

## **Wild Timber Sale**

### **Logging Feasibility Report**

**Notes:** Due to the variability of the terrain throughout the sale, there may be the need for intermediate support trees in subdivisions not so stated in this analysis. Rigging heights are based on a particular profile and will also differ from given heights throughout each subdivision. Unless otherwise stated skyline yarding direction will be uphill and Ground Base skidding directions will be downhill. Helicopter yarding will be downhill unless otherwise stated. All skidding and yarding operations will have constraints within stream corridors in all subdivisions. See contract provision C6.42# for special yarding and skidding methods. All Ground based skid roads and landings must be approved prior to use. Skid roads will be placed 150' apart.

For skyline operations, a carriage with skyline clamping capability will be required. Unless otherwise stated in the subdivision comments the Diamond D2000, 42' boom, 7/8" skyline, 5/8 inch mainline and 1/2 inch haulback line will be used with an Acme 20 carriage for profile analysis. Skyline corridors for uphill yarding will be 150 feet apart at the farthest reach of the corridor. For downhill yarding the corridors spacing can be adjusted to be closer than 150 feet with prior approval from the Contract Officer Rep.

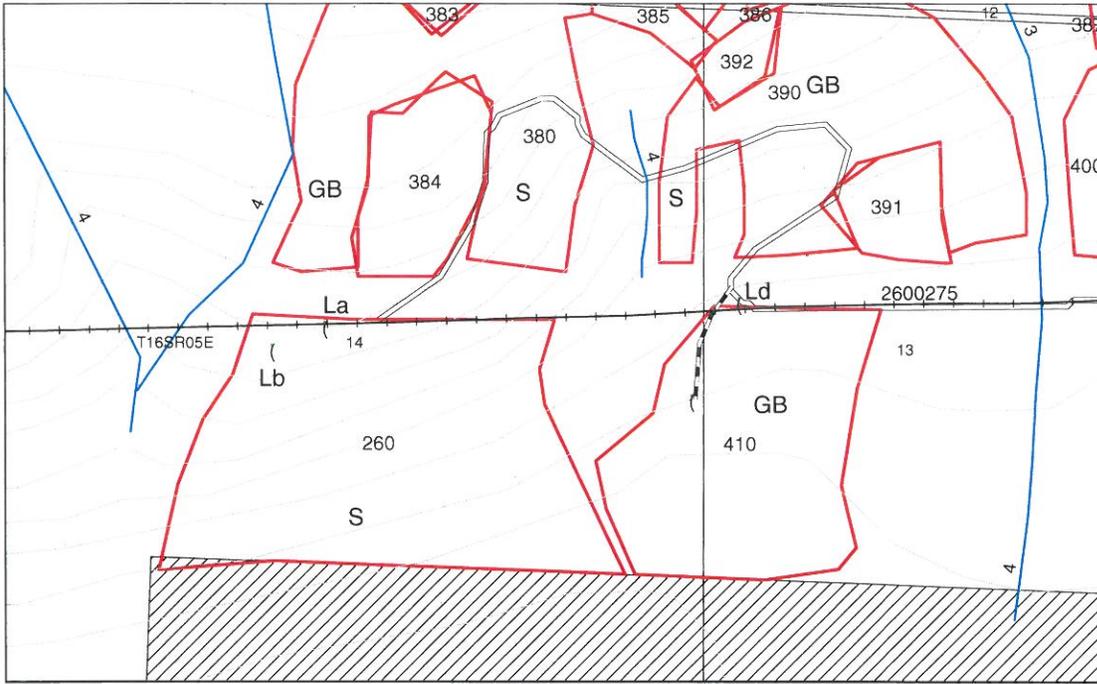
In those areas which are recommended for ground base systems, and which have slopes in excess of 30%, shovel operations can be considered. Each situation must be looked at and approved by the TSO with the cooperation of the zone Geologist.

Skyline corridors are permitted within the buffers, however all timber cut in No Harvest Buffers will be left in place. Full suspension will be required when yarding over perennial streams, (class 1, 2, and 3 streams.) Where full suspension is not obtainable over intermittent streams, partial suspension is required and limited to that period when the stream is dry.

A light duty Helicopter (payload 4800 lbs) will be used to determine Helicopter logging and economic feasibility for this planning area.

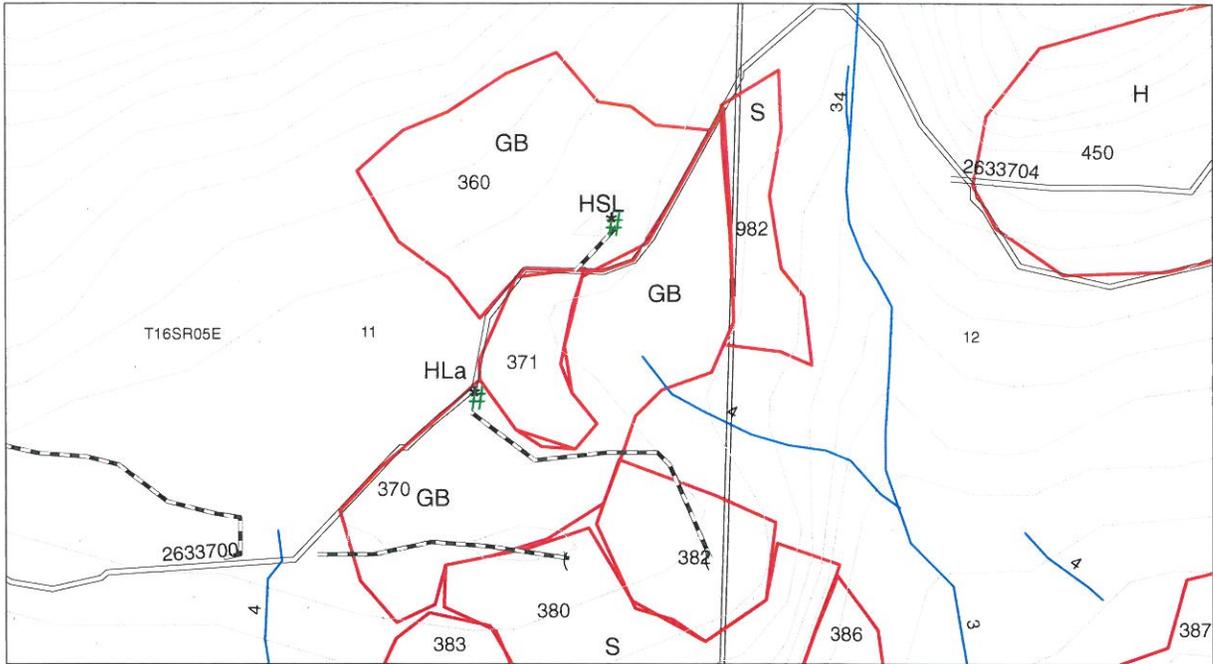
Intermediate support tree and tail spar heights are determined in accordance to OSHA standards and guidelines.

There may be small areas along roads and near landing sites that can be harvested in a manner not specified in the logging plan. With prior approval from the TSO these areas may be harvested using alternate methods operation.



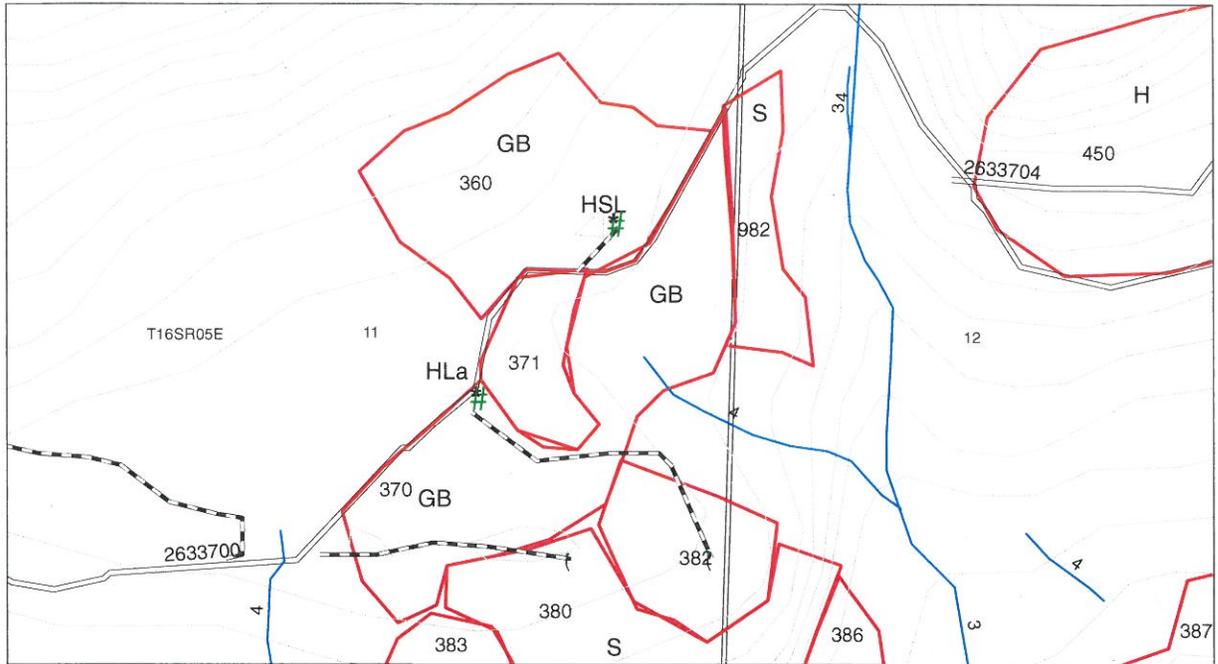
Township: 16S	Range: 5E	Section: 14	Elevation: 1640
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
260	11	40-50	S

There is a Lane Electric access road which goes to the top of subdivision 260. There are a couple switch backs on this portion of the road which will require widening for log truck access. Truck assist may be needed to access the landing sites. One alternative for the subdivision is to improve the road to allow for truck access. A second alternative would be to tractor skid the logs from landings La and Lb down the road to Landing Ld. The skid is approximately 2000 feet. Another alternative would be to use Forwarders to transport the logs to landing Ld. Skyline landings La and Lb will require some cat work for leveling and Lb is approximately 80 feet out a ridgeline. The average yarding distance is approximately 480 feet.



Township: 16S	Range: 5E	Section: 11	Elevation: 2520
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
360	6	5-20	GB
982	2	20-35	S

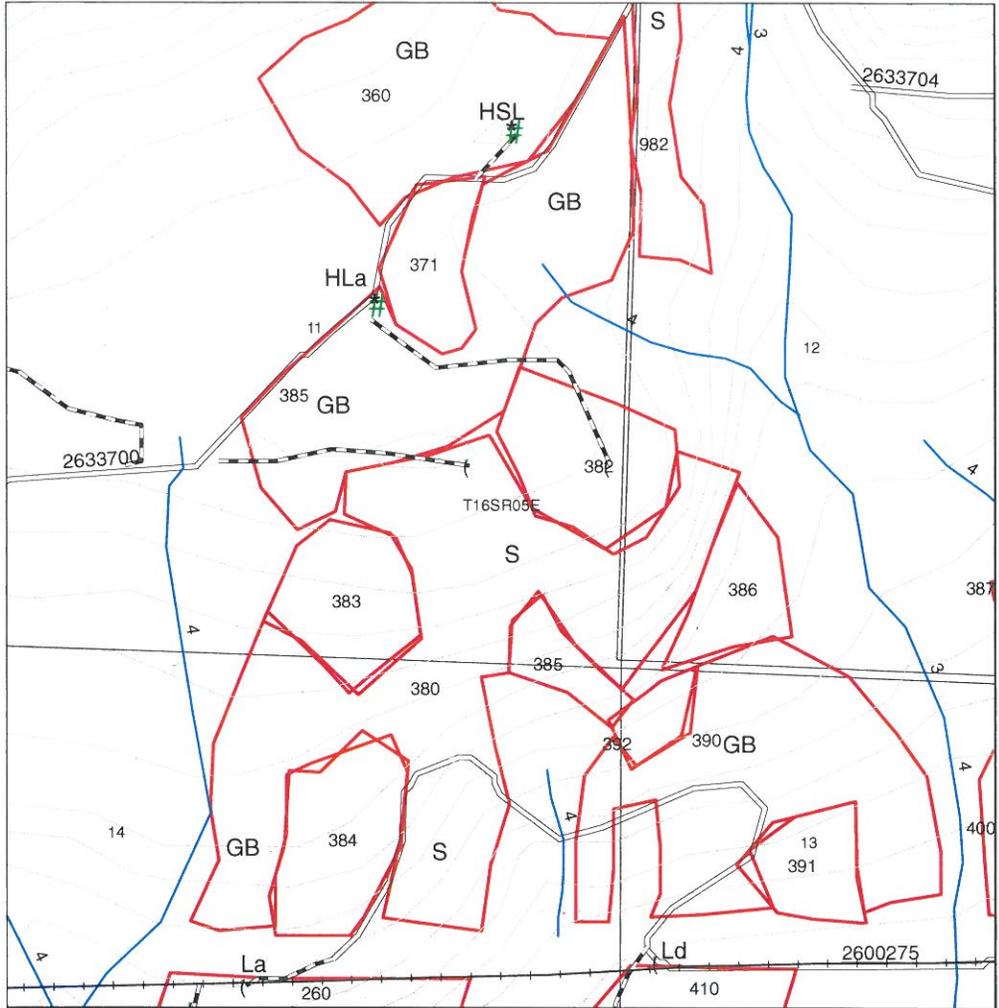
Subdivision 360 can be ground base skidded to the 700 road and or the Helicopter service land to be constructed at the end of the 350 foot temporary truck spur. The average skid distance is approximately 300 feet. Subdivision 982 will need to be skyline yarded to the 700 road. The average yarding distance is approximately 350 feet.



Township: 16S      Range: 5E      Section: 11      Elevation: 2520

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
370	7	5-20	GB/S
371	1	20-35	GB

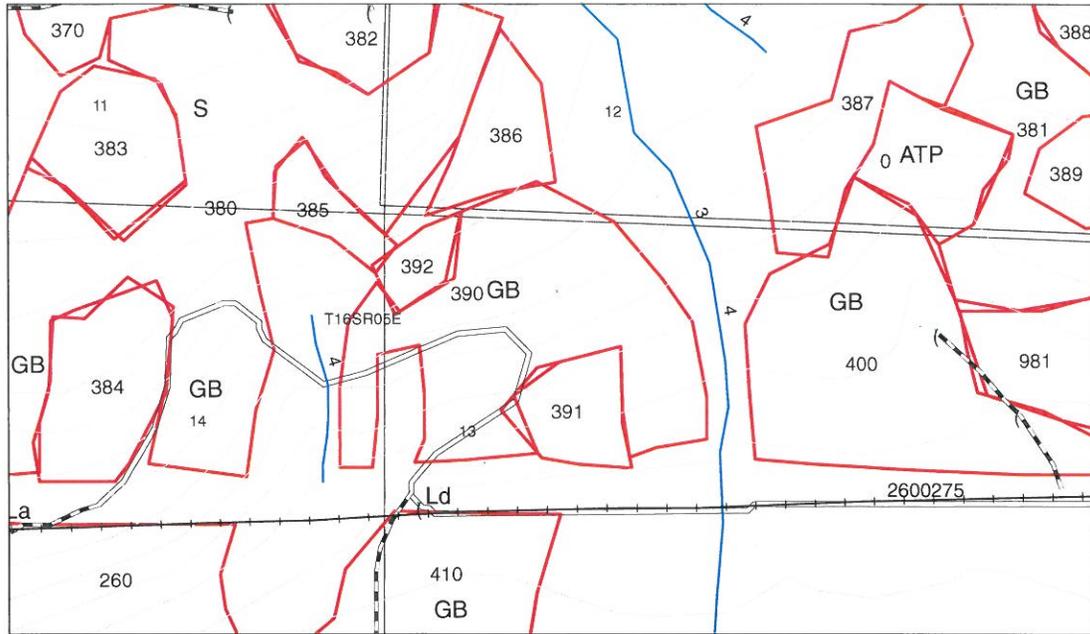
Subdivision 370 has a short pitch of ground to the south of the lower temp spur that will need to be skyline yarded. The remainder of the subdivision along with 370 can be ground base skidded to the temp spurs and the 700 road. The average skid distance is approximately 150 feet.



Township: 16S      Range: 5E      Section: 11, 12      Elevation: 2250

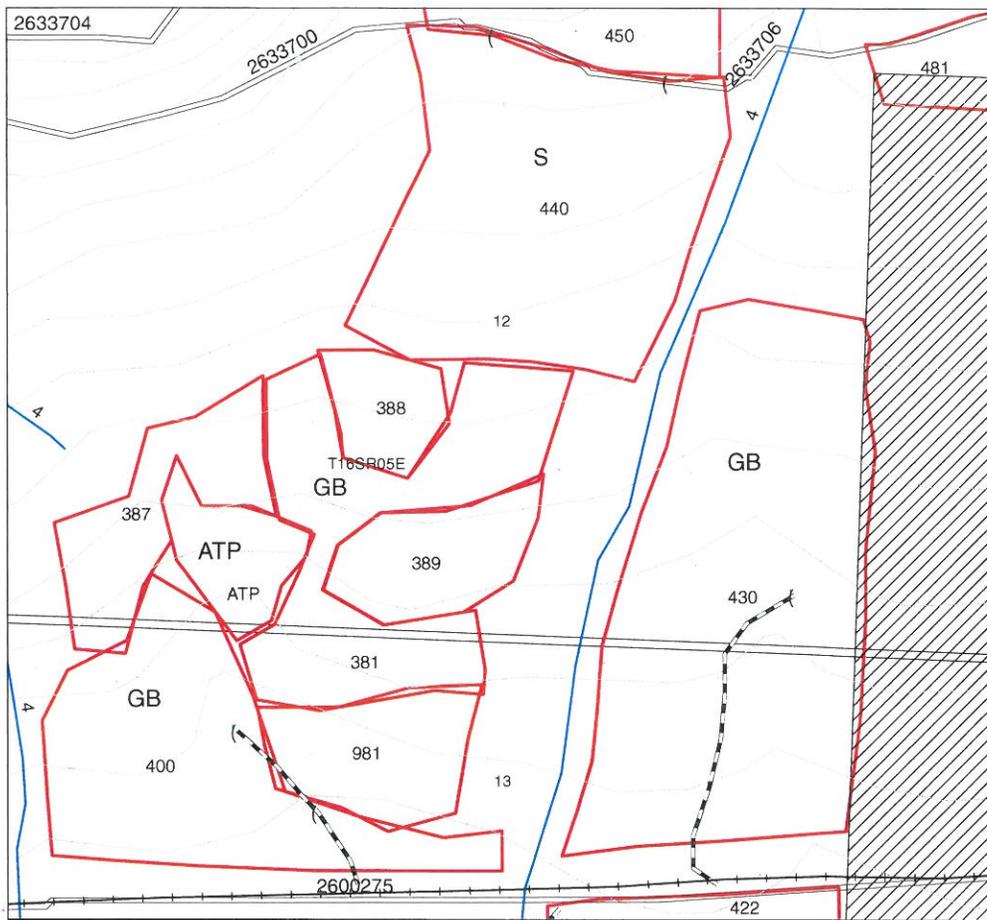
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
380, 382-386	20	5-20	GB
380, 382-386	14	20-45	S

There are two spurs which run off the 700 road into the subdivisions. Most of subdivision 385 and portions of subdivision 382 and 380 can be ground base skidded. Portions of the subdivisions to the south will need to be skyline yarded. Some of subdivision 380 and 384 can be ground base skidded down to the Land Electric road to landing La. The long reach for skyline is approximately 1200-1300 feet. The average Yarding distance is approximately 500 feet. The tail spars are good throughout the subdivisions.



Township: 16S      Range: 5E      Section: 13      Elevation: 1760			
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
390	7	15-45	GB/S
391	1	15-25	GB
392	1	15-30	GB

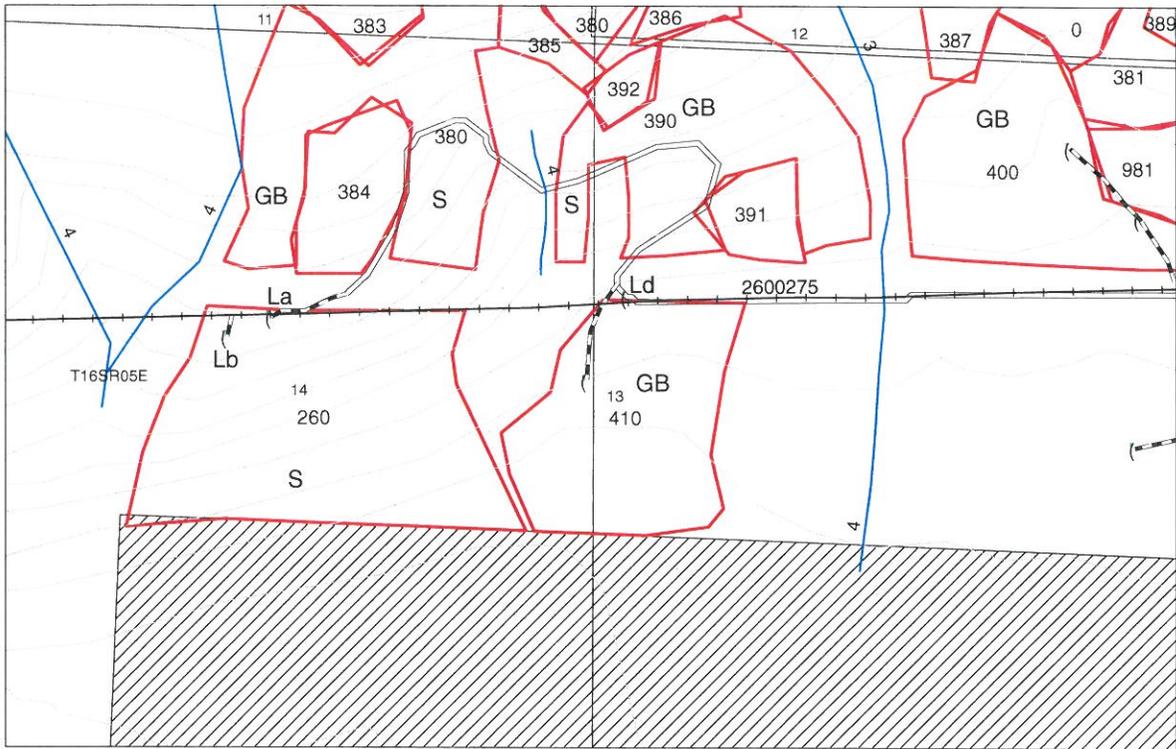
The northern portion of the subdivisions will be skyline yarded to the temp spurs and landings in the 380 subdivisions. The average yarding distance is approximately 500 feet. The remaining portions of the subdivisions can be ground based skidded to the Lane Electric spur and swung down to Landing Ld, and the 275 road. The Average skidding distance is approximately 300'.



Township: 16S      Range: 5E      Section: 12      Elevation: 1760

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
381,400,389,981	19	5-20	GB
381,440, 388	13	15-35	S

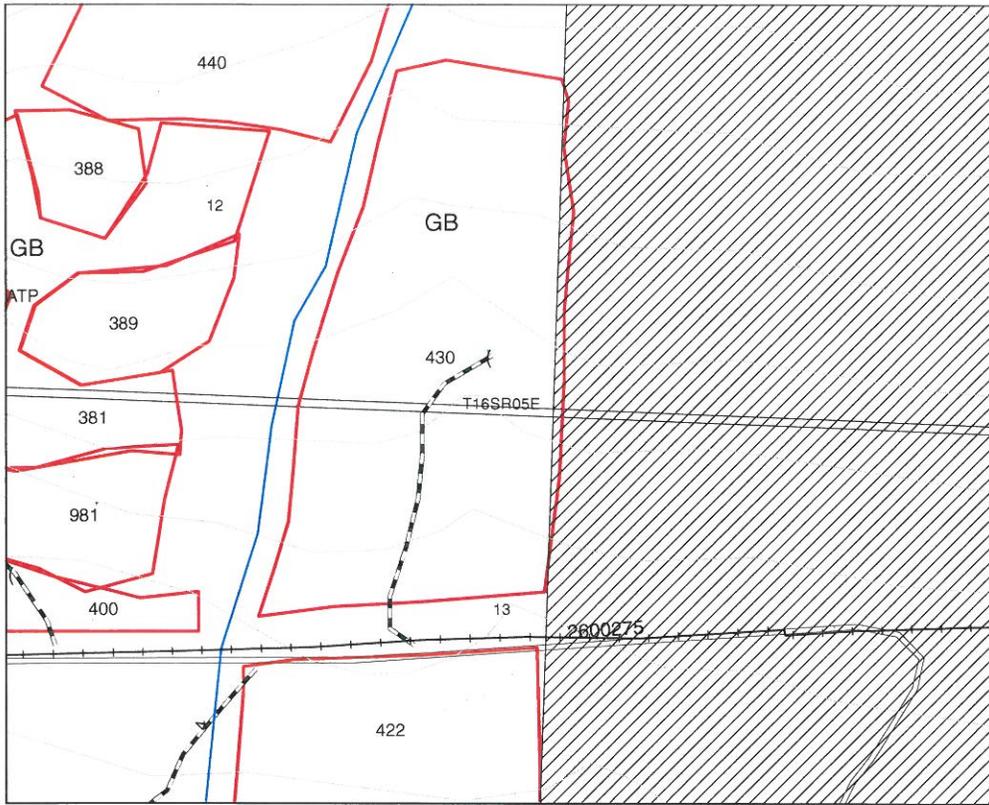
There is a 600 foot proposed temp spur off the 275 road. A large portion of the subdivisions can be ground based skidded to the temp spur. Subdivision 440 can be yarded up to the 700 road. If approximately 1200 feet of the northern subdivisions (440, 388 and some of 381) are skyline yarded to the 700 road, that would leave approximately 600-750 feet of ground based skidding down to the temp spur. The average skid distance is approx. 400 feet. Skidding will have to be done around the ATP.



Township: 16S      Range: 5E      Section: 13, 14      Elevation: 1480

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
410	7	5-15	GB

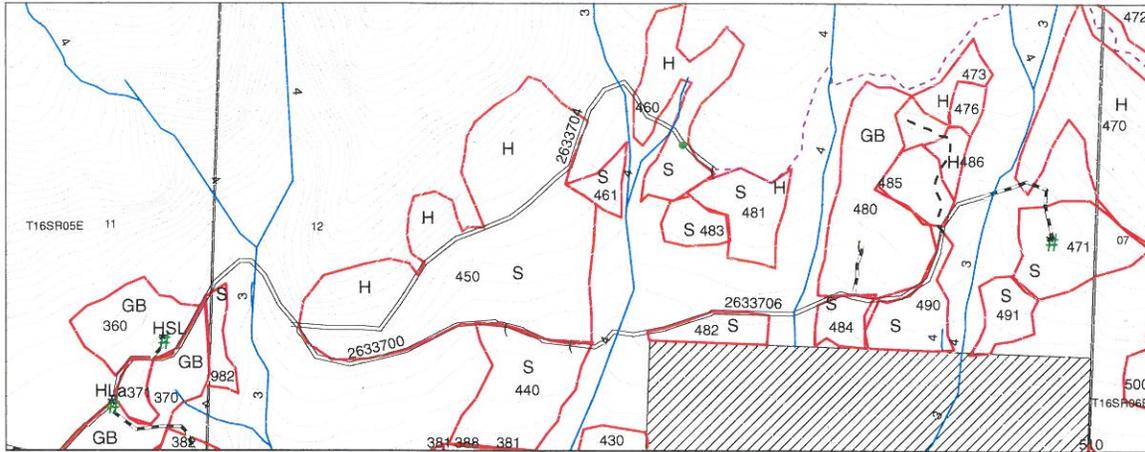
Subdivision has a proposed 300 foot temp spur off the 275 road. Average skidding distance is approximately 200'.



Township: 16S      Range: 5E      Section: 13      Elevation: 1480

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
430	15	10-20	GB

There is a proposed temp spur off the 275 road into the subdivision approx 800' which will allow access to the subdivision and provide for shortened skid distances. The average skid distance is approximately 350 feet.

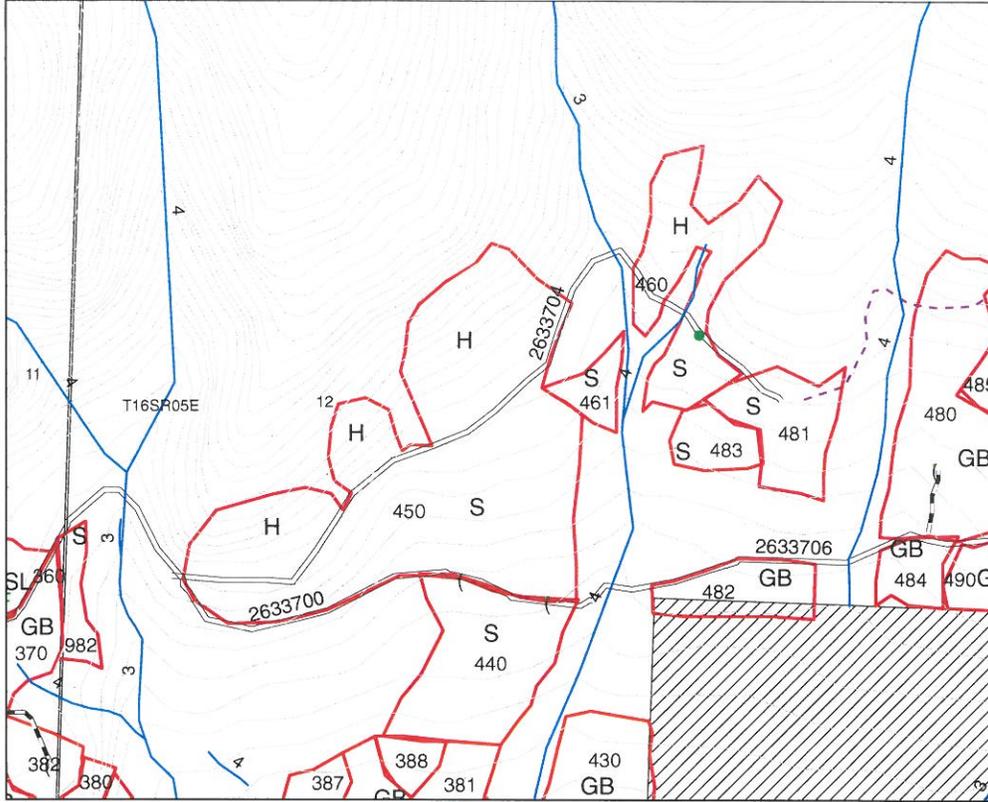


Township: 16S      Range: 5E      Section: 07, 12      Elevation: 2720

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
450	20	20-40	S
450	14	30-55	H

The Skyline portion of the subdivision can be yarded to the 704 road. The average yarding distance is approximately 300 feet.

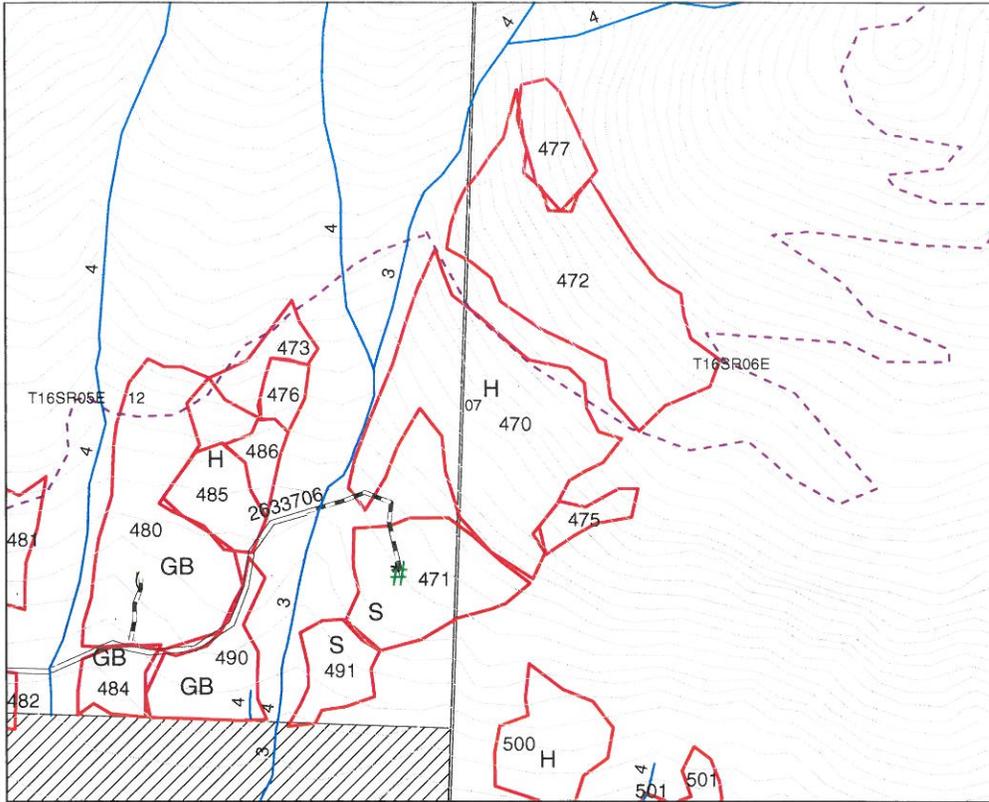
The helicopter portion of the subdivision can be flow to the landings in subdivisions 371 and or 471 with the service landing in subdivision 360. Shown on the map as triangles. Hsl is on a slight rise above the road and could be constructed as a service landing for the sale. The average flight distance is approximately 2300 feet. Construction will also be needed on landing HLa.



Township: 16S      Range: 5E      Section: 07, 12      Elevation: 2720

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
460, 461	5	20-40	S
<b>460</b>	4	30-55	H

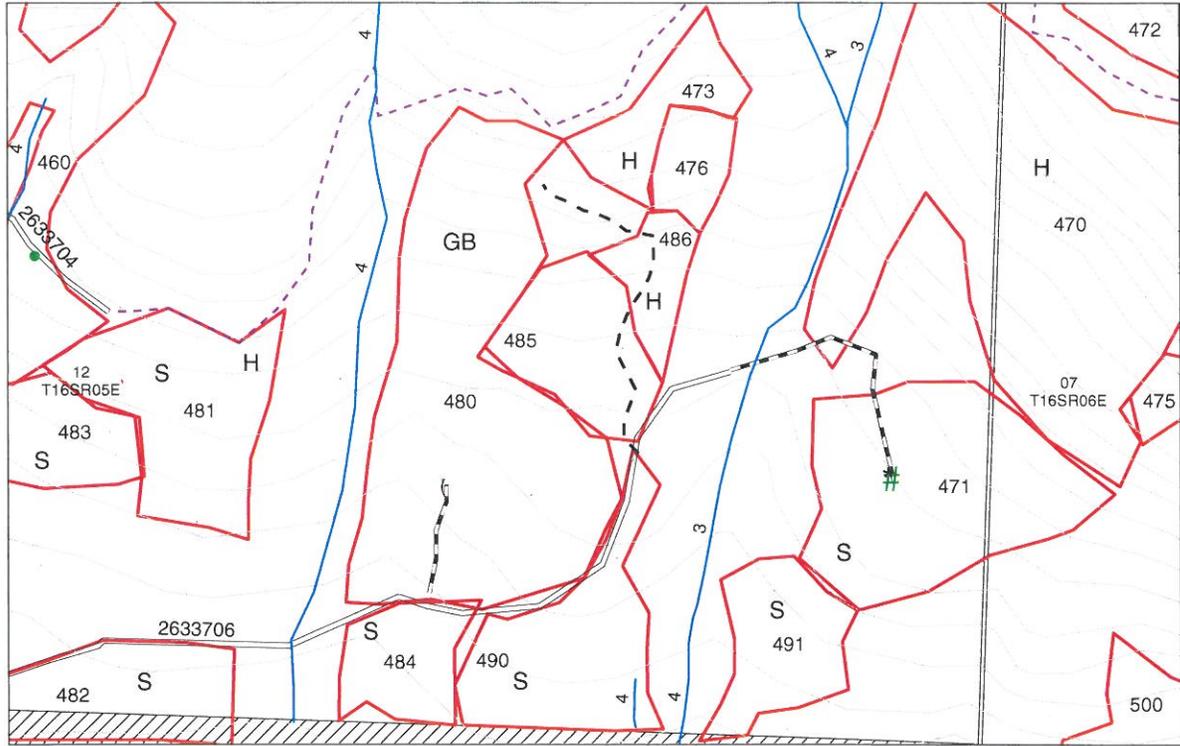
The helicopter portion of the subdivision can be flown to the landing at the end of the temporary spur in subdivision 471. The flight distance is approximately 2600 feet with an elevation drop of approximately 200 feet. The temporary spur and landing will need to be constructed. The skyline portion of the subdivision can be yarded to the existing systems road. Subdivision 461 could be yarded through the hardwood patch to the north. This would prevent having to yard through the class 4 stream. The average yarding distance is approximately 350 feet.



Township: 16S      Range: 5E      Section: 07, 12      Elevation: 2720

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
471	8	20-40	S
470, 472, 475, 477	39	35-70	H

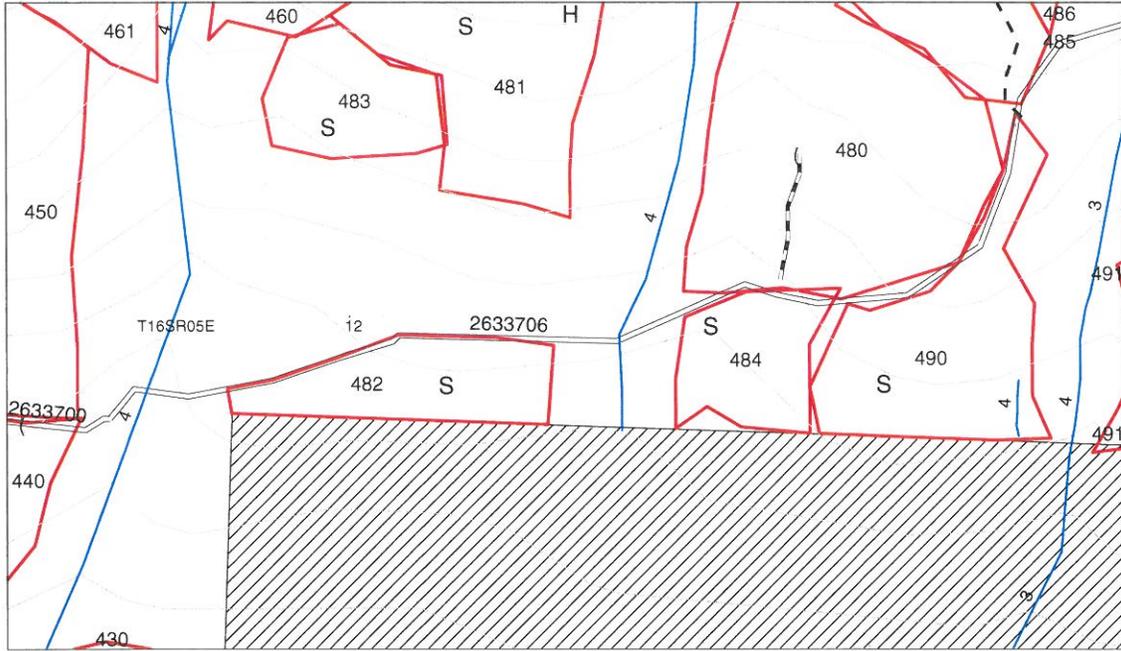
There is a 600 foot temporary truck spur which starts off the end of the 706 road. There is a short piece of the spur which will be a "full bench" cut. The spur will access a semi flat where the Helicopter land will need to be constructed. There is an area on the flat that can be ground based logged. The service landing for the subdivision will be the helicopter landing used in subdivision #360. The average flight distance to the log landing is approximately 1300 feet. The flight distance to the service landing is approximately 5600 feet. There is a portion of subdivision 471 as well as subdivision 491 which can be skyline yarded to the flat where the helicopter landing is located. The average skyline yarding distance is approximately 400 feet.



Township: 16S      Range: 5E      Section: 07, 12      Elevation: 2240

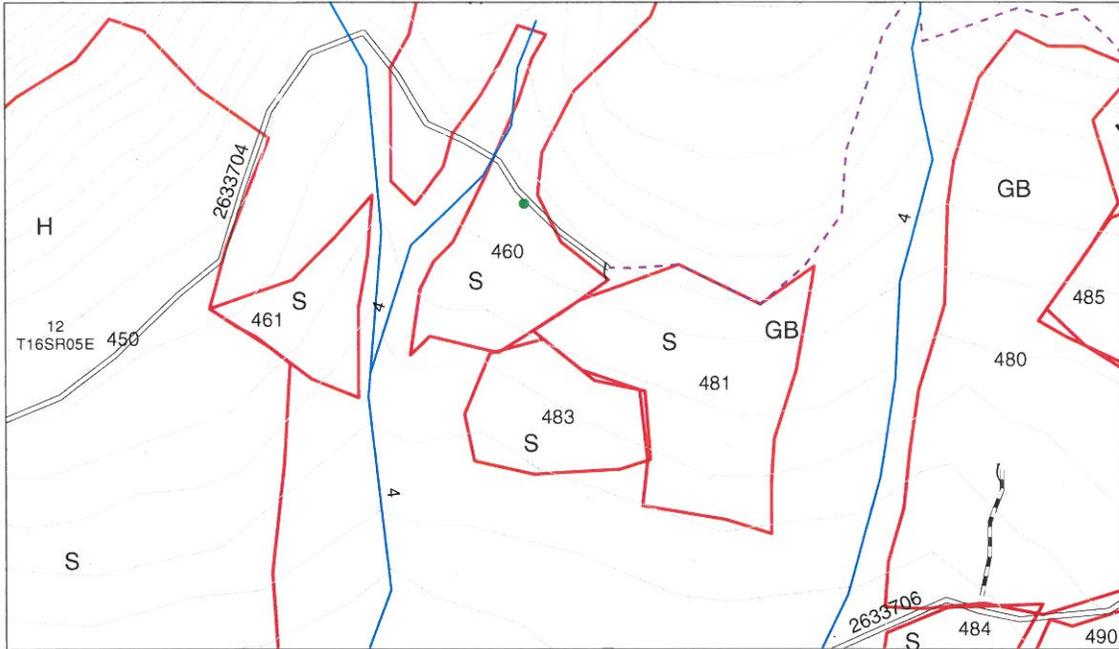
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
480, 485	15	20-35	GB
473, 476, 485, 486	5	35-45	H

Subdivision 480 can be ground base skidded to the 706 road and the temporary truck spur. There are grade breaks in the subdivision with slopes in excess of 30% which will require line pulling with a skidder or shovel yarding. The proposed spur is approximately 300 feet in length. The average skid distance is approximately 550 feet. Subdivisions 473, 476, part of 485, and 486 will be helicopter yarded and flown to the landing in subdivision 471. The average flight distance is approximately 1200 feet.



Township: 16S	Range: 5E	Section: 12	Elevation: 2240
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
482, 484	6	15-30	S

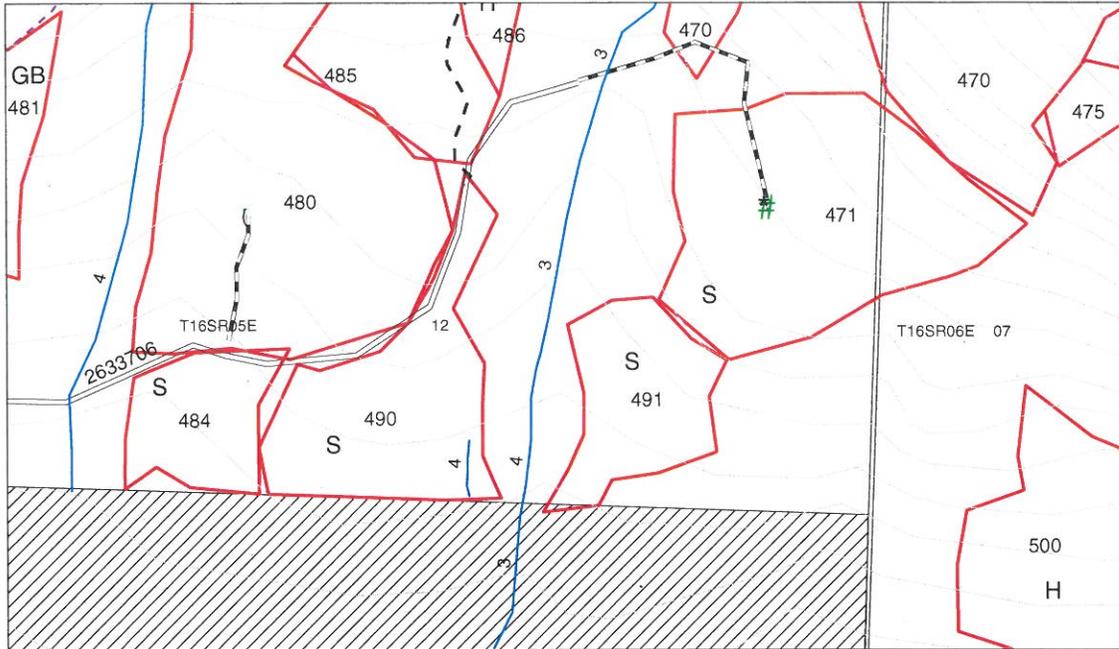
Both subdivisions can be skyline yarded to the 706 road. Average yarding distance is approximately 150 feet.



Township: 16S      Range: 5E      Section: 12      Elevation: 2160

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
481, 483	6	15-30	S
481	1	15-30	GB

There is a 1 acre portion of subdivision 481 which will have to be ground based skidded to the landing. The hiker trail must be avoided and not skidded across. The remaining portion of the subdivision can be skyline yarded along with subdivision 483. The average skid distance is approximately 250 feet. The average yarding distance is approximately 350 feet.



Township: 16S

Range: 5E

Section: 12

Elevation: 2160

Subdivision#

Acres

% Slope

Prescribed System

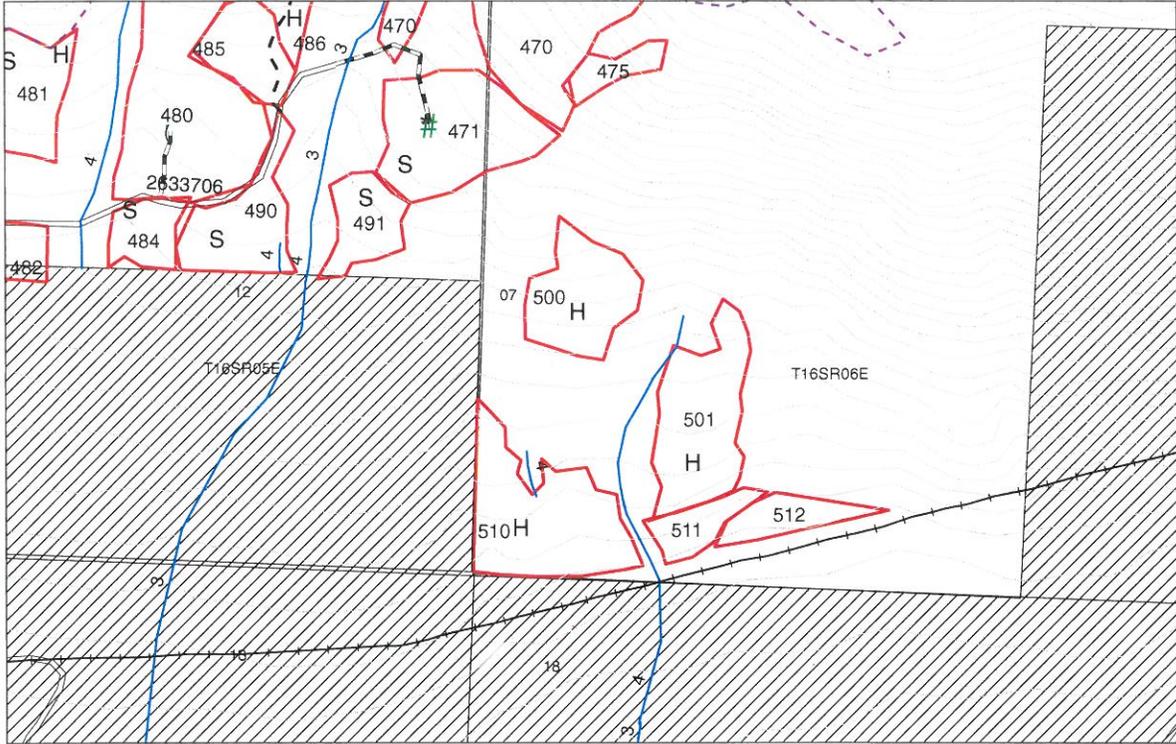
490, 491

7

15-35

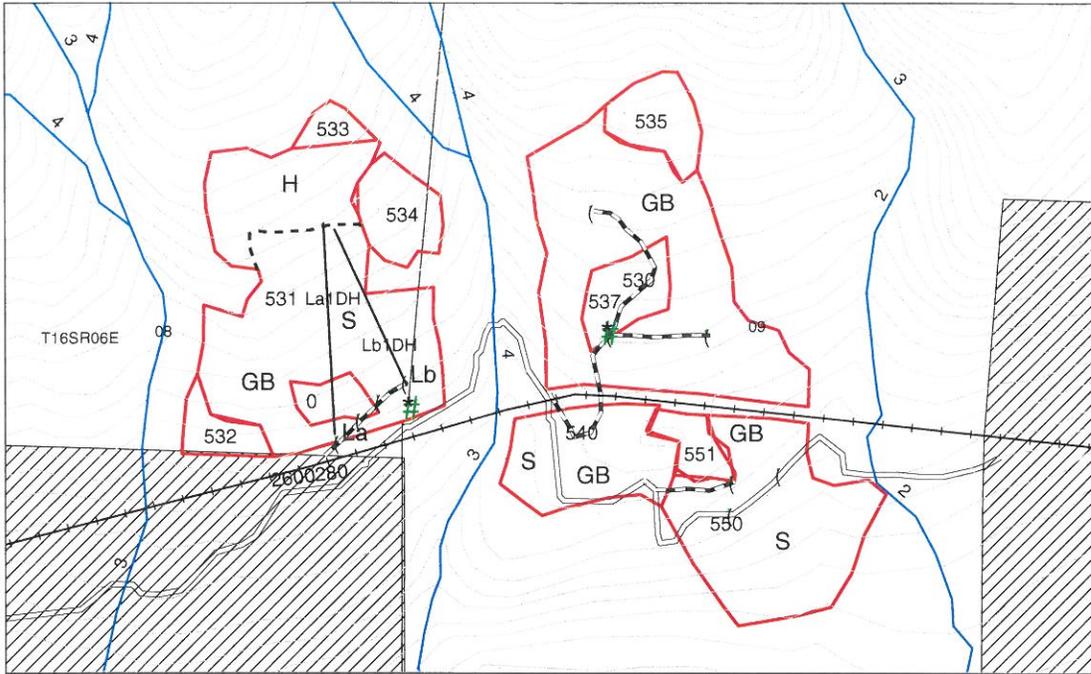
S

The subdivisions can be skyline yarded. Subdivision 491 can be yarded to the helicopter land in subdivision 471. The average yarding distance is approximately 530 feet. Subdivision 490 can be yarded to the 706 road with an average yarding distance of approximately 200 feet.



Township: 16S	Range: 5E	Section: 12	Elevation: 2160
<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
500, 501, 510, 511, 512	22	15-35	H

The subdivision will be Helicopter yarded to the landing in subdivision 471. The flight distance to subdivision 471 is uphill approximately 1100 feet distance with a 400 foot elevation gain. The service landing for these subdivisions will be the landing in subdivision 360. The land adjacent to the subdivision is privately owned by Gustina. Contact was made with them about accessing the subdivision with a temp spur through their land and they were agreeable with that option at the time of contact. If this is acceptable then a temp spur could be constructed into the southern subdivisions to allow for ground based skidding of those subdivisions. A temporary culvert would be need to cross the class 4 stream. It may also be agreeable to allow for a service landing on Gustina land. Contact for these alternatives would be the responsibility of the purchaser.



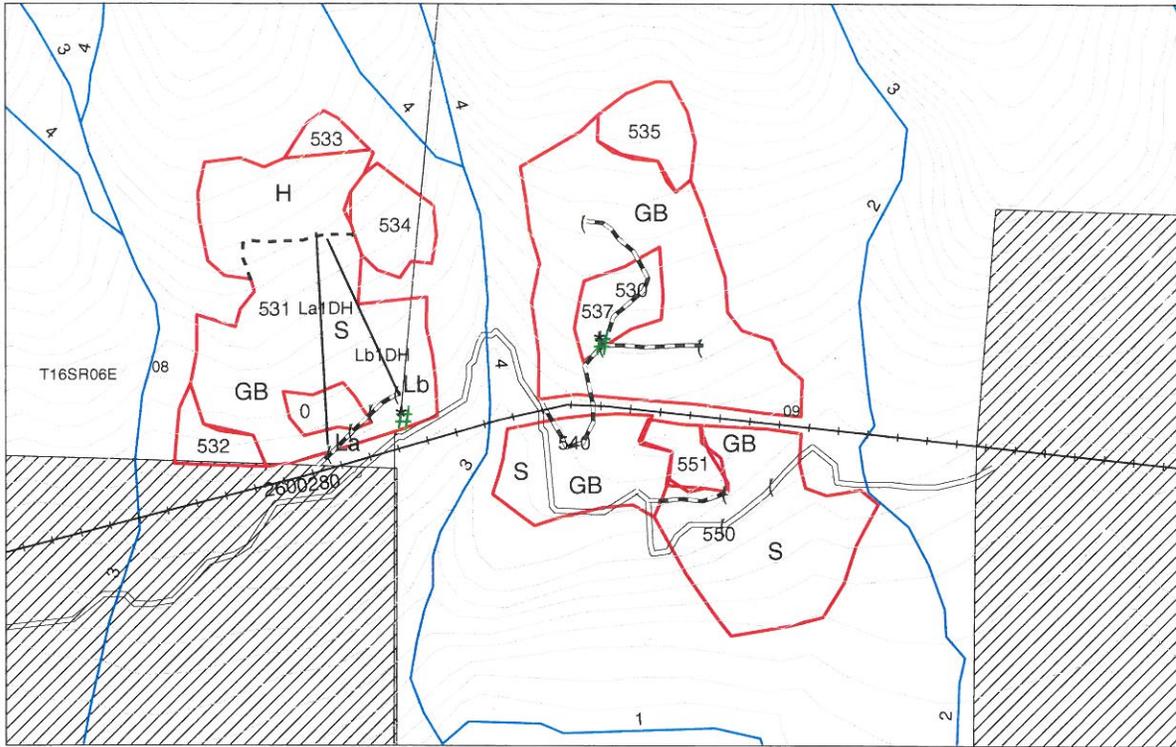
Township: 16S      Range: 5E      Section: 6, 9      Elevation: 2320

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
530, 531, 532			
535, 536, 537	39	15-35	GB
531	10	15-45	S
531, 533, 534	15	30-45	H

There is a proposed 500 foot temporary truck spur subdivision 531 which will have a series of downhill skyline yarding landings. The downhill profile shows that approximately 1000 feet of downhill yarding is possible. The payloads given on the profile run around 2100 lbs using a 50 foot tail spar. The average yarding distance is approximately 550 feet. There is some ground based skidding to the west in the subdivision. Some of the area may require a shovel. The average skidding distance is approximately 300 feet.

The northern portion of the subdivision above the skyline will be helicopter yarded to the landing at the bottom of the subdivision. There is a good site to construct the landing right off the 280 road, shown on the map as triangle. The average flight distance is approximately 2000 feet. There are numerous areas in the 530 subdivisions east of the stream to construct a service landing. The service landing is on the temp spur in GAP 537. Construction is needed.

There is approximately 2000 feet of temporary truck spur proposed for the east portion of the subdivision. This side of the subdivision can be ground base skidded to landings along the spur. Some of the areas to the north may require shovel yarding due to steeper slopes. The average skidding distance is approximately 300 feet.



Township: 16S

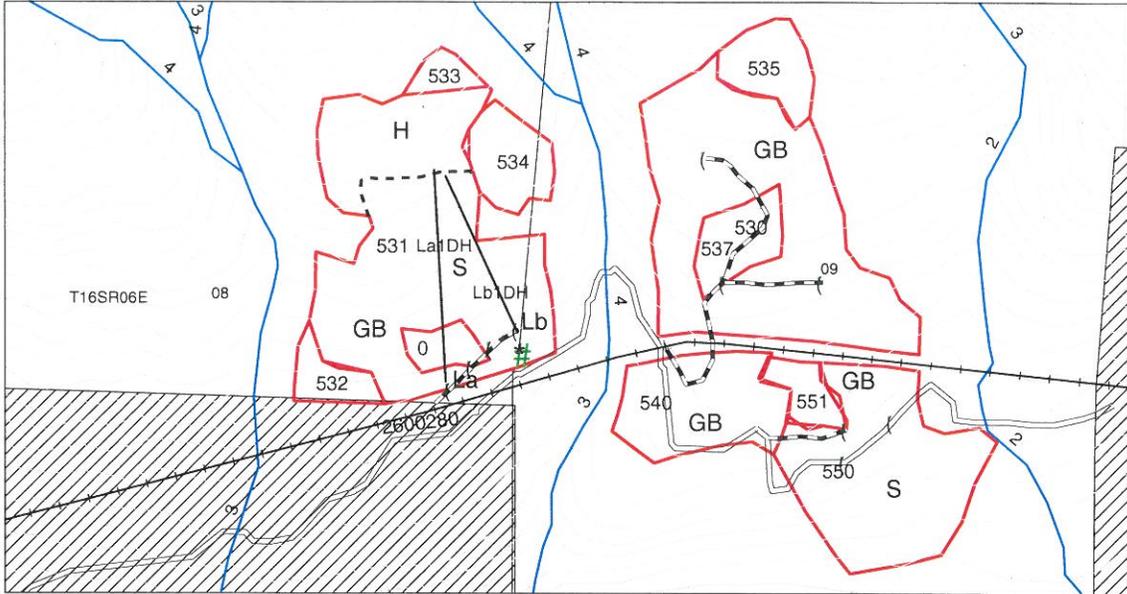
Range: 5E

Section: 8, 9

Elevation: 2320

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
540	5	5-30	GB
540	2	5-30	S

The western portion of the subdivision can be ground based skidded to existing systems roads, and or the temp spur. The average skidding distance is approximately 150 feet. The piece of ground to the west of the road will be appraised for skyline yarding but could also be ground base skidded uphill to the road. The average yarding distance is approximately 150 feet.



Township: 16S      Range: 5E      Section: 8, 9      Elevation: 2320

<u>Subdivision#</u>	<u>Acres</u>	<u>% Slope</u>	<u>Prescribed System</u>
550, 551	6	5-20	GB
550	10	15-35	S

The ground based operations can be skidded to the short spur above the 208 road. Average skidding distance is approximately 150 feet. The skyline yarding can be yarded to the 208 road. The average yarding distance is approximately 300 feet.