

STATE OF OREGON  
DEPARTMENT OF TRANSPORTATION

HORIZONTAL CONTROL MAP FOR  
UMPQUA NATIONAL FOREST HIGHWAY EASEMENT  
**STUMP LAKE - FOREST BOUNDARY**  
NORTH UMPQUA HIGHWAY  
DOUGLAS COUNTY  
JUNE 1999

SURVEY NARRATIVE

THE PURPOSE OF THIS METRIC SURVEY NETWORK WAS TO ESTABLISH CONTROL FOR O.D.O.T. TO DELINEATE THE HIGHWAY EASEMENT THROUGH UMPQUA FOREST LANDS BETWEEN STUMP LAKE AND THE FOREST BOUNDARY ON HIGHWAY 138E (NORTH UMPQUA HIGHWAY) AND HIGHWAY 230 (MEDFORD HWY). THE SURVEY BEGAN AUGUST 13, 1998 AND WAS COMPLETED OCTOBER 2, 1998.

THE BASIS OF BEARING FOR THE NETWORK WAS DOUGLAS COUNTY SURVEYOR'S OFFICE MONUMENTS KRISTI AND KRISTI AZIMUTH. SEE BASIS OF BEARING INSERT ON SHEET 2. ALSO INCLUDED IN THE NETWORK WERE DOUGLAS COUNTY SURVEYOR'S OFFICE MONUMENTS DANNA RESET, GREG, CLELL AND CLELL AZIMUTH. COORDINATES WERE HELD ON KRISTI, KRISTI AZIMUTH, CLELL, DANNA RESET, AND GREG; AND THE NETWORK WAS ADJUSTED TO THEM. RECORD COORDINATES ON DCSO MONUMENTS ARE OREGON STATE PLANE, NAD 83, SOUTH ZONE. AN AVERAGE CONVERSION FACTOR OF 0.99966097 WAS CALCULATED AND USED TO CONVERT THE STATE PLANE COORDINATES TO LOCAL DATUM PLANE COORDINATES. THE SURVEY WAS DONE ON THE LOCAL DATUM PLANE WHERE MEASUREMENTS REPRESENT TRUE GROUND DISTANCES. TO CONVERT ANY METRIC COORDINATE BACK TO ENGLISH DIVIDE BY 0.3048. O.D.O.T. ORANGE CARSONITE POSTS WERE USED TO MARK THE LOCATIONS OF THE NETWORK POINTS.

A LEICA TCA 1800 TOTAL STATION WAS USED TO MAKE THE NETWORK OBSERVATIONS. THE LEICA TCA 1800 HAS A STANDARD ANGULAR ERROR OF +/- 1 SECOND AND A STANDARD DISTANCE ERROR OF +/- 2 MM, +/-2 PPM.

THE HORIZONTAL CONTROL NETWORK POINTS WERE ADJUSTED USING THE LEAST SQUARES METHOD. THE LEAST SQUARES ADJUSTMENT PRODUCED: ANGULAR RESIDUALS (THE AMOUNT THE FIELD OBSERVED ANGLES WERE CHANGED DUE TO THE ADJUSTMENT) 75% OF THE ANGULAR RESIDUALS WERE WITHIN 3 SECONDS AND 97% WERE WITHIN 9 SECONDS. THE GREATEST ANGULAR RESIDUAL WAS 18 SECONDS. THE ADJUSTMENT ALSO PRODUCED DISTANCE RESIDUALS (THE AMOUNT THE FIELD OBSERVED DISTANCES WERE CHANGED DUE TO ADJUSTMENT) 83% WERE WITHIN 3 MM AND 100% WERE WITHIN 9 MM. DUE TO THE WEATHER CONDITIONS AND THE SCOPE OF THE SURVEY WE BELIEVE THIS IS ACCEPTABLE ACCURACY FOR THIS PROJECT.

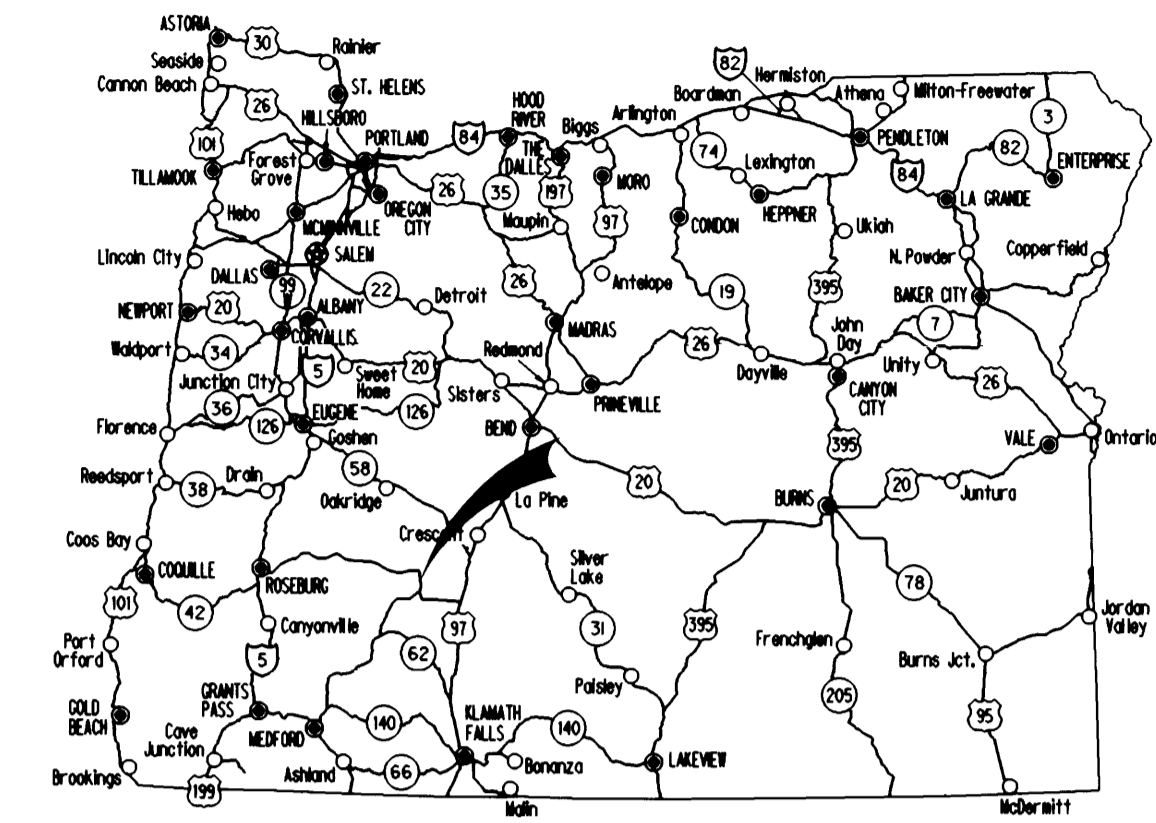
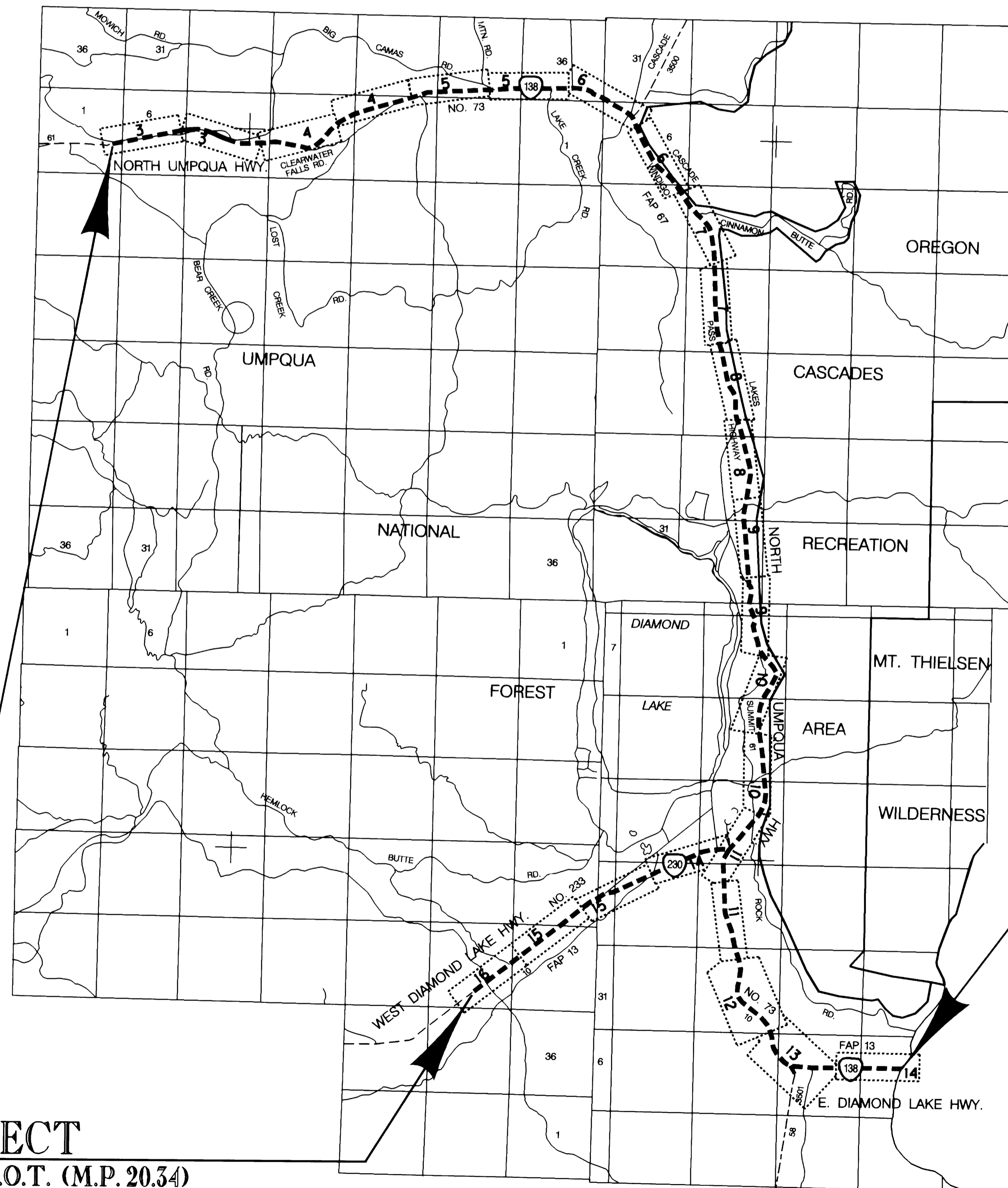
POINT NUMBERS 3,7,17,19,24,28,33, AND 37 ARE FOUND MONUMENTS PREVIOUSLY SET FOR AN ODOT PROJECT CALLED "WINDIGO TO DIAMOND LAKE", SURVEYED IN 1992.

THE ALIGNMENT SHOWN IS AN APPROXIMATE SPLIT OF THE EXISTING PAVEMENT. WHERE AVAILABLE, FOUND CENTERLINE MONUMENTS WERE USED TO HELP ESTABLISH THIS CENTERLINE. THE STATIONING AT THE BEGINNING IS A DIRECT CONVERSION FROM THE ENGLISH STATIONING (ENGLISH STA. 979+60.56 P.T. = METRIC STA. 29+858.379 P.T.). AT THE ENDS OF THE ALIGNMENTS ON BOTH HIGHWAYS THERE ARE EQUATIONS TO SHOW THE CONVERSION BACK TO THE ENGLISH STATIONING (SEE SHEETS 14 AND 16).

THE EASEMENT LINES SHOWN ON THIS SURVEY ARE TAKEN FROM CURRENT "STIPULATIONS" AGREED TO BY THE UMPQUA NATIONAL FOREST AND THE OREGON DEPARTMENT OF TRANSPORTATION. SHEETS NOT SHOWING EASEMENT LINES REPRESENT HIGHWAY SECTIONS WHERE NO STIPULATIONS EXIST AT THIS TIME.

**BEGINNING OF PROJECT**  
STA. 29 + 858.379 P.T. (M.P. 67.13)

**END OF PROJECT**  
STA. "WD" 32 + 754.370 P.O.T. (M.P. 20.34)



FILED  
Date: 6-9-1999 By: J.P.  
This survey consists of: 16 PAGES  
Map: M129-48A  
Narrative:  
Corner Rpt:  
DOUGLAS COUNTY SURVEYOR J.P.

**END OF PROJECT**  
STA. 62 + 379.094 P.O.T. (M.P. 1.29)

REGISTERED PROFESSIONAL LAND SURVEYOR  
*Christine V. Blevins*  
OREGON JULY 19, 1994  
CHRISTINE V. BLEVINS 2669  
EXPIRES: DECEMBER 31, 1999

COUNTY SURVEYORS FILE DATA  
DO NOT REMOVE FROM OFFICE

STUMP LAKE - FOREST BOUNDARY NORTH UMPQUA HIGHWAY DOUGLAS COUNTY		UMPQUA NATIONAL FOREST HIGHWAY EASEMENT SURVEY JUNE 1999	
OREGON DEPT. OF TRANSPORTATION 3500 NW STEWART PARKWAY ROSEBURG, OR 97470		KEY NUMBER 05788	SHEET 1 OF 16

ST. HWY. 138-004A