

# Pre-Operations Report

**Operation Name:** Potato Hill  
**County:** Linn  
**Management Basin:** Mad Creek Basin

**Table 1. Operation Areas, Types and Acres**

| Area  | Type of Operation | Gross Acres | Net Acres |
|-------|-------------------|-------------|-----------|
|       | MC                | 84          | 30        |
| Total |                   | 84          | 30        |

## **I. PHYSICAL DESCRIPTION OF OPERATION AREA:**

The operation is located within a temperate climate area. Typically the fall and winter seasons are wet. This area receives approximately 64 inches of rainfall per year. The operation is located within the *Tsuga heterophylla* Zone (*Natural Vegetation of Oregon and Washington, Franklin & Dyrness, 1973*).

The landforms are moderate on the slopes in the lower portion of the operation and steep to very steep on the slopes in the upper portion of the operation. The sale is on Potato Hill and drains into Mad Creek. The underlying rock is Sedimentary and Volcaniclastic origin rocks of the Western Cascades, lapilli tuff, mudflow deposits (lahars), flow breccia, and volcanic conglomerate.

The soils within the operation consist of 80% Pechuck and 20% Nasty. Pechuck is a well-drained, fine textured colluvial soil. Nasty soils are moderately deep, well-drained, moderately fine textured skeletal soil. The 50 year site index for Douglas-fir is 110 feet. The elevation ranges from 1,150 to 2,060 feet.

## **II. CURRENT STAND CONDITION:**

The operation is located within a 95-year-old stand currently classified as Understory. The overstory consists of Douglas-fir with a few scattered big leaf maple, western hemlock and red alder. The overstory trees have small crowns and are putting on very minimal growth each year. The understory consists of Oregon grape, sword fern, and vine maple.

There are approximately 8 snags per acre; approximately 1,224 cubic feet per acre of sound down wood; and a total of 1,760 cubic feet of down wood per acre in all decay classes (*SLI, 2002*).

**Table 2. Stand Inventory Information**

| Area | Prescription | Stand ID <sup>1</sup> | Species | Age | DBH | BA  | TPA | SDI | Acres <sup>2</sup> |
|------|--------------|-----------------------|---------|-----|-----|-----|-----|-----|--------------------|
|      | MC           | 12557                 | DF      | 95  | 16  | 288 | 192 | 72  | 30                 |

1 The source of stand inventory information is SLI from 2002.

2 The acres are based on GIS and include roads, streams buffers, reserve areas, etc.

### **III. DESIRED STAND CONDITION:**

This operation is located within the Mad Creek Basin. Approximately 54 percent of this basin is planned for Complex Structure stands. (*Cascade District Implementation Plan, 2003*) This basin contains mature, densely stocked stands of Douglas-fir mixed with varying amounts of western hemlock, western red cedar, noble fir, and hardwoods. The diversity of tree species in these stands present good opportunities for structure based management, except for stands with very high overstory densities. The stands generally have high timber values and retain important structural components (snags, large old growth trees, large down logs, etc.) from legacy stands. This basin makes up 1.4% of the City of Salem’s municipal watershed.

The desired future condition (DFC) for this operation is Older Forest Structure (*District Implementation Plan, 2003*) as shown on the attached “Desired Future Condition” map. The current stand density index of the stand is well beyond the preferred upper limit in prescribing a thinning for the stand. Any thinning prescription would most likely result in a stand that would not respond to a thinning and quite possibly be susceptible to wind throw. The decline of the stand is evident in the copious amounts of down wood already present in the stand from past stand mortality. The proposed pathway to older forest structure (OFS) consists of creating irregular shaped patch cuts designed to minimize the visual impacts of harvesting and preserve existing structure within the stand. Patch cuts will be placed within one third of the stand at this management entry. Approximately 20 years in the future, patch cuts will be placed within another third of the stand. This would constitute a stand-level approach to attaining the DFC of OFS by creating three distinct age classes and layers within the stand.

The **Anticipated Pathway** will begin with:

- Patch cuts placed within one third of the stand.
- The patch cuts will be reforested with a mixture of Douglas-fir and western red cedar trees depending on the size of the openings.
- In 10-12 years, the patch cuts will be evaluated for a pre-commercial thinning.
- In 20 years, patch cuts will be placed within another third of the stand and reforested.
- These patch cuts will be evaluated for a pre-commercial thinning 10 -12 years following the harvest.

- In 40 years the stand will be evaluated for additional patch cuts. Also at this time the initial patch cuts will be evaluated for a first entry commercial thinning.

**Table 3. Stand Structure Information**

| Area | Stand ID | Current | Post Harvest <sup>1</sup> | Desired Future | Acres |
|------|----------|---------|---------------------------|----------------|-------|
|      | 12557    | UDS     | REG                       | OFS            | 30    |

<sup>1</sup> The stand is expected to develop into this condition in the five to ten years after this operation is completed.

#### **IV. PROPOSED MANAGEMENT PRESCRIPTION**

- Patch cuts will be placed within one third of the stand. The size and distribution of these patch cuts has not yet been determined. This will be established prior to sale layout in a collaborative process between the District and ODF biologists.
- Reserve all old growth trees and trees larger than 32 inches in diameter from cutting.
- Snags will be retained at 2 per acre within the patch cuts. If needed, trees will be reserved from the harvestable volume for snag creation.
- Most of the 1,200 cubic feet of sound down wood currently within the stand will be retained. If needed, additional down wood may be created within the patch cuts to retain 600 cubic feet per acre within those areas.
- All brush and non-merchantable trees will be felled within the patch cuts.
- Site-preparation for the patch cuts will be accomplished by hand creating planting spots.
- Any slash piles will be covered and burned.
- An herbicide site-prep spray may be used to prepare the patch cuts for planting.
- The patch cuts will be re-forested with western red cedar seedlings. Douglas-fir seedlings may also be planted depending on the size of the patch cuts and the available sunlight to the seedlings.

**V. ESTIMATED TIMBER AND REVENUE INFORMATION:**

**Table 4. Timber and Revenue**

| Ownership        |     | Sale Type                |          |
|------------------|-----|--------------------------|----------|
| BOF              | CSL | Cash                     | Recovery |
| 100%             | 0%  | <input type="checkbox"/> | x        |
| Planned Quarter: |     | 4                        |          |

|                         | Conifer   | Hardwood             | Total     |
|-------------------------|-----------|----------------------|-----------|
| Net Volume (MBF)        | 1,185     | 0                    | 1,185     |
| Stumpage Value (\$/MBF) | \$200     |                      |           |
| Estimated Gross Value   | \$237,000 |                      | \$237,000 |
|                         |           | Project Costs:       | \$12,260  |
|                         |           | Estimated Net Value: | \$224,740 |

**VI. TRANSPORTATION PLANNING AND HARVESTING:**

Access to the sale area will be via the County paved road, private Potato Hill road, Potato Hill 200 & 250 roads. The private roads will have road brushing as needed. Easements will be needed from Weyerhaeuser for use of parts of Potato Hill roads. Roads in the 7 mile management block will also be brushed with the sale. One new Purchaser Select spur may be constructed into the unit, totaling about 300 feet. This spur would access ridge top landings for minor ground yarding and potentially for helicopter yarding if needed for the unit.

This sale will be helicopter logged. Some minor ground yarding may be considered during sale preparation. Potential landing locations have been identified but not finalized. A possible helicopter landing exists on private land to the north of the planned operation but the cost of obtaining permission to use this site is unknown. There are also potential landing sites south of the planned operation on BLM and State Forest land but these are further away and would require more development to be usable.

- Construct 3+00 stations (.06 mi) of road, surface with pit-run rock
- Brush roads, PH 200 & 250, PH main line, 7 mile rd, 7 mile spurs - 6.8 mi total road brushing.
- Minor surfacing upgrades (200 cy crushed) to smooth out rough spots

**Table 5. Transportation Planning Summary (Miles).**

| Activity    | Mainline | Collector | Rocked Spur | Dirt Spur |
|-------------|----------|-----------|-------------|-----------|
| Construct   | 0        | 0         | 0.06        | 0         |
| Improve     | 0        | 0         | 0           | 0         |
| Maintain    | 0        | 0         | 6.8         | 0         |
| Close/Block | 0        | 0         | 0           | 0         |
| Vacate      | 0        | 0         | 0           | 0         |

\* For determination of road class either use results of the Harvest and Habitat roads classifications, or if this information is not available then low use roads are spurs, medium use roads are collectors and high use roads are mainlines. Use these same criteria when comparing the total for all AOP sales to the IP plans.

**VII. AQUATIC RESOURCES AND WATER QUALITY:**

Approximately 500 feet of the operation is adjacent to Mad Creek, a large fish bearing stream containing anadromous fish. There is also a small non-fish bearing stream within the operation which drains into Mad Creek. The overstory along these riparian areas consists mostly of Douglas-fir with some red alder and big leaf maple. The understory consists of ferns, Oregon grape, salmonberry and huckleberry.

Management activities within riparian areas of streams will focus on achieving properly functioning aquatic and riparian habitat conditions over time. Riparian Management Areas (RMAs) will be established immediately adjacent to streams for the purpose of protecting aquatic and riparian resources and maintaining the functions and ecological processes of the streams. The Management Standards for Aquatic and Riparian Areas found in the *NWO State Forests Management Plan* (pg. J-1 – J-16) will be followed within these RMAs.

The following measures will be used to minimize impacts to streams: 1. No ground based equipment will be allowed within 50 feet of the fish stream and 25 feet of the non-fish bearing stream, 2. There will be seasonal restrictions as to when ground yarding and road construction will be allowed (i.e. during dry seasons), 3. Erosion control measures will be used on areas of soils exposed during road construction or improvement, 4. In the cable portions of the operation, one end suspension of logs during yarding will be required, 5. Road ditches will be disconnected from streams, 6. Road maintenance will be required during log hauling.

### **VIII. T&E SPECIES CONSIDERATIONS:**

This operation was surveyed for Northern Spotted Owls with no response during the 2004, 2005 and 2006 survey seasons. The operation will be surveyed again during the 2007 survey season.

The operation area was checked against District knowledge for any listed plant location. The operation area was also checked against the Oregon Natural Heritage Program's database of known listed plant locations. No listed plant records were identified within the operation area.

### **IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:**

The initial assessment from the geotechnical specialist is high. There are steep to very steep slopes in the upper portion of the sale area. The geotechnical specialist will review the sale in the field. If the sale boundaries are changed prior to field review, the geotechnical specialist may be consulted and the need for field review may be reassessed.

### **X. RECREATION RESOURCES:**

There are no known developed recreational resources located within this operation. Hunting and horseback riding do occur in the area.

### **XI. CULTURAL RESOURCES:**

Pre-operation reconnaissance revealed no visible cultural resource features or artifacts. If discovery is made, the cultural resource will be protected and field staff will consult with the Cultural Resource Specialist in Salem.

### **XII. SCENIC RESOURCES:**

Approximately 80% of the operation is visible from Highway 22 with a visual classification of Moderate Sensitivity. (*NWO Forest Management Plan, Jan. 2001, pg. 4-107*) The patch cuts will be designed to take advantage of topographic breaks in slope, aspect, and elevation to minimize the impact to the scenic resources.

### **XIII. OTHER RESOURCE CONSIDERATIONS:**

There are several home owners that live at the base of the hill. These owners will be contacted to discuss the management of this stand. There is an ODF permanent plot located within the operation off of the MC 900 Road. The

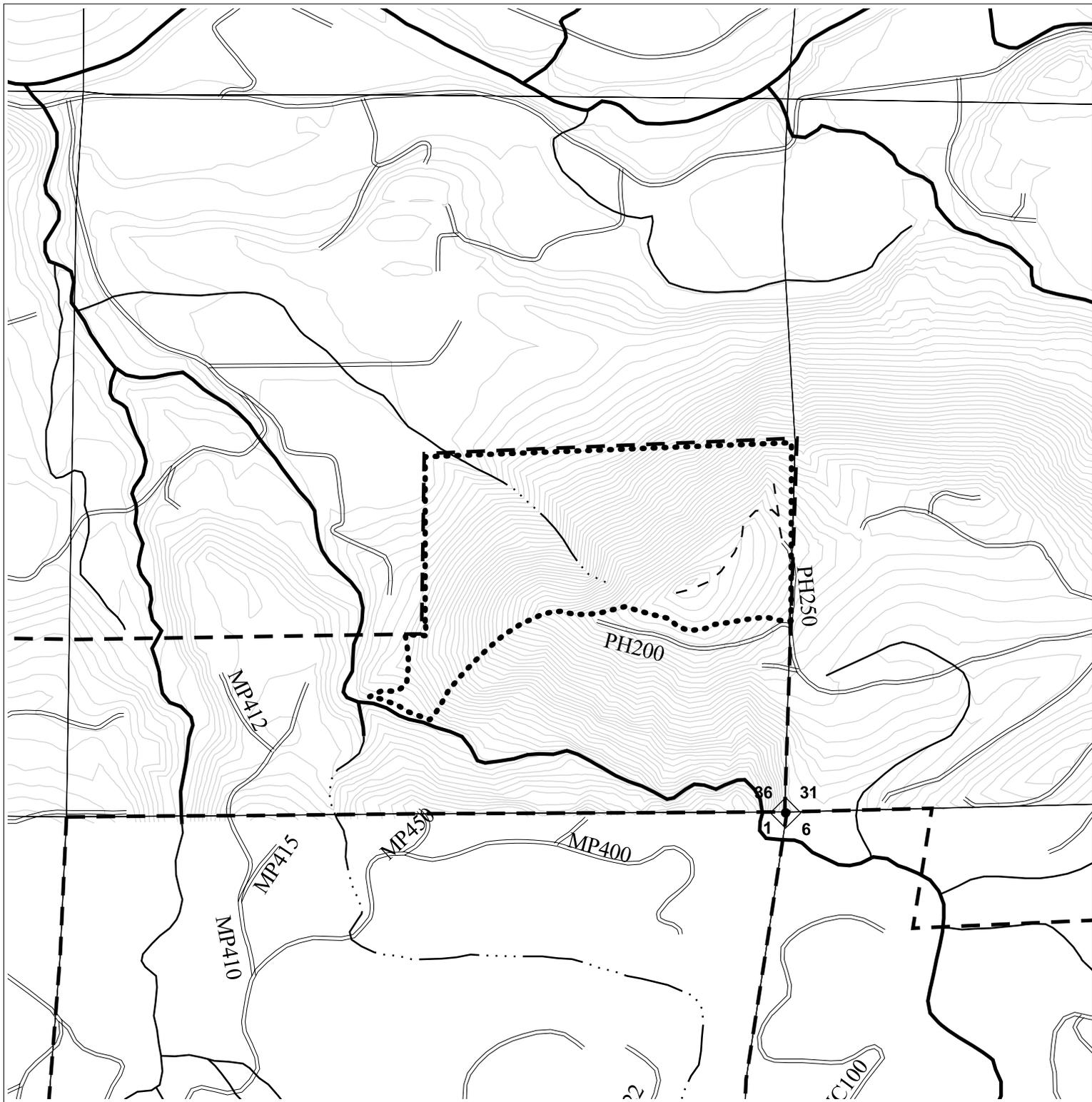
guidelines sent out by the Cruising & Inventory Forester on July 12, 1999 for managing operation impacts to permanent plot markings will be followed.

To protect air quality, the pile burning will comply with the Oregon Smoke Management Plan. The Smoke Management Plan is designed to reduce emissions from prescribed burning in western Oregon and to minimize smoke intrusions into designated population areas.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

The operation contains Special Stewardship, Aquatic and Riparian Habitat for a large Type F stream and Focused Stewardship, Aquatic and Riparian Habitat for a small Type N stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

The operation also contains Focused Stewardship, Visual. See Section XII, Scenic Resources for the management guidelines to be utilized.



POTATO HILL  
 --TOPOGRAPHY--  
 FY '08 SALE PLAN  
 NORTH CASCADE DISTRICT

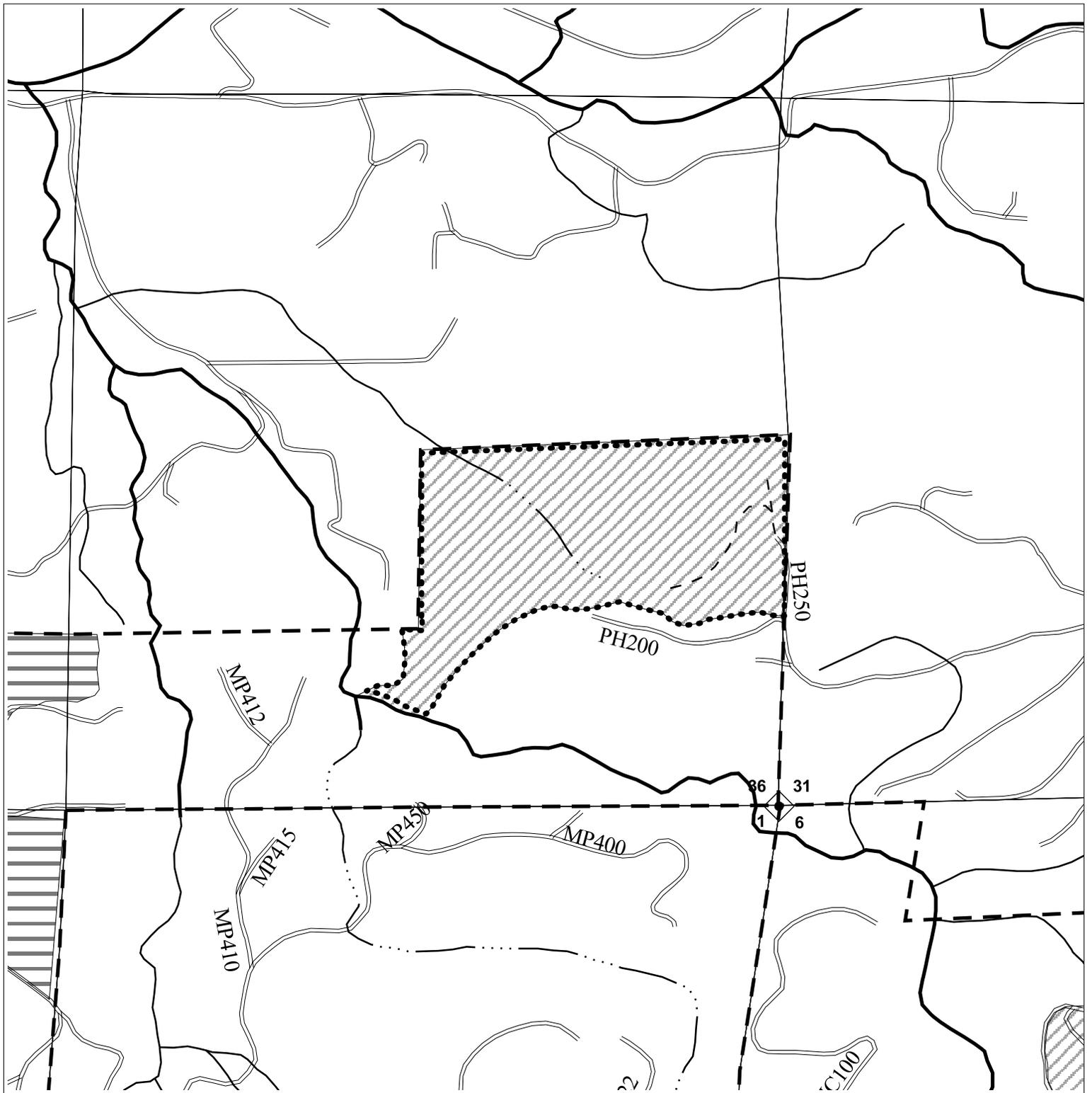
Approximate Net Acreage:  
 MC 30

Portions of Section 36  
 T9S, R3E W. M.  
 Marion County, OR

- New Road Construction
- State Forest Boundary
- Potato Hill
- Roads
- Streams
- FISH
- NONFISH
- UNKNOWN
- 20 foot contour lines



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**POTATO HILL  
 --DESIRED FUTURE CONDITION--  
 FY '08 SALE PLAN  
 NORTH CASCADE DISTRICT**

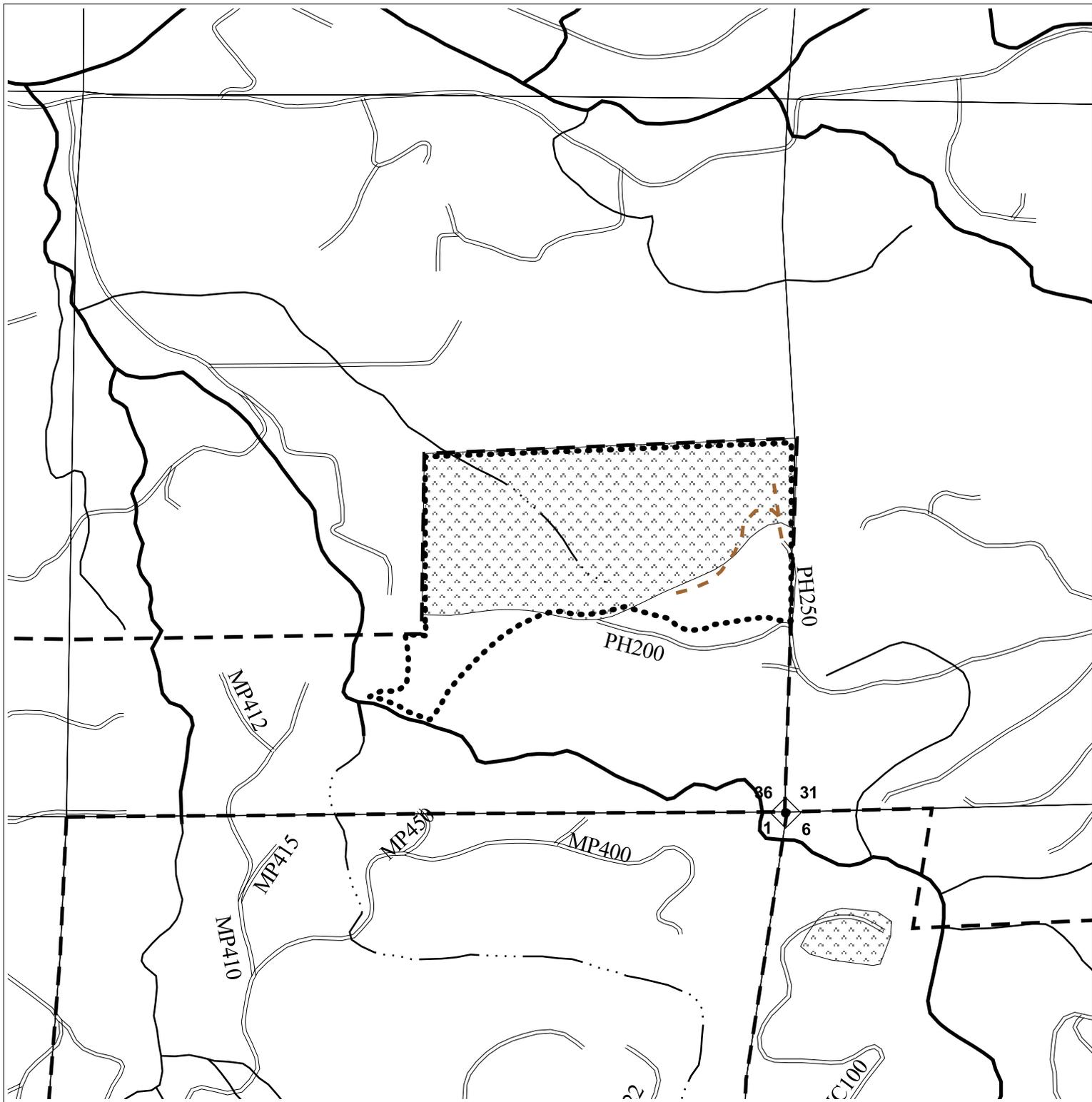
Approximate Net Acreage:  
 MC 30

Portions of Section 36  
 T9S, R3E W. M.  
 Marion County, OR

-  New Road Construction
-  State Forest Boundary
-  Potato Hill
-  Roads
-  Streams
-  FISH
-  NONFISH
-  UNKNOWN
-  Desired Future Condition
-  LYR
-  OFS



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**POTATO HILL**  
**--KEY RESOURCES--**  
**FY '08 SALE PLAN**  
**NORTH CASCADE DISTRICT**

Approximate Net Acreage:  
 MC 30

Portions of Section 36  
 T9S, R3E W. M.  
 Marion County, OR

-  New Road Construction
-  State Forest Boundary
-  Potato Hill
-  Roads
-  Streams
-  FISH
-  NONFISH
-  UNKNOWN
-  Focused Stewardship
-  Visual



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