



MICHIGAN DEPARTMENT OF NATURAL RESOURCES
FOREST, MINERAL AND FIRE MANAGEMENT

TIMBER SALE PRESCRIPTION

GENERAL					
Date 12/09/2010			Forest Management Unit Atlanta Unit		
Timber Sale Number (if applicable) 54-006-11-01			Sale Name (or prescription name) Compartment 105 Norway Ridge Norway Pine		
LOCAL CONTACT					
Telephone Number (989) 785-4251 x 5242			FAX Number (989) 785-3513		
Name Richard Barber			Email Address barberr@michigan.gov		
<input checked="" type="checkbox"/> Map of Project Area Attached					
LEGAL DESCRIPTION					
T31N R07E Sec. 34: NWNE, E2NW; Sec. 35: NENE, S2NE, SENW, NESW, N2SE, SESE; Sec. 36: W2NW, SENW, W2SW.					
Year of Entry: 2011 Compartment(s): 105 Stand Number(s): 5, 15, 17, 44, 54.					
THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE					
Estimated Acres: 224 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: 224					
Payment will be made on the basis of these estimated acres.					
TREATMENT & OBJECTIVE					
STAND #	COVER TYPE	ACRES	BA	TREATMENT	MANAGEMENT OBJECTIVE
5	Red Pine	11	81-110	Clearcut w/ Reserves	Red Pine
15	Red Pine	24	111-140	Systematic Thinning	Red Pine
17	Pine, Oak	10	111-140	Seed Tree	Pine, Oak
44	Mixed Pine	15	111-140	Seed Tree w/ Reserves	Mixed Pine, Oak
54	Red Pine	164	141-170	Seed Tree w/ Reserves	Red Pine
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.					
CONTRACT WORK CAN BEGIN:					
<input checked="" type="checkbox"/> Immediately <input type="checkbox"/> Date: _____					
CONTRACT WORK MUST BE COMPLETED BY: Date 09/01/2011					

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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 ESRI ".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: LCA may require 20 BAF in stands 44 and 45.

Cruise Line Directions: East-West

CRUISING UNITS	NUMBER OF PLOTS PER ACRE	SPACING (CHAINS)
5, 15, 17	1	3 x 3
44, 54	TBD by LCA	TBD by LCA
TOTAL NUMBER OF CRUISE POINTS	TBD by LCA, but approx 130	TBD by LCA

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): See stand specific requirements

Total Residual BA (Basal Area): may be as low as 10-30 BA in stands 17, 44, and 54

TREATMENT		NUMBER	SIZE
Regeneration Gaps Per Acre in Stands: N/A		N/A	N/A
Girdled Trees Per Acre		NA	NA
PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs	slash	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
N/A	

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 original tally and cruise sheets.
 4. GPS files for any GPS work, including all red, blue, green or yellow painted lines.

Compartment 105 Norway Ridge Norway Pine TIMBER SALE PRESCRIPTION APPENDIX

When establishing paint lines:

- The attached type maps delineate the contract marking area.
- The south edge of treatment 105017-Seed, the north edge of 105044-Seed_R and part of the NW side of 105054-Seed_R 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 or hemlock.
- 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 setup used must be able to output ESRI shapefiles (SHP.) Supply a copy of the traverse files, including the PRJ files, along with a hard copy of the corrected traverse file.
- For Trimble Geo series GPS units, Position Mode must be set so that GPS receiver collects data from a minimum of four satellites. PDOP mask must be less than or equal to 8 and SNR setting must be less than or equal to 4.
- For TDS/Trimble NOMADs and Recons, HDOP must be 4 or less. Positions must be determined using at least 4 satellites.
- Sale boundaries are to be recorded as an area feature, not a line.
- No Payment Unit will be larger than 25 acres. Payment Unit lines may be recorded as a line feature bisecting the sale.

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.
- 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 treatment. All data must be recorded by species within the treatment, using the LCA provided forms.
- Within all marked treatments, cruise all pulpwood and sawlog tree (by species) that will yield one or more 100" pulpwood sticks with a minimum top diameter of four (4) inches DIB.
- 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.

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.

Stand Specific Requirements:

- **105005-CCR:** 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. Cruise logs and pulp, all species. Use one cruise plot per acre.
- **105015-3rd:** Beginning with third row, mark every third row of red pine for removal. Mark down the length of the rows, marking at DBH and on the stump. Cruise logs and pulp in marked rows, including any trees of other species which must be removed for equipment access. Cruise at one plot per acre.

- **105017-Seed:** Mark red pine residual to average tree height spacing. Cruise red pine logs and pulp. Record residual BA by species, including red pine. Use one cruise plot per acre.
- **105044-Seed_R:** Keep sale off of wet soils. Mark red pine residual in clumps of 3-4 trees, with the clumps spaced average tree height apart. Leave (mark) 10 BA white pine. These may be in some combination of clumps, single trees, and strips along stand edges. Paint in 1-2 chain buffer along cedar stands and drainages. Cruise logs and pulp for trees to be harvested. This includes unmarked red pine, unmarked white pine and all other trees except oak. Record BA by species for residual (i.e. the oak, marked red pine and marked white pine.) Number of cruise points and spacing to be determined by the LCA.
- **105054-Seed_R:** Keep sale off of wet soils. Mark red pine residual in clumps of 3-4 trees, with the clumps spaced average tree height apart. Leave (mark) 10 BA white pine. These may be in some combination of clumps, single trees, and strips along stand edges. Paint in 1-2 chain buffer along cedar stands and drainages. Cruise logs and pulp for trees to be harvested. This includes unmarked red pine, unmarked white pine and all other trees except oak. Record BA by species for residual (i.e. the oak, marked red pine and marked white pine.) Number of cruise points and spacing to be determined by the LCA. Exclude from sale--by use of paint--the ridges running from the main stand, and wet areas.