MANAGEMENT

**TIMBER SALE PRESCRIPTION**

GENERAL					
<b>Date</b> 11/09/2009			<b>Forest Management Unit</b> Atlanta Unit		
<b>Timber Sale Number (if applicable)</b> 54-002-10-01			<b>Sale Name (or prescription name)</b> Compartment 15 Oak Aspen Maple		
LOCAL CONTACT					
<b>Telephone Number</b> (989) 785-4251 x 5242			<b>FAX Number</b> (989) 785-3513		
<b>Name</b> Richard Barber			<b>Email Address</b> barberr@michigan.gov		
<input checked="" type="checkbox"/> <b>Map of Project Area Attached</b>					
LEGAL DESCRIPTION					
T29N R03E Section 5: SW/4; Section 6: N2NE; Section 7: NESE; Section 8: SW/4					
Year of Entry: 2010 Compartment(s): 15 Stand Number(s): 13 (2 treatments), 29 and 55					
THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE					
Estimated Acres: 172 Source: <input type="checkbox"/> OI <input type="checkbox"/> GPS <input checked="" type="checkbox"/> Other IFMAP Treatment Layer					
Actual Acres: Source: <input type="checkbox"/> OI <input type="checkbox"/> GPS <input type="checkbox"/> Other _____					
Total Acres: 172					
Payment will be made on the basis of these estimated acres.					
TREATMENT & OBJECTIVE					
STAND #	COVER TYPE	ACRES	BA	TREATMENT	MANAGEMENT OBJECTIVE
13 shelt	Aspen, oak	29	51-80	Shelterwood	Will favor aspen regen
13 thin	Aspen, oak	12	140	thinning	Will favor oak regen
29 single	SM asso.	73	111-140	Single tree select	Northern hardwoods
55 crown thin	Aspen, oak	58	111-140	Crown thinning	Oak, aspen, sugar maple, ash
PRESCRIPTION					
See Stand Specific Requirements in Appendix					
DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK				ESTIMATED DATE	
All work in the Compartment will be done by Contractor.					
<b>CONTRACT WORK CAN BEGIN:</b>					
<input checked="" type="checkbox"/> Immediately <input type="checkbox"/> Date: _____					
<b>CONTRACT WORK MUST BE COMPLETED BY:</b> Date 09/01/2010					

**PAINT LINE WORK**

This is included in the bid     This is not included in the bid

**Paint line work to be performed: (See attached map for locations)**

TYPE OF LINE	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR	
Internal Buffer, Slope, or Reserve	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Blue	<input checked="" type="checkbox"/> Other: Green
Sale boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Red	<input checked="" type="checkbox"/> Other: Blue (Pvt.)
Sale cutting unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Stand type line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:

**Exclusions to mark and why:**

Contractor will put in all sale and unit boundary lines. Refer to the contract and attached appendix for detailed instructions.

**Standards for marking lines against private land:**

See Contract Specifications 1-B,7.a.

**AREA CALCULATION**

This is included in the bid     This is not included in the bid

UNIT	METHOD	STANDARD
Sale	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Payment Unit	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Stand	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	

**Special Instructions:**

All stands and payment units will need the area calculated using a GPS unit as described in the contract. These files must be submitted as either ".cor" or ".shp" files on media immediately accessible to the Local Contact's equipment. The corrected map at a scale of 1:15840 will be used to indicate the plot locations as the cruise map.

**TIMBER CRUISING SPECIFICATIONS**

This is included in the bid     This is not included in the bid

**Required Basal Area Factor:**     10     20    Other:

**Cruise Line Directions:** North-South

CRUISING UNITS	NUMBER OF PLOTS PER ACRE	SPACING (CHAINS)
13 shelterwood	29 plots total	3 X 3
13 thin	12 plots total	3 X 3
29 single	56 plots total	3 X 4
55 crown thin	49 plots total	3 X 3.5
<b>TOTAL NUMBER OF CRUISE POINTS</b>	TBD by LCA, but approx 146	

**Cruise Special Instructions:**

Refer to the contract and attached appendix for detailed instructions.

**Unless otherwise specified, the tally sheets used must be those supplied by the Forest, Mineral and Fire Management Unit.**

**TIMBER MARKING SPECIFICATIONS**

This is included in the bid     This is not included in the bid

Precise specifications to be delineated at pre-work meeting with DNR staff

**Total Residual BA (Basal Area) in stands 13 thin and 55 thin (13 shelt has no target BA.):** 80 (Minimum 70 to Maximum 90)

**Total Residual BA (Basal Area) in stand 29 single:** 70 (Minimum 60 to Maximum 80)

TREATMENT		NUMBER	SIZE
Regeneration Gaps Per Acre in Stands: 13 thin, 29 single		See Stand Specific Req.	See Stand Specific Req.
Girdled Trees Per Acre		NA	NA
PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs	X and dot per 8ft log	10 inches	8 inches
Sawbolts	NA	NA	NA
Pulpwood	slash	4.6 inches	4 inches
TYPE OF WORK	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR
Trees marked to leave	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Other
Trees marked to cut	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Orange <input type="checkbox"/> Other

**TALLY INTENSITIES**

SPECIES / PRODUCT	RATIO
Sawlogs	1 : 1
Pulpwood: see cruising section	

**SPECIES TO FAVOR:**  
See page 5 for stand specific information and contact LCA.

**SPECIES TO FAVOR:**

**SPECIAL MARKING INSTRUCTIONS:**  
See attached Appendix and contact LCA.

**Unless otherwise specified, the tally sheets used must be those provided by the Forest, Mineral and Fire Management Unit.**

- RESTRICTIONS:**
1. Forest, Mineral and Fire Division must be able to identify who did what on the timber sale.
  2. The contractor may not have more than two markers in one payment unit without prior approval.
  3. Each marker should have an assigned area to mark (not strips).

- PAINT:**
1. Call Richard Barber at (989) 785 -4251 ext 5242, to make arrangements for paint.
  2. Paint will be supplied from the Atlanta Unit Office.
  3. Contractor's work schedule must coincide with the DNR work schedule for paint supply.
  4. The DNR will not be available on weekends or evenings.

- DELIVERABLES:**
1. A list of names that marked or cruised each payment unit.
  2. A summary of paint used in quarts.
  3. Tally summaries for each payment unit (one summary regardless of the number of markers) and all of the original tally and cruise sheets.
  4. GPS files for any GPS work, including all red, blue, green or yellow painted lines.

**Compartment 15 Oak Aspen Maple Contract TIMBER SALE PRESCRIPTION APPENDIX**

**When establishing paint lines:**

- "Stand Type Line" under Paint Line Work refers to the boundary between 13 thin and 13 shelt.
- The attached type maps delineate the contract marking area.
- The north and south edges of stand 13 and most of the west edge of stand 29 are against private lands. They should be painted in blue rather than red.
- Avoid using dead or badly damaged trees - boundary trees must last for the duration of the timber sale (up to 3-4 years).
- Favor the use of reserved species such as cedar.
- Avoid using small (fast-growing) stems and those exposed to direct sunlight.
- Marking must be done in dry weather and when tree surfaces are not wet.
- Paint the boundary line in such a way that it can be seen both from the inside of the sale area and when walking along the line from either direction (two sides). Each boundary line tree must be stump-marked, at the base of the stump (one side) between the roots extending all the way to the ground.
- Place marks approximately six feet above the base of the tree.
- The contractor will keep track of total quarts of paint used per-sale by color.
- The contractor will use a GPS unit to determine enclosed acreage to the nearest one-tenth acre, unless an alternative method is approved prior by Unit Management.
- GPS units used must be compatible with Pathfinder Office (2.01 or later) and capable of producing a Trimble .COR file format. Alternatively, ESRI shapefiles (.shp) will be accepted. Supply a copy of the traverse file along with a hard copy of the corrected traverse file.
- Position Mode must be set so that GPS receiver collects data from a minimum of four satellites. This must be recorded in the position properties window after downloading.
- Positions deliver ODS (over determine system) data. 2D position will not be acceptable.
- The GPS receiver must log PDOP. This log must be recorded in the position properties window after downloading.
- PDOP mask must be less than or equal to 8.
- SNR setting must be less than or equal to 4.
- Sale boundaries are to be recorded as an area feature, not a line.
- Payment Unit lines may be recorded as a line feature bisecting the sale.
- Excessively steep slopes internal to the sale will be marked with green paint.

**When Registered Corners or Witness Trees are discovered:**

- Any wooden posts encountered at corners must also be painted/protected.
- Bearing and/or witness trees discovered during the course of sale preparation must be protected. This can be accomplished by painting a ring completely around the tree at 4-6 feet above ground level with either red paint (corner surrounded by state lands) or blue paint (corner on private property boundary line). In addition, tying ribbon on these trees helps alert loggers to their presence. Do not mark any trees for harvest if cutting them is likely to result in damage to corner monuments and/or bearing trees.
- Please report the condition of all corners, posts and bearing trees to the LCA.

**When Cruising:**

- Data must be recorded so volume can be determined by stand. All data must be summarized by species within the stand.
- All saw logs must be 100% tallied by species and diameter.
- Within all marked stands, cruise all marked pulpwood tree species that will yield one or more 100" pulpwood sticks with a minimum top diameter of four (4) inches DIB. Contact LCA to see what grouping of pulpwood is acceptable.
- Within all marked stands, residual basal area (merchantable sized trees by species) at each plot must also be recorded on the cruise sheets. Borderline residual trees do not have to be measured, but every other borderline tree should be counted.
- Plot centers must be marked according to contract specifications and correspond to a legible 1:15840 scale cruise map. Cruise specifications may be altered as necessary by the LCA.

**When marking, prioritize selection of trees to be cut in the following order:**

1. Release suitable crop trees. (Refer to The Complete Marker for crop tree specifications.)
2. When appropriate, try to increase the number of lesser occurring species such as beech in areas of high bear use. LCA can provide an explanation of this priority.
3. Remove high-risk, poor quality and trees with poor crowns.
4. Maintain target basal area.
5. Maintain all species diversity.

**Reserved Species:**

- Do not mark within 100' of any raptor nest trees. Report these to the LCA as soon as possible and directions will be given at that time.
- Marking of infrequently occurring species should be avoided. Consult the LCA for clarification.

**Stand Specific Requirements:**

- **13 Shelt:** Put in boundary and unit lines, determine area by GPS. Cruise aspen and red maple for removal. Tally residual BA by species. Retain 3 to 10 percent of stand area in one or more patches. Location(s) will be determined during sale prep and will be representative of the stand's species mix as a whole. Do not place retention against a private boundary.
- **13 Thin:** Put in boundary and unit lines, determine area by GPS. Cruise aspen and red maple for removal. Where ever BA (excluding aspen and red maple) remains above 100, crop release oak or other quality hardwood specimen to reduce BA to 80. Additionally, mark one 90 foot diameter hole per every 2 acres. Long term objective is to produce quality red oak sawlogs and regenerate red oak.
- **29 Single:** Put in boundary and unit lines, determine area by GPS. Crop tree release to 70 BA. Cut volume to come preferably from 6 inch class sugar maple and both sugar maple and basswood in the 10 to 14 inch classes. Tally logs and cruise pulp. Tally residual BA by species. Paint a 2 chain buffer around vernal ponds and seeps, if present. Make 1 regeneration hole per 5 acres, diameter to equal height of dominant trees. Do not mark conifers, if present.
- **55 Thin:** Put in boundary and unit lines, determine area by GPS. Paint 2 chain buffers on seeps, as well as hemlock and cedar areas. In harvest area, cruise aspen and red maple for removal. Where ever BA remains above 100, crop release oak or other quality hardwood species to reduce BA to 80. Tally residual BA by species.