

**TIMBER SALE PRESCRIPTION****GENERAL**

Date	Forest, Mineral and Fire Management Unit
10/03/12	Grayling
Timber Sale Number (if applicable)	Sale Name (or prescription name)
72-006-13-01	West Comp 208 Hardwoods

LOCAL CONTACT

Name	Telephone
Tom Barnes	(989) 348-6371 ext: 7449
Email Address	FAX
Barnest2@michigan.gov	(989) 348-8825

 Map of Project Area Attached**LEGAL DESCRIPTION**

T27N R04W Section(s) 3 Description: E1/2SW

Compartment: 208 (2012 YOE) stands 1, 2, 3

THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGEEstimated Acres: 43 Source: Other GIS (IFMAP) Payment will be made on the basis of these estimated acres.**TREATMENT & OBJECTIVE**

STAND NUMBER	TREATMENT NAME (IFMAP)	COVER TYPE	ACRES	BA Range	TREATMENT	MANAGEMENT OBJECTIVE
1	72208001-Cut	M9	24	111-140	Thinning	S. Maple, Hard Mast Assoc.
2	72208002-Cut	M6	9	81-110	Thinning	S. Maple, Hard Mast Assoc.
3	72208003-Cut	M9	10	51-80	Clearcut with Reserves	Oak, Aspen

PRESCRIPTIONStands 1 & 2 – Thinnings:

- Thin down to 70 square feet of residual basal area, marking to cut with orange paint.
- Apply the Compleat Marker guidelines in regard to crop tree release and cutting priority (high risk, cull, poor form trees), with the following overrides:
 - Beech – refer to Appendix BBD.
 - Ash – will be a designated cut species and therefore does not need to be marked.
- All conifers and aspen are designated leave species.

Stand 3 – Clearcut with Reserves:

- Mark to leave two dozen large-crowned open-grown oak, primarily on the hill top.
- All conifers are designated leave species.

Access: Old 27 to Batterson Road, west on Batterson Road 1.4 miles to state land.

DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK	ESTIMATED DATE
Private line	Done summer 2012

CONTRACT WORK CAN BEGIN Immediately **CONTRACT WORK MUST BE COMPLETED BY:** June 30, 2013

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	
Payment Unit Boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Sale Boundary - State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Red	<input type="checkbox"/> Other:
Sale Boundary - Private	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Blue	<input type="checkbox"/> Other:
Leave Islands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Green	<input type="checkbox"/> Other:

Exclusions to mark and why:

Red-line exclude the narrow south peninsula of stand 1, as indicated on the attached marking prescription map.

Standards for marking lines against private land

N/A - was done by DNR staff

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	
Retention Island	<input type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	

Special Instructions:

See Appendix A

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 or east-west grid, by the spacing specified below if compass and pacing, or by a uniform square, GPS-calculated grid.

CRUISING UNIT	ESTIMATED ACRES	NUMBER OF PLOTS PER ACRE	APPROXIMATE SPACING (CHAINS)
stand 1	24	1	3 x 3.3
stand 2	9	1	3 x 3.3
stand 3	10	1	3 x 3.3
TOTAL NUMBER OF CRUISE POINTS		43 (estimate)	

Cruise Special Instructions:

See Appendix B and Appendix 8 (Product Standards And Cruising Manual, revised 6-24-2011, will be provided upon request. Note on page 29 the addition of the Walkthrough Method for cruising edge points).

The type of tally sheet used must meet with the approval of the contract administrator.

TIMBER MARKING SPECIFICATIONS This is included in the bid Precise specifications to be delineated at pre-work meeting with DNR staff

Total Merchantable Residual BA (Basal Area): Stands 1 and 2: 70 (min 60 to max 80)

TREATMENT	NUMBER	SIZE
Regeneration Gaps Per Acre	NA	
Girdled Trees Per Acre	NA	

PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs	Single slash on two opposite sides	9.1"	8.0"
Sawbolts	N/A		
Pulpwood	Single slash on two opposite sides	4.6"	4.0

TYPE OF WORK	WORK TO BE DONE	STANDS	PAINT COLOR
Trees marked to leave	<input checked="" type="checkbox"/>	3	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Other
Trees marked to cut	<input checked="" type="checkbox"/>	1 & 2	<input checked="" type="checkbox"/> Orange <input type="checkbox"/> Other

TALLY INTENSITIES

SPECIES / PRODUCT	RATIO
	1 :

SPECIAL MARKING INSTRUCTIONS:

See page 1 PRESCRIPTION details by stand, the Compleat Marker (will be provided upon request), Appendix D, and Appendix BBD.

Unless otherwise specified, the tally sheets used must be those provided by the DNR Forest Management Unit.

RESTRICTIONS

1. Forest Management Division staff must to 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. Paint will be supplied from the Grayling Field Office.
2. Call (989) 348-6371 ext 7449 (Tom Barnes) or ext 7443 (Joan Charlebois) to make arrangements for paint.
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) by color.
3. Tally summaries for each payment unit (one summary, regardless of the number of markers) and all of the original tally sheets.
4. GPS files and acreages for line running and area calculation work.
5. Cruise data entered into TSalePO and exported onto a disk or other electronic format. Use the sale name/number from page 1.

Grayling Management Unit **Boundary Marking and Area Calculation**

1. Establish the red sale boundary line as shown on the attached map. Paint the line so that it can be seen from both inside the sale area and when walking along the line from either direction.
2. Establish payment unit lines as shown on the attached map. Paint each payment unit line so that it can be seen from both adjoining payment units and when walking along the line from either direction.
3. Marking must be done in dry weather and when tree surfaces are not wet.
4. Place bole marks approximately five feet above the ground.
5. Each line tree must be stump-marked at its base and extending onto the ground.
6. The contractor will record total quarts of paint used by color.
7. The contractor will use a GPS unit to determine acreage by stand and payment unit to the nearest acre.
8. GPS units must be compatible with Pathfinder Office (2.01 or later) or produce an ArcMap-compatible shapefile. Correct and edit (clean up outlier/erroneous points) the GPS files before submitting the data.
9. Required GPS receiver signal quality settings for data collection: a minimum of four satellites, with a maximum DOP (dilution of precision) of 5.
10. The GPS receiver must log and save DOP and SNR (signal-to-noise-ratio) data.
11. Sale boundaries must be recorded as area features, not lines. Isolated stands must be recorded as separate area features.
12. Payment Unit lines must be recorded as line features.

Grayling Management Unit Timber Cruising Specifications

1. Cruise designated timber using Appendix 8 Product Standards And Cruising Manual (revised 6-24-2011) to determine products and heights of products. Record cruise data by species/product as indicated in Appendix 8. Do not combine any species or products unless told to do so by the marking contract administrator.
2. Record BA of residual trees by species unless told otherwise by the marking contract administrator.
3. Cruise sheets will be provided upon request. If the contractor prefers to use their own cruise sheets, the sheet format must meet with the approval of the marking contract administrator.
4. Cruise at the sampling intensity specified in the Timber Sale Prescription and apply that rate to your GPS-determined stand acreage.
5. Separate cruise data by stand and treatments within a stand. In the IFMAP inventory system, a stand may have more than one treatment created within it.
6. Use a 10-factor prism.
7. Mark plot locations on a map, using the plot number.
8. Unless otherwise agreed to by the contract administrator and the contractor, plot center will be marked by a stake or stick firmly inserted in the ground (not snow) with a ribbon attached to it at a height of not less than two feet above the ground, and labeled with the PU/stand number and plot number. In addition, ribbon at least 12 inches long must be attached to the tree closest to plot center.
9. All cruise sheets must be labeled with the compartment #, stand #, unit #, prism factor, date and the cruiser's name. If a portable data recorder is used for cruising, submit a summary sheet that details the rest of the required information.
10. **A copy of the "TSalePO" program will be provided to the successful bidder for cruise data entry. Original cruise sheets and an electronic copy of the cruise data exported from TSalePO must be delivered upon completion of the contract field work.** Note: At the cruise data entry screen in TSalePO, when prompted to enter the stand acres, enter your actual GPS'd acres (rounded to the nearest whole acre) – NOT the contract's estimated inventory-based acreage. When entering the cruise data into TSalePO, enter each stand as a separate stratum.

Grayling Management Unit **Individual Tree Marking**

1. Marking must be done in dry weather and when tree surfaces are not wet.
2. Apply paint on moss-free areas.
3. Place bole marks approximately five feet above the ground, with enough bole-wrap so that the marks can be seen from all sides of the tree.
4. Each tree must be stump-marked at its base and extending onto the ground.

Timber Marking Modifications Relative to Beech Bark Disease

Beech scale has been confirmed to the north. In order to reduce the impact of Beech Bark Disease on the stand, selectively mark to increase other tree species diversity and decrease the overall amount of beech, while retaining potentially-resistant beech stems.

General Guidelines

Reduce the beech component to no more than 10% of the total stand residual basal area.

Discriminate against beech stems that:

- are infested with beech scale and/or nectria cankers
- are large-diameter, over-mature
- have rough bark
- have damage, decay

Retain a component of beech stems that:

- are in the smaller size classes
- have smooth bark & clean boles
- are scale/canker-free

Maintain/enhance other tree species diversity

- Favor under-represented species for retention.
- Leave all conifers.

Exceptions

- Retain beech stems - regardless of size/form - that have few/no scales and no Nectria cankers, despite being surrounded by beech that are heavily infested.
- Don't eliminate all large cull beech. A few can be retained for wildlife den trees/future snags.

Keep in mind

- This is true for all species, but particularly important when the large-crowned beech are marked for removal: Room must be marked out to get the tree onto the ground without leaving a path of destruction in its wake. Even with mechanized felling equipment, they still need a place to drop the tree without tearing it through the crowns of adjacent residual trees. The oversized stems are likely to be chainsaw-felled, so lean needs to be assessed on them also, and stems marked for removal in the likely drop zone. This will result in lower-than-target residual BA's, but that will be acceptable in these cases (create a regen gap). What will not be accepted is marking a big tree and giving it no place to go.