

SITE CERTIFICATE APPLICATION
TO THE
STATE OF OREGON
ENERGY FACILITY SITING COUNCIL
FOR A
EUGENE TO MEDFORD 500 Kv TRANSMISSION LINE

SUBMITTED

BY

PACIFIC POWER & LIGHT COMPANY
PORTLAND, OR.

OCTOBER 30, 1981

345-80-090(1) *A description of the facility:*

Routing

The proposed route of the transmission line will extend from Pacific's Meridian Substation near Medford, Oregon northerly approximately 137 miles to Pacific's Spencer Switching Station (Spencer) south of Eugene, Oregon, following the general route as shown on the map attached as Exhibit A hereto; however, this route is subject to approval by the United States Bureau of Land Management (BLM) on lands under its jurisdiction. A 500 kV source at Spencer for Pacific's transmission line from Spencer to the Meridian Substation will be provided by the Bonneville Power Administration (BPA) as indicated in its letter dated October 27, 1981 to the BLM and attached hereto as Exhibit B. BPA in its letter has indicated a preference for their construction, operation, and maintenance of a 500 kV transmission line between Spencer and BPA's Lane Substation southwest of Eugene, Oregon.

Prior to reaching a federal decision on this transmission line project, both BLM and the BPA must comply with the National Environmental Policy Act. The BLM has been designated the "lead agency" and BPA as a "cooperating agency" for the preparation of an Environmental Impact Statement as required by Section 102(c) of the National Environmental Policy Act. The statement is now being prepared and it, as well as supporting documents, will include an evaluation of the alternatives as defined by OAR 345-80-052.

From Spencer to Ramsey Canyon, north of Medford, the proposed route is within an existing corridor with the exception of three locations where the line is shortened and straightened near Canyonville, Green Mountain - Hogum Creek, and Ramsey Canyon. Six transmission lines are within the corridor: Pacific's 230 kV Alvey-Dixonville and 230 kV Spencer Tap-Dixonville Transmission Lines, Pacific's 230 kV Dixonville-Lone Pine (Line 54) and 230 kV Dixonville-Grants Pass-Lone Pine (Line 72), Pacific's 115 kV Dixonville-Days Creek (Line 43) and Pacific's 115 kV Dixonville-Cottage Grove (Line 12) Transmission Lines.

Pacific proposes to replace with a 500 kv line the Alvey-Dixonville 230 kV transmission line between Spencer and Dixonville Substation, east of Roseburg, Oregon and to replace Line 54 between Dixonville and Ramsey Canyon, north of Medford.

Transmission Line

The proposed transmission line will be an overhead three phase AC line. Each phase will consist of a three conductor bundle, making a total of nine conductors. Lightning protection will be provided by two shield wires supported at the peaks of each tower.

The conductors will be suspended from the towers by "V" string insulator assemblies. Each "V" will consist of 50 insulators (25 on each side) and will weigh approximately 600 pounds. Conductors will be 1.316 inches in diameter and composed

of stranded aluminum with a single steel wire core and weighing 1.288 pounds per foot. The three conductors of each phase will be 18 inches apart and will be separated by spacers at intervals throughout each span. Spacing between phases will be 30.5 feet. Two shield wires of 3/8 inch EHS galvanized steel will be installed at the peaks of each tower.

The proposed towers will be free-standing metal structures. Different tower design types will be used according to structural requirements at particular tower sites. The height of a typical tangent tower will be 120 feet and 100 feet for angle and deadend towers. A typical tangent tower will weigh approximately 17,000 pounds. Tower base dimensions will vary with tower height. A typical tangent structure will measure 22 feet by 29 feet at the base.

Tower height, location and span length will be governed primarily by the terrain being traversed. The minimum clearance between the conductors and the ground surface will be 38 feet, and clearance will be increased to 45 feet for crossing major highways, 42 feet for cultivated lands, and 55 feet for railroads. The average span length will be approximately 1,200 feet, resulting in 4.3 structures per mile.

Tower structures will be erected on cast-in-place concrete cylinder footings.

The transmission line will be designed and constructed in compliance with the standards of the latest edition of the National Electrical Safety Code.

Related and Supporting Facilities

The project will include the addition of a 500 to 230 kV transformer bank and power circuit breakers at Pacific's Dixonville Substation. An additional power circuit breaker will be installed at Pacific's Meridian Substation.

Preliminary studies indicate existing common carrier or private microwave facilities will be employed for protection and control of the line. Other related and supporting facilities such as temporary storage and staging areas will be required for this project, but their locations have yet to be determined.

Right-of-Way

The transmission line will cross approximately 110 miles of privately owned land and 27 miles of United States lands under the jurisdiction of the BLM. With the exception of U.S. lands and a few parcels of privately owned lands, Pacific already has sufficient right-of-way for the construction of the transmission line between Spencer and the Dixonville Substation. This right-of-way was acquired prior to construction of Pacific's Alvey-Dixonville 230 kV line in 1972 since it was then recognized that a future 500 kV line would eventually be required and could replace an older 230 kV line.

South of Dixonville to Ramsey Canyon, a distance of approximately 54 miles, an additional 75 feet of right-of-way will be required for the construction and operation of the line,

for a total right-of-way width of 175 feet. Approximately 17 miles of the line will cross BLM-administered lands and the remainder will cross privately-owned lands.

From Ramsey Canyon to the Meridian Substation, a distance of about 27 miles, a new right-of-way of 175 feet in width is necessary. Approximately 19 miles of the line will cross privately-owned lands and 8 miles will cross BLM-administered lands. Pacific does not intend to acquire any right-of-way beyond that which it already has until a Site Certificate and the BLM grant of a right-of-way have been issued for this project.

Pacific's experience with other transmission line projects of this scope leads it to believe that the project may necessitate the condemnation of land or interests therein. Accordingly, Pacific will apply for a Certificate of Convenience and Necessity from the Oregon Public Utility Commission. In the event that condemnation becomes necessary, it is Pacific's intent to condemn only such easement rights as may be necessary for the construction, operation and maintenance of the transmission line and its appurtenances, including access roads.

Project Cost

The cost (in terms of 1982 price levels) of constructing the entire transmission line and its related and supporting facilities is estimated to be :

(a) Spencer-Dixonville Transmission Line	\$21,859,000
(b) Dixonville-Meridian Transmission Line	37,308,000
(c) Expansion of Dixonville Substation	10,272,000
(d) Expansion of Meridian Substation	<u>1,289,000</u>
Total	\$70,728,000

345-80-090(2) *One or more maps, containing the following information for the general area between the terminal points of the proposed line:*

- (a) *Topography, including contour lines, and lakes, streams and rivers;*

See Exhibit A, attached hereto.

- (b) *Natural Resource areas listed in OAR 345-80-060;*

See Exhibit C, attached hereto.

- (c) *Transmission lines, improved roads, railroads and pipelines;*

See Exhibit D, attached hereto. Due to the map scale used, not all improved road crossings could be shown. A list of additional improved roads crossed by the transmission line are in Exhibit E, attached hereto.

- (d) *Land ownership by class, federal, state, local government, and private;*

See Exhibit F, attached hereto.

(e) *Current and planned land uses, including but not limited to, forests, agriculture, range lands, population centers and airports;*

See Exhibit C, attached hereto.

(f) *Know(n) habitats of threatened and endangered species as defined in 50 CFR Part 17 as of the effective date of these rules.*

See Exhibit C, attached hereto.

345-80-090(3) *A description of the construction and operation of the facility to the extent practicable.*

Construction of the transmission line will follow a sequence of surveying, right-of-way clearing, road construction, tower foundation construction, tower assembly and erection, conductor and shield wire stringing, and site restoration. Before starting construction, aerial photographic mapping, on-the-ground surveys, and site specific design studies will be necessary.

Right-of-Way Clearing

Right-of-way clearing will be restricted to the minimum necessary for safe construction and operation of the transmission line. In timbered areas, only those trees would be removed that are necessary for construction or which are tall enough to endanger or interfere with the conductors. Additional trees would be removed for access road purposes. Clearing would be

accomplished by crews using chainsaw and skidders. Any merchantable timber removed would be stacked along the edge of the right-of-way prior to being transported to processing mills.

In non-forested areas, brush removal and grading as required, will be accomplished by crews using tractors and graders with the clearing limited to access roads, tower sites and pulling sites.

Access Road Construction

Construction of new roads, or upgrading of existing roads, to a 14-foot width will be required to each tower site. All roads will be constructed to Pacific's specifications based on BLM, state or private landowner agreements.

Foundation Construction

One foundation is required for each tower leg. In most places, each foundation would consist of a poured-in-place concrete pier footing averaging three feet in diameter and a depth of 14 feet. Holes would be excavated by augering.

Tower Assembly and Erection

Tower assembly follows foundation construction. Typically, tower components will be moved by truck to the tower site within the right-of-way. A mobile crane is often used to assist the assembly and erection crew.

Upon completion of tower assembly, erection commences. This operation generally employs the use of a rubber tire or track mounted crane with a capacity of 35 to 100 tons.

After each tower is erected or sometimes prior to erection, insulators will be attached in a "V" configuration.

Wire Stringing and Tensioning

Conductors are strung under tension. An average of three miles is strung and tensioned at one pull. Required equipment will include a tensioner at the beginning of the pull and pulling equipment on the other end. Pulling equipment requires a level graded pad approximately 100 x 150 feet. Except for a tensioner and tensioning, similar equipment and techniques are used for stringing shield wires.

Conductor and shield wire reels will be hauled by trucks to pulling sites. Stringing and tensioning will be accomplished by first pulling a light line through each tower between the tension and pulling equipment. This line will be used to pull a heavier pulling cable from the tensioner site to the pulling equipment. Each conductor will be attached to the pulling cable, pulled into position, tensioned and attached to the insulators.

Substation Construction

The proposed facility will require expansion of Pacific's Dixonville and Meridian Substations. Material would be hauled by truck to the site. Site preparation such as grading and graveling and equipment foundation would be put in, followed by installation of towers and support, placement of transformers and power circuit breakers as appropriate, and bus work and other control systems and electrical apparatus.

Site Restoration

All areas disturbed during the construction sequence will be rehabilitated. Topsoil will be reshaped, roads water barred as necessary and all areas reseeded. Rehabilitation measures will be implemented in accordance with the practices contained in Pacific's letter to BLM dated October 23, 1981 attached hereto as Exhibit H.

Construction Schedule

Pacific proposes to initiate and complete the Spencer-Dixonville portion of this project in 1985. Construction of the line is scheduled to commence in Spring, 1985 with completion by October, 1985. Expansion of the Dixonville Substation will be initiated by the winter of 1984-85 with completion scheduled for October, 1985.

Construction of the Dixonville-Meridian portion of this project will be initiated during the spring of 1987 with completion scheduled for October, 1988. Expansion of the Dixonville and Meridian Substations associated with the line to be completed will be initiated by the winter of 1987-88 with completion scheduled for October, 1988.

Work Force Requirements

The construction work force for this project will number approximately 200 with supervisory and inspection personnel numbering an additional 25. It is anticipated that under

normal labor supply conditions, 60 to 70 percent of the construction work force will be locally hired. Under tight labor supply conditions, this proportion could be much less. Due to the sequence of activities associated with transmission line construction, the construction work force will be distributed in small groups throughout the length of the portion of the project under construction.

345-80-090(4) Description of proposed techniques for monitoring impacts.

Monitoring Impacts

All those activities which may affect the environment such as construction practices, tower designs, access road locations, and contractor employee performance, will be included in contract specifications. Pacific will have a contract inspection team to ensure that these specifications are followed. The contractor also employs supervisors for this purpose. During construction, both Pacific and the contractor will designate landowner coordinators to ensure that all landowner concerns are addressed. On the public lands, the BLM will have an Authorized Officer to ensure that the terms of the BLM right-of-way grant are implemented.

Since the location of this project is in Western Oregon near large urban centers, and since a majority of the construction workforce will be local in origin, Pacific does not believe that significant socioeconomic impacts will occur. As a

consequence, Pacific proposes no monitoring of socioeconomic impacts at this time.

345-80-090(5) *A list of approvals required from governmental agencies.*

FEDERAL AGENCIES

1. Department of the Interior - Bureau of Land Management
2. Department of the Army - Corps of Engineers
3. Department of Energy - Bonneville Power Administration
4. Department of Transportation - Federal Aviation Administration
5. Department of the Interior - Bureau of Reclamation

STATE AGENCIES

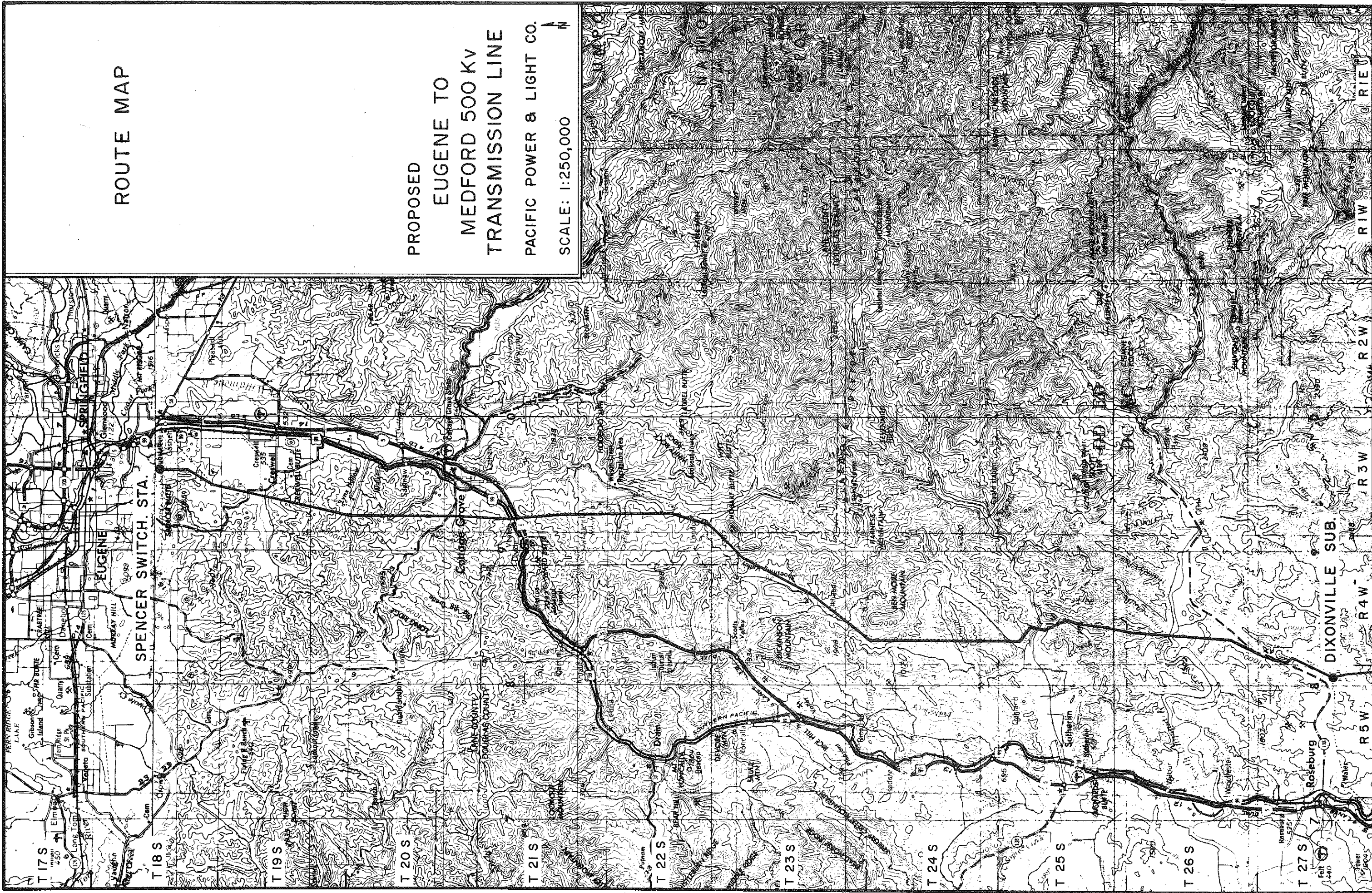
1. Oregon Public Utility Commissioner
2. Department of Transportation - Highway Division
3. Department of Transportation - Aeronautics Division
4. Oregon Division of State Lands
5. Oregon Department of Fish & Wildlife
6. Oregon Department of Forestry

LOCAL AGENCIES

1. Lane County Planning Commission
2. Lane County Road Department
3. Douglas County Planning Commission
4. Douglas County Road Department
5. Jackson County Planning Commission
6. Jackson County Road Department
7. City of Medford

ROUTE MAP

PROPOSED
 EUGENE TO
 MEDFORD 500 KV
 TRANSMISSION LINE
 PACIFIC POWER & LIGHT CO.
 SCALE: 1:250,000



ROUTE MAP

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 SCALE: 1:250,000

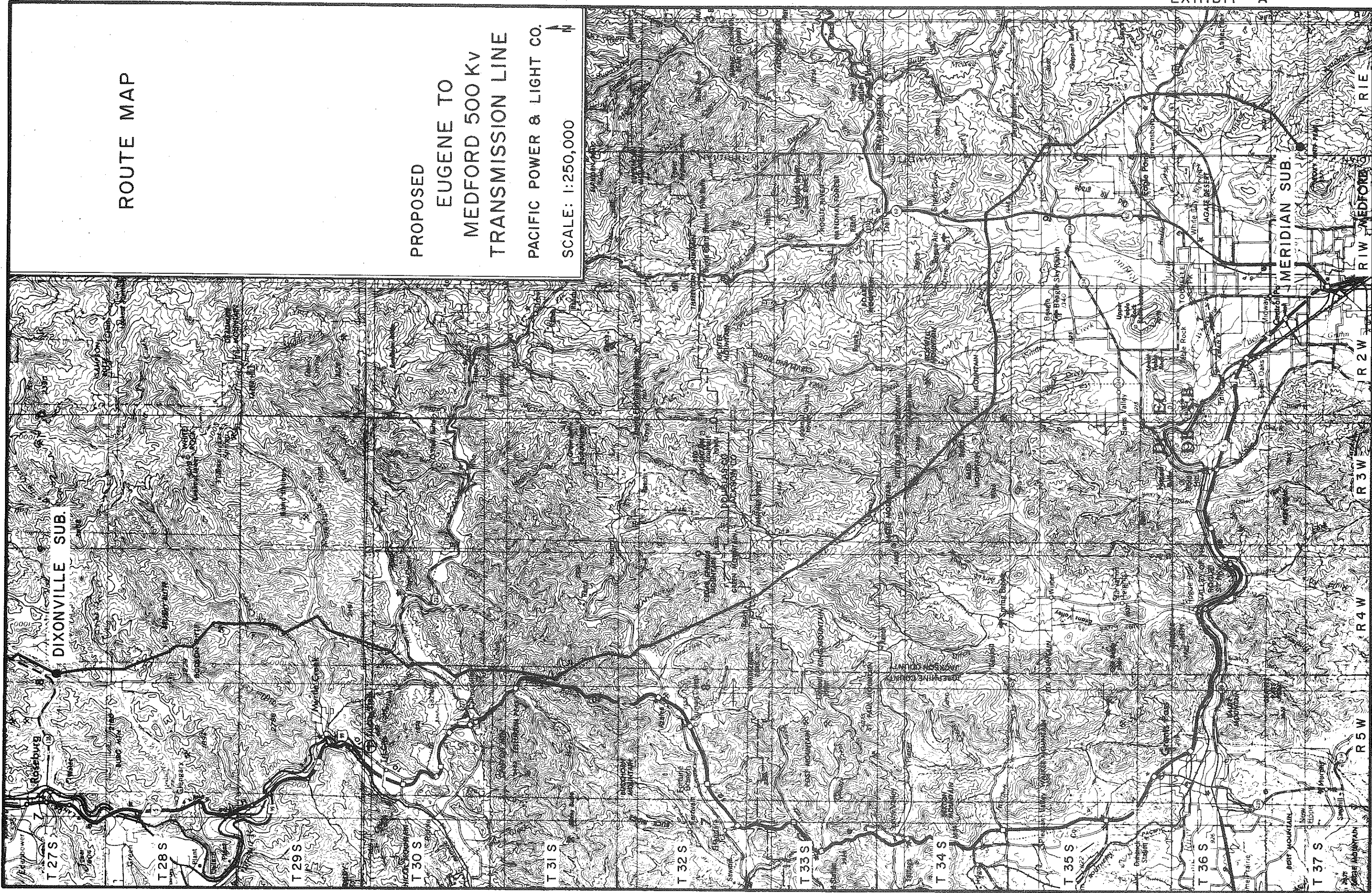




EXHIBIT B

Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

In reply refer to: EO

OCT 27 1981

Mr. Phillip C. Hamilton, Chief
Bureau of Land Management
Division of Planning and Environmental Coordination
Oregon State Office
P.O. Box 2965
Portland, Oregon 97208

Dear Mr. Hamilton:

The Bonneville Power Administration (BPA) has reviewed the long-range requirements for main grid transmission into southern Oregon from the Eugene area as it relates to Pacific Power and Light's (PP&L) proposed Eugene-Medford 500-kV transmission project. Our concern is that the long range needs of the region are adequately considered in the initial development of the project. We reviewed the timing for additional 500-kV transmission south of Eugene and the impact this might have on the use of single or double-circuit construction with the initial project. In order to maximize the use of existing rights-of-way, double-circuit construction should be considered when justified based on future need. In addition, there is a cost incentive since the investment cost of double-circuit is 85 to 90% of that of two single-circuit 500-kV lines. The timing of the second circuit, however, must be considered in the economic analysis.

We expect additional Intertie development with the Pacific Southwest will occur during the 1990's. This could impact transmission in the Willamette Valley and may require a second 500-kV line south of Eugene. The timing of this development and its impact is uncertain however at this time.

Should a second 500-kV line be required, additional 230-kV right-of-way is available. Because of the uncertainty in timing, and the fact that additional rights-of-way are available, we do not feel it is economically prudent to propose double-circuit construction as the preferred plan for the Eugene-Medford 500-kV line. However, since we feel that a second line is probable in the future, double-circuit construction should be considered in restricted or sensitive areas, where single-circuit construction initially would close off future options to add a second circuit.

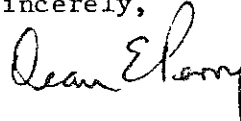
In regards to the termination of this line in the Eugene area, we prefer that the line terminate at Lane Substation. We have indicated to PP&L that BPA would construct the transmission line between Spencer and Lane on/or parallel to BPA's existing Alvey-Lane 230-kV right-of-way. We are in the process of determining the type and location of construction on this right-of-way. The

EXHIBIT B

2

twelve-mile right-of-way between Spencer and Lane can be divided into two sections. The first 4.5 mile section from Spencer to Lane will require removal of two existing 115-kV lines and the addition of a 500-kV double-circuit line on the existing right-of-way. The 115-kV lines will be rebuilt to single-pole double-circuit 115-kV design on the edge of the right-of-way, or placed on one side of the 500-kV double-circuit line. The second 7.5 mile section will require new right-of-way paralleling the existing 230-kV line on which a double-circuit 500-kV line would be constructed. Another alternative for this section is to rebuild the existing 230-kV line to double-circuit 500-kV construction. Detailed construction alternates for the Spencer-Lane section, and the preferred option will be provided to you upon completion of our technical and economic analysis.

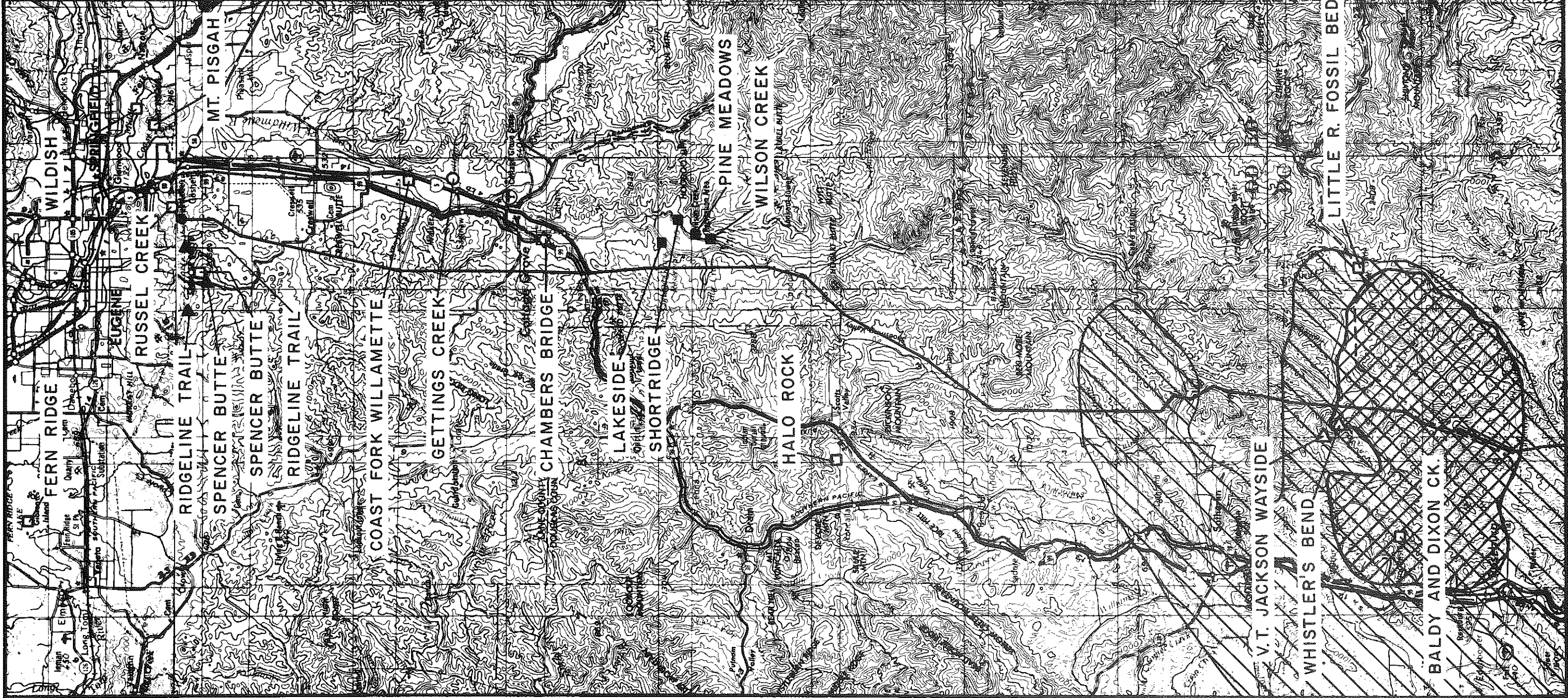
Sincerely,



Dean E. Perry, Director
Division of System Engineering

cc:

Mr. Don Martin
Pacific Power & Light Company
920 S. W. Sixth Avenue
Portland, Oregon 97204



**RECREATION SITES
& ENDANGERED SPECIES
HABITATS**

- ▲ — CITY PARKS
- △ — COUNTY PARKS
- — STATE PARKS
- ☆ — SCENIC FEATURES
- — U.S. ARMY CORPS
RECREATION SITES
- — OREGON NATURAL
HERITAGE SITES
- ▨ — COLUMBIAN WHITE-
TAILED DEER
GENERAL DISTRIBUTION
- ▩ — COLUMBIAN WHITE-
TAILED DEER
CONCENTRATION AREA

**PROPOSED
EUGENE TO
MEDFORD 500 KV
TRANSMISSION LINE**



PACIFIC POWER & LIGHT CO.

SCALE: 1:250,000



RECREATION SITES & ENDANGERED SPECIES HABITATS


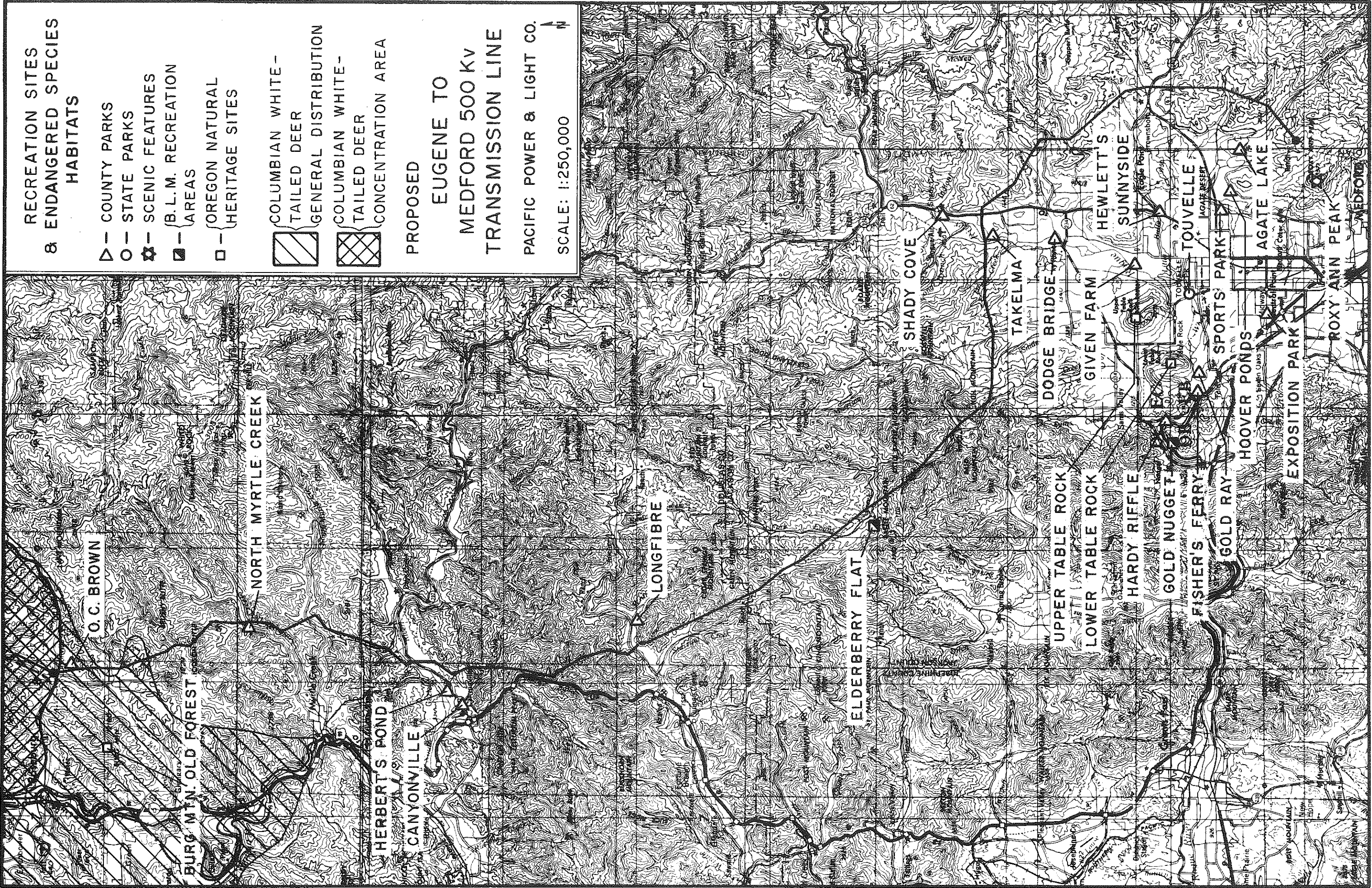
- △ — COUNTY PARKS
- — STATE PARKS
- ★ — SCENIC FEATURES
- — B.L.M. RECREATION AREAS
- — OREGON NATURAL HERITAGE SITES

 COLUMBIAN WHITE-TAILED DEER GENERAL DISTRIBUTION
 COLUMBIAN WHITE-TAILED DEER CONCENTRATION AREA

**PROPOSED
EUGENE TO
MEDFORD 500 KV
TRANSMISSION LINE**

PACIFIC POWER & LIGHT CO.

SCALE: 1:250,000

TRANSMISSION LINE
ROUTE MAP

- 500 Kv LINE
- 230 Kv LINE
- 115 Kv LINE
- PROPOSED
500 Kv LINE

PROPOSED
EUGENE TO
MEDFORD 500 Kv
TRANSMISSION LINE
PACIFIC POWER & LIGHT CO.

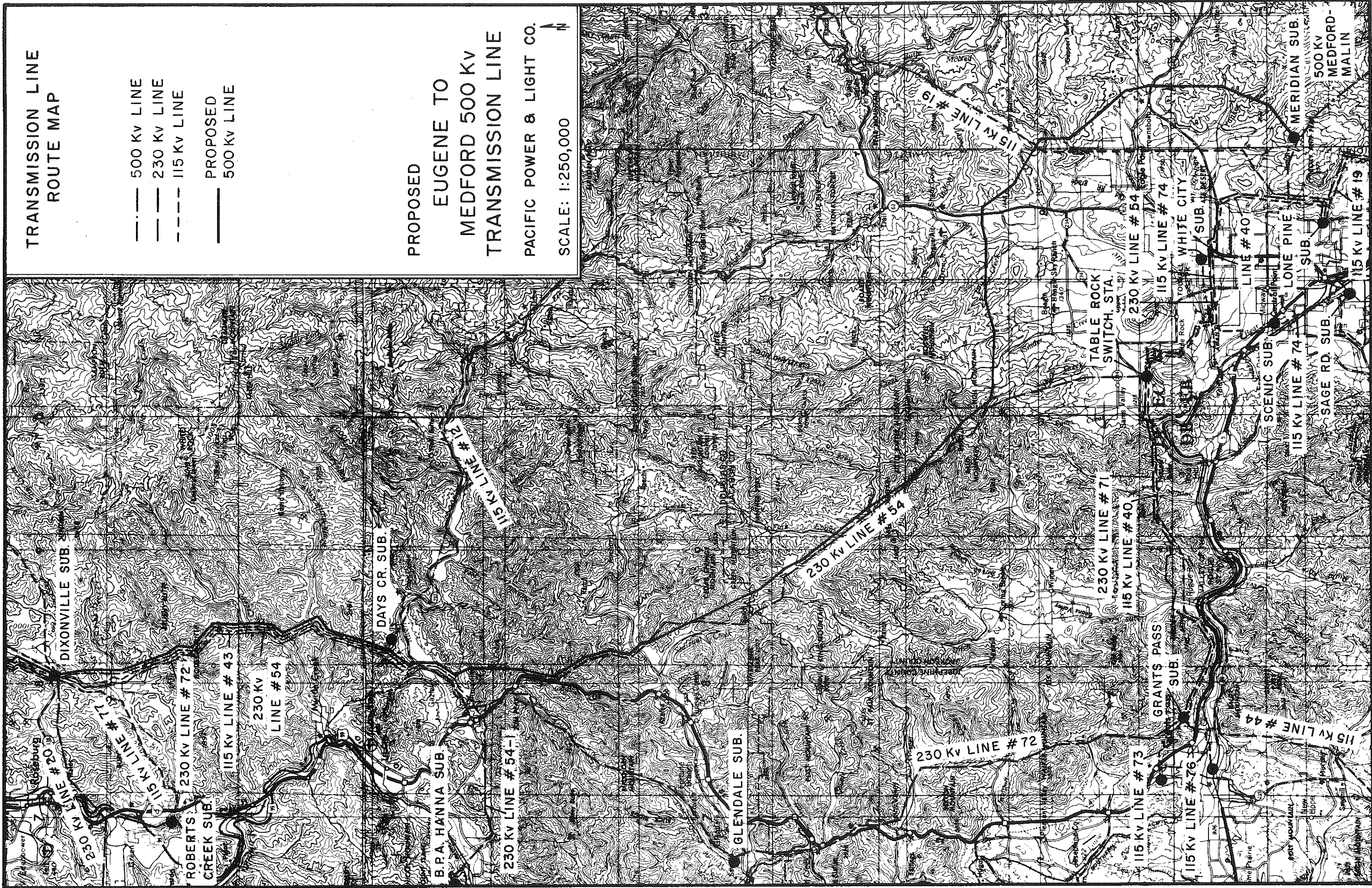
SCALE: 1:250,000



TRANSMISSION LINE
ROUTE MAP

- 500 Kv LINE
- 230 Kv LINE
- - - 115 Kv LINE
- PROPOSED
- 500 Kv LINE

PROPOSED
 EUGENE TO
 MEDFORD 500 Kv
 TRANSMISSION LINE
 PACIFIC POWER & LIGHT CO.
 SCALE: 1:250,000



DIXONVILLE SUB.

ROBERTS CREEK SUB. 230 Kv LINE # 72

115 Kv LINE # 43

230 Kv LINE # 54

DAYS CR. SUB.

B.P.A. HANNA SUB.

230 Kv LINE # 54-1

GLENDALE SUB.

230 Kv LINE # 72

115 Kv LINE # 73

GRANTS PASS SUB.

115 Kv LINE # 76

115 Kv LINE # 12

230 Kv LINE # 54

230 Kv LINE # 71

115 Kv LINE # 40

TABLE ROCK SWITCH. STA.

230 Kv LINE # 54

115 Kv LINE # 74

WHITE CITY SUB.

115 Kv LINE # 40

SCENIC SUB.

115 Kv LINE # 74

SAGE RD. SUB.

115 Kv LINE # 19

LONE PINE SUB.

115 Kv LINE # 19

MERIDIAN SUB.

500 Kv MEDFORD-MALIN

EXHIBIT "E"

A listing, by County, Township, Range, Section and Quarter Section, of improved roads, railroads and pipelines that are to be crossed by the proposed power line.

The listing begins at the Spencer Switching Station, located south of Eugene and continues south, to its terminus at the Meridian Substation, east of Medford.

LANE COUNTY

<u>TOWNSHIP</u>	<u>RANGE</u>	<u>SECTION</u>	<u>1/4 SECTION</u>	<u>CROSSING</u>
18 S	3 W	28	SE	Gas Line (Northwest Pipeline Company)
19 S	3 W	8	SE	County Road (Camas Swale Rd.)
19 S	3 W	20	NW	County Road (DeBerry Rd.)
19 S	3 W	31	SE	County Road (Beach Rd.)
20 S	3 W	7	NE	Gas Line (Northwest Pipeline Company)
20 S	3 W	18	NE	County Road (Bennett Creek Rd.)
20 S	3 W	30	NE	County Road (No Name)
20 S	3 W	30	SE	County Road (Veatch Rd.)
20 S	3 W	30	SE	County Road (No Name)
21 S	3 W	7	NE	County Road (No Name)
21 S	3 W	7	NE	State Hwy. No. 226 (Goshen-Divide Hwy.)
21 S	3 W	7	NE	Southern Pacific Railroad
21 S	3 W	7	NE	State Hwy. No. 1 (I-5)
21 S	3 W	7	SE	County Road (No Name)
21 S	3 W	19	NE	County Road (Whites Creek Rd.)
21 S	3 W	30	NE	County Road (Williams Creek Rd.)

LANE COUNTY, OREGON

<u>TOWNSHIP</u>	<u>RANGE</u>	<u>SECTION</u>	<u>1/4 SECTION</u>	<u>CROSSING</u>
22 S	3 W	6	SE	County Road (Cedar Creek Rd.)
22 S	3 W	7	SE	County Road (Raisor Creek Rd.)
22 S	3 W	18	SE	County Road (No Name)
22 S	3 W	18	SE	County Road (No Name)
22 S	3 W	19	SE	County Road (Ewing Creek Rd.)
22 S	3 W	19	SE	County Road (Joe Geer Rd.)
22 S	3 W	30	SE	County Road (Shoestring Rd.)

DOUGLAS COUNTY, OREGON

<u>TOWNSHIP</u>	<u>RANGE</u>	<u>SECTION</u>	<u>1/4 SECTION</u>	<u>CROSSING</u>
23 S	4 W	2	SW	County Road (Fire Clay Rd.)
23 S	4 W	15	NE	County Road (Buck Creek Rd.)
23 S	4 W	15	NE	County Road (No Name)
23 S	4 W	15	SW	County Road (No Name)
23 S	4 W	21	SE	County Road (Lane Creek Rd.)
23 S	4 W	21	SE	County Road (Romie Howard Rd.)
23 S	4 W	29	SE	County Road (Medley-Elkhead Rd.)
23 S	4 W	32	NE	County Road (Medley-Elkhead Rd.)
24 S	4 W	5	NW	County Road (Bachelor Rd.)
24 S	4 W	29	NW	County Road (Driver Valley Rd.)
25 S	4 W	5	SW	County Road (Driver Valley Rd.)
25 S	4 W	8	SE	County Road (Sutherlin-Nonpareil Rd.)
25 S	4 W	20	NE&SE	County Road (Foster Creek Rd.)
25 S	4 W	20	SE	County Road (Camas Creek Rd.)
26 S	4 W	8	SW	County Road (North Bank Rd.)
26 S	4 W	17	NW	County Road (Whistlers Bend Rd.)
27 S	4 W	7	NW	County Road (North Umpqua Hwy.)
27 S	4 W	24	NE	County Road (Little River Rd.)
27 S	4 W	36	SE	County Road (South Deer Creek Rd.)
28 S	4 W	1	NE	County Road (No Name)
28 S	3 W	7	SW	County Road (Melton Rd.)
28 S	3 W	18	NW&SW&SE	County Road (East Fork Rd.)
28 S	3 W	29	SE	County Road (No Name)
29 S	3 W	5	NE	County Road (North Myrtle Creek Rd.)

DOUGLAS COUNTY, OREGON

<u>TOWNSHIP</u>	<u>RANGE</u>	<u>SECTION</u>	<u>1/4 SECTION</u>	<u>CROSSING</u>
29 S	3 W	17	SE	County Road (School Hollow Rd.)
29 S	3 W	21	NW	County Road (South Myrtle Creek Rd.)
29 S	3 W	32	SW	County Road (Days Creek Cutoff Rd.)
30 S	3 W	6	NE	County Road (No Name)
30 S	3 W	7	NW	County Road (Packard Glen Rd.)
30 S	3 W	18	NW	State Hwy. No. 230 (Tiller-Trail Hwy.)
30 S	4 W	36	NE	County Road (O'Shea Creek Rd.)
31 S	4 W	1	SE	County Road (No Name)
31 S	4 W	13	NE	County Road (Mexia Rd.)
31 S	4 W	24	NE	County Road (Packard Creek Rd.)
31 S	4 W	24	SE	County Road (No Name)
32 S	3 W	6	SE	County Road (Upper Cow Creek Rd.)
32 S	3 W	6	SE	County Road (Yeust Rd.)
32 S	3 W	28	NW	County Road (No Name)

JACKSON COUNTY, OREGON

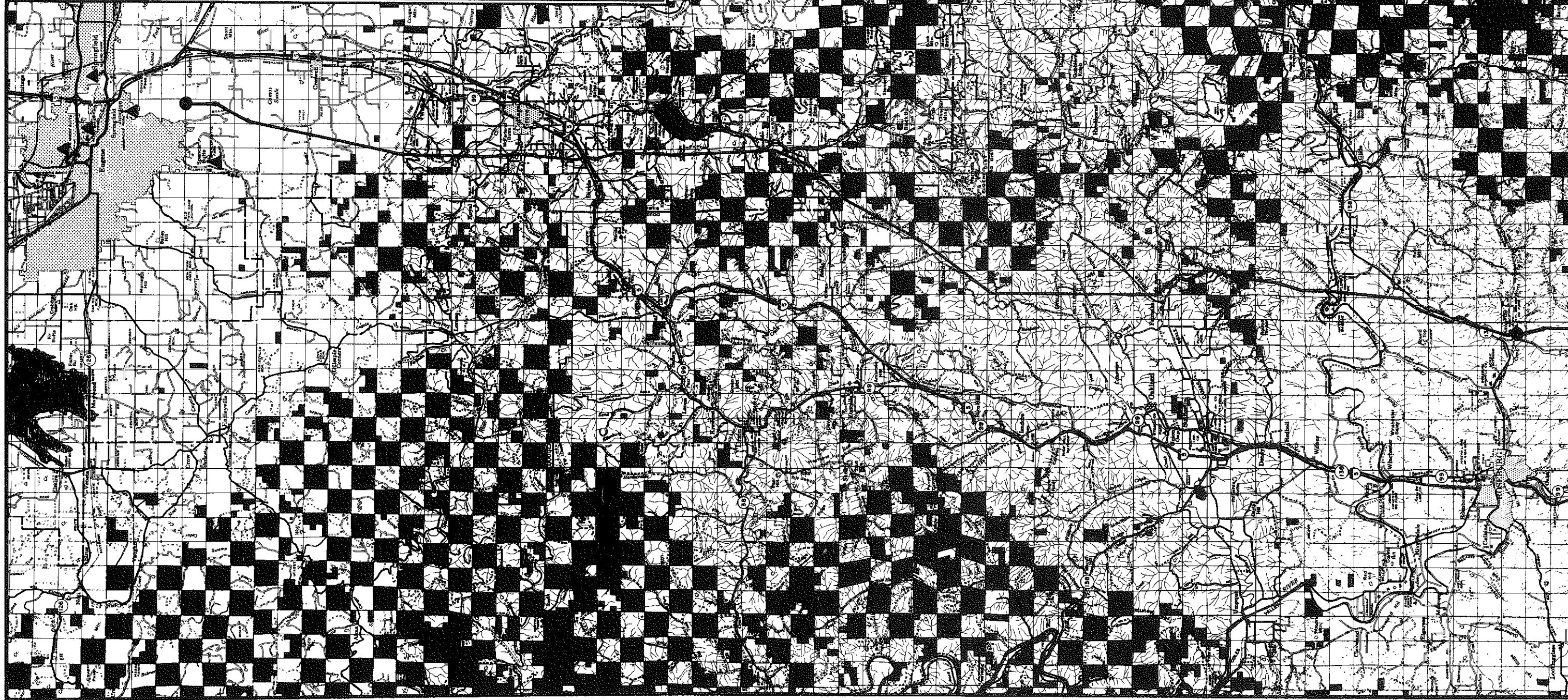
<u>TOWNSHIP</u>	<u>RANGE</u>	<u>SECTION</u>	<u>1/4 SECTION</u>	<u>CROSSING</u>
34 S	3 W	24	SW	County Road (Evans Creek Rd.)
34 S	2 W	30	SW	County Road (Ramsey Canyon Rd.)
34 S	2 W	31	NW	County Road (Ramsey Canyon Rd.)
34 S	2 W	32	SW	County Road (No Name)
34 S	2 W	33	SW	County Road (No Name)
34 S	2 W	34	SW	County Road (No Name)
34 S	1 W	32	NW	County Road (No Name)
34 S	1 W	29	SE	County Road (No Name)
34 S	1 W	27	SW	State Hwy. No. 20 (Crater Lake Hwy.)
35 S	1 E	7	SW	County Road (Reese Creek Rd.)
36 S	1 E	3	NW	County Road (No Name)
36 S	1 E	3	SW	State Hwy. No. 270 (Lake of the Woods Hwy.)
37 S	1 E	5	NW	County Road (Antelope Rd.)
37 S	1 E	6	SE	County Road (No Name)

LAND OWNERSHIP
MAP

FEDERALLY
ADMINISTERED LANDS

PRIVATE LANDS

PROPOSED
EUGENE TO
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PACIFIC POWER & LIGHT CO.
SCALE: 1:250,000



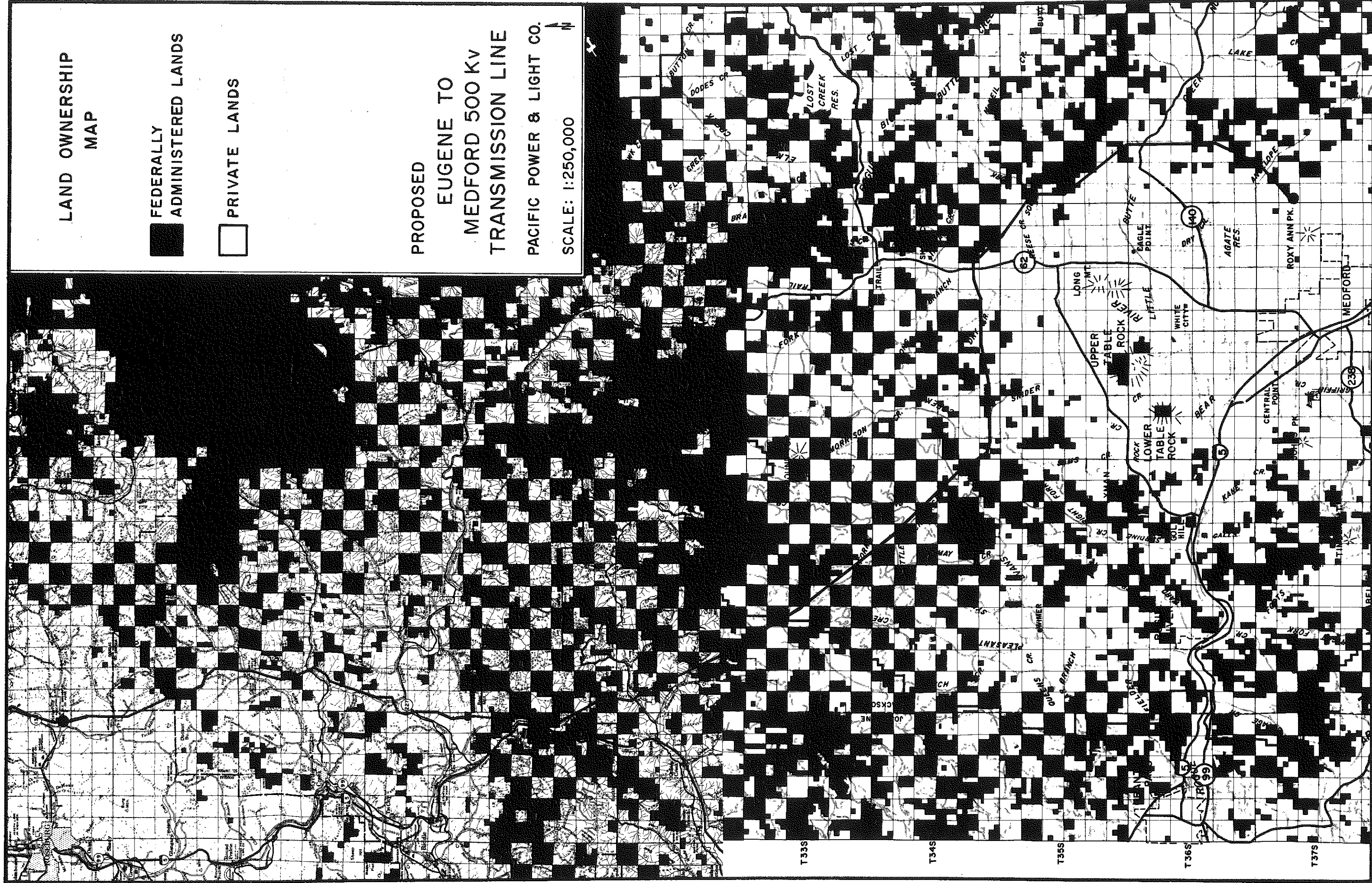
LAND OWNERSHIP
MAP

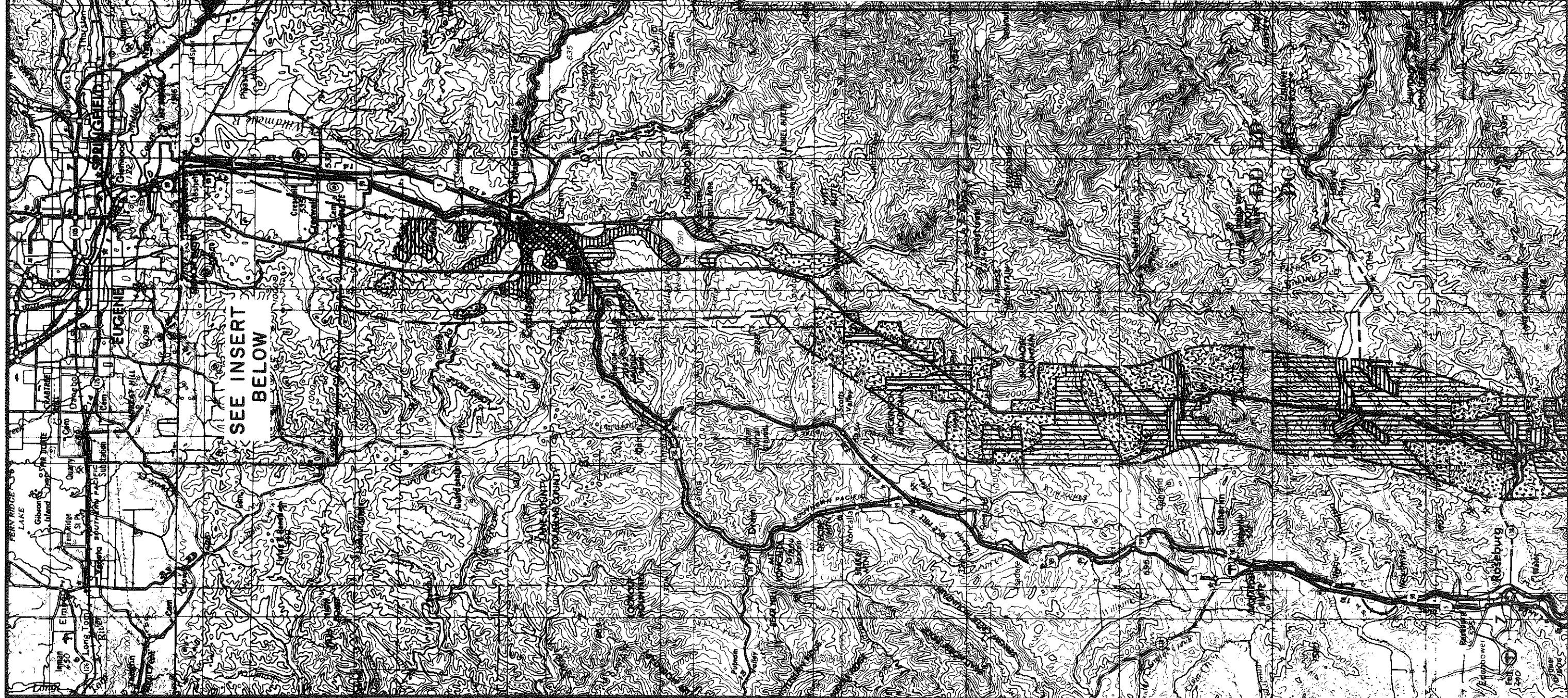
FEDERALLY
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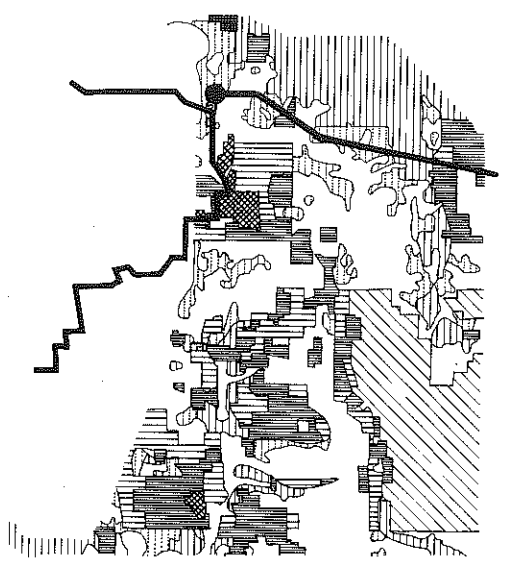


GENERAL LAND USE

- INDUSTRIAL
- AGRICULTURE
- URBAN
- DEVELOPED RURAL
- PARKS
- AGRICULTURE / FORESTRY
- FORESTRY

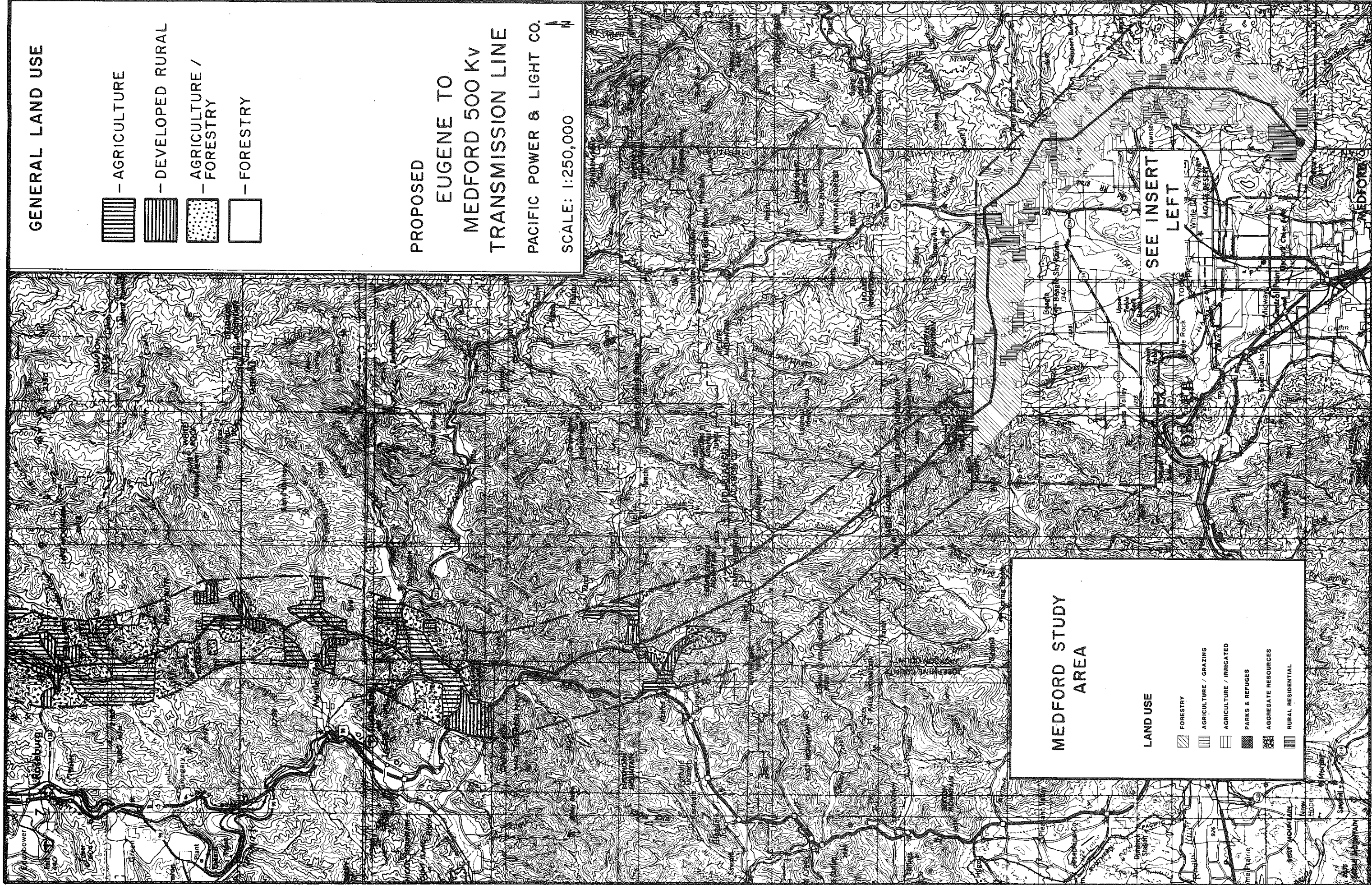
PROPOSED
 EUGENE TO
 MEDFORD 500 KV
 TRANSMISSION LINE
 PACIFIC POWER & LIGHT CO.
 SCALE: 1:250,000

DETAIL
EUGENE STUDY AREA







LAND USE

- INDUSTRIAL
- PARKS, PRESERVES & REFUGES
- RURAL RESIDENTIAL DENSITY
- MODERATE DENSITY
- LOW DENSITY
- FOREST COMMERCIAL
- OTHER
- AGRICULTURE
- GRAZING/RANGELAND
- URBAN GROWTH BOUNDARY (PROPOSED)









GENERAL LAND USE

-  - AGRICULTURE
-  - DEVELOPED RURAL
-  - AGRICULTURE / FORESTRY
-  - FORESTRY

PROPOSED
 EUGENE TO
 MEDFORD 500 KV
 TRANSMISSION LINE
 PACIFIC POWER & LIGHT CO.
 SCALE: 1:250,000

MEDFORD STUDY AREA

- LAND USE
-  FORESTRY
 -  AGRICULTURE / GRAZING
 -  AGRICULTURE / IRRIGATED
 -  PARKS & REFUGES
 -  AGGREGATE RESOURCES
 -  RURAL RESIDENTIAL

SEE INSERT LEFT

EXHIBIT H

October 23, 1981

Mr. Philip C. Hamilton
Chief, Division of Planning and
Environmental Coordination
Bureau of Land Management
Oregon State Office
Post Office Box 2965
Portland, Oregon 97208

Dear Mr. Hamilton,

To enable your agency to evaluate the environmental impact of construction, operation and maintenance of the Eugene-Medford 500 KV Transmission Line, attached please find a listing of our construction, operation and maintenance practices. It is our expectation that in providing this list, unnecessary lengthy discussions in the EIS of environmental effects in the absence of mitigation and the effects of mitigation can be avoided.

Pacific will implement these practices on public lands. Similar arrangements are negotiated with the private landowner during right-of-way acquisition.

The listed practices are intended to: reduce soil erosion (1, 2, 3, 4, 5, 8, 14, 16, 19, 20, 21, 24); protect water quality (1, 2, 3, 4, 5, 10, 14, 16, 19, 20, 25, 27); reduce impacts on vegetation (1, 2, 3, 4, 5, 10, 11, 19, 24); reduce impacts on fish and wildlife and their habitat (1, 2, 3, 4, 5, 10, 11, 12, 14, 15, 19, 20, 24, 25, 30); protect archeological and historic resources (2, 3, 13, 19); protect public health and safety (1, 2, 3, 6, 7, 9, 10, 12, 16, 18, 20, 21, 23, 27, 28, 29, 30, 31, 32); and to reduce conflicts with current and planned land uses (1, 2, 4, 6, 7, 8, 12, 16, 17, 19, 21, 22, 23, 24, 25, 26, 33).

If we may be of additional assistance in this matter, please advise.

Very truly yours,

Paul D. Higgins
Pacific Power & Light Company
Project Manager

PDH

PDH:sg

Attachments

cc: Messrs. Bill Kitto w/attachments
Bob Beraud
Peter Paquet

EXHIBIT H

CONSTRUCTION, OPERATION, AND MAINTENANCE PRACTICES

1. Any property or resource harmed or damaged by Pacific in connection with the Line will be reconstructed, repaired, and rehabilitated by Pacific.
2. Pacific will locate, design, and construct the Line and related facilities, including access roads, consistent with the criteria jointly established by the Secretary of the Interior and the Secretary of Agriculture and set forth in the publication entitled, "Environmental Criteria for Electric Transmission Systems".
3. Pacific will require its contractors and their employees to be aware of and abide by Rules of Conduct as stated in 43 CFR 6010.2 (1977) when operating on Federal lands. This chapter will be available to all personnel and, consistent with the purposes of the permit, the rules will be strictly followed.
4. Pacific will conduct all construction and maintenance activities in a manner that will minimize disturbance to vegetation, drainage channels, and streambanks. Pacific will utilize soil and resource conservation and protection measures on the land covered by the right-of-way as the BLM determines are reasonably necessary.
5. Pacific will furnish to BLM for approval a clearing and rehabilitation plan which will include clearing methods, site preparation, plant species to be seeded, rate of seeding, and time of seeding of temporary roads, other disturbed areas and waste disposal areas prior to construction.
6. Within ninety (90) days after conclusion of construction operations, all construction wastes including trash, garbage, petroleum products, and related litter, and vegetative debris accumulated through land clearing, will be disposed at an authorized waste disposal area in accordance with an approved rehabilitation plan.
7. Upon completion of construction of the Line, Pacific and the BLM will review Pacific's plan for maintenance of the Line. Either party may request that the maintenance plan be updated to meet changing conditions. Amendments and revisions of the maintenance plan will be subject to the approval of the BLM.
8. Public land areas used for temporary access roads, equipment storage, and other construction activities will be restored by Pacific in accordance with an approved rehabilitation plan.

Whenever revegetation is required under the rehabilitation plan, Pacific will file a report with the BLM when such planting is completed. The report will contain information regarding the location of

the area; the type of planting or seeding, including mixtures and amounts; the date of planting; and other relevant information as may be required by the BLM.

9. Pacific will construct the Line so that it will conform with all applicable Federal Regulations regarding aircraft safety.
10. Pacific will comply with the applicable federal and state laws and regulations concerning the use of pesticides (i.e., insecticides, herbicides, fungicides, rodenticides, and other similar substances) in all activities/operations under this grant. Pacific will provide BLM a written plan prior to the use of such substances. The plan will provide the type and quantity of material to be used; the pest, insect, fungus, etc., to be controlled; the method of application; and other information that the BLM may require. The plan will be submitted no later than December 1 of any calendar year that covers the proposed activities for the next fiscal year. The use of substances on or near the right-of-way will be in accordance with a BLM approved plan. A pesticide will be used only in accordance with its registered uses and within other limitations imposed by BLM.
11. Pacific will comply with applicable federal and state laws and regulations regarding protected plant and animal species and will conduct construction activities in a manner to avoid or minimize their disturbance.
12. Pacific will cover or temporarily fence the holes excavated for tower footings at the end of each working day for public safety and the protection of wildlife and livestock.
13. Pacific will locate the proposed transmission line facilities when feasible to avoid destruction of archaeological, paleontological or historic values. In the event archaeological, paleontological, or historical evidence is found during ground disturbing activities such as construction of temporary access roads, tower footings, pulling pads, substations, and material sites, Pacific will immediately cease construction activity in that area and notify the BLM. Pacific will not resume construction until authorized by BLM.
14. Pacific will not conduct construction activities within 200 feet of any identified springs unless approved in writing by the BLM.
15. No artificial structure or stream channel change that may cause a permanent blockage to movement of fish will be erected or constructed. Pacific will take all reasonable precautions to protect fish as determined by the BLM.

Unless otherwise approved in writing by the BLM, dikes or cofferdams, if required, will be installed to separate concrete work areas from lakes or streams during construction. Mobile ground equipment will be kept out of the waters of lakes, streams or rivers except as permitted by the BLM.

16. Pacific will conduct all construction, operation and maintenance activities in a manner that will avoid or minimize degradation of air, land, and water quality. Toxic material will not be released in any lake or water drainage. All construction work and subsequent use of the right-of-way will be consistent with applicable federal, state and local laws and regulations relating to safety, water quality and public health.
17. If Pacific requires materials for construction purposes from the public lands, application will be made under applicable regulations for such materials. Material will not be removed by Pacific without the written approval of the BLM.
18. When necessary during construction, Pacific will provide warnings, flag men, barricades and other safety measures to protect from hazards associated with the project.
19. All construction and vehicular traffic will be confined to the right-of-way or designated access routes, roads or trails unless otherwise authorized by the BLM in writing. All temporary work roads to be used for construction will be rehabilitated after construction of the Line in accordance with the approved rehabilitation plan. All permanent access roads on public lands will be restored to conditions acceptable to BLM. Any drainage deficiencies will be corrected to reduce future soil erosion.
20. Culverts or bridges will be designed to carry a reasonable peak flow if required for temporary roads crossing water courses, unless waived by the BLM. Stream channels will be restored as close as possible to the original condition if culverts and bridges are removed after construction.
21. Pacific will work closely with representatives of all governing agencies in solving access road problems.
22. Pacific will minimize disturbance to existing fences and other improvements on public lands. Pacific will promptly restore any damaged improvements to at least their former state. Functional use of these improvements will be maintained at all times. When necessary to pass through a fence line, the fence will be braced on both sides of the passageway prior to cutting of the fence. Stress panels or rock jacks will be constructed and installed according to BLM standards. Gates will be installed during construction and will be closed at all times when not in use. When a road or construction activity breaks or destroys a natural barrier used for livestock control, the gap thus opened will be fenced to prevent drift of livestock. When construction has been completed, the BLM will identify the gates which Pacific will replace with a stationary section of fence.

EXHIBIT H

- 4 -

23. Pacific will ground all permanent gates, cattleguards or other objects or structures that could become inadvertently charged with electricity.
24. Right-of-way clearing in timbered and scenic areas will be done in accordance with an approved clearing plan and will be limited to a minimum width necessary to prevent interference of trees and other vegetation with the transmission facilities. If any merchantable timber is involved in right-of-way clearing it will be harvested in accordance with the terms of a BLM timber sale contract.
25. No water sources on federal lands will be utilized without written permission of the BLM.
26. Reasonable precautions will be taken to protect, in place, all public land survey monuments, private property corners, and forest boundary markers.
27. Fully contained sanitation facilities in personnel and material marshalling areas will be installed. Construction personnel will be required to utilize existing sanitary facilities where possible. All waste from temporary sanitary facilities will be transferred in appropriate containers to an approved disposal area.
28. The line will be designed to reduce electric and audible noises from operation to practical levels. The transmission line will be designed to meet requirements of the National Electric Safety Code.
29. The transmission line and associated facilities will be maintained to standards of repair and safety criteria acceptable to the applicable regulatory agencies having jurisdiction.
30. Noise producing equipment will be located to minimize sound radiating to the surrounding areas. If usage of pneumatic-tools or equipment used in chipping operations during tree removal or trimming is necessary near residential properties, such use will be restricted to daylight hours.
31. During construction, water trucks will be used to control dust where necessary or desirable in the vicinity of neighboring residents or agricultural developments.
32. Contact will be attempted with directly affected property owners and residents to inform them of the planned project and what may be expected during each construction phase, such as the hours of operation and types of construction equipment that would be used in the area.

33. Prior to construction, Pacific will measure radio and television signals, along with ambient RF signal noise levels at residences and commercial establishments located near the line route. Pacific will restore the reception of radio and television at residences and commercial establishments in the primary reception area to the level present prior to operation of the line. This restoration will occur at no cost to residents experiencing interference resulting from operation of the line.