

# HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT SURVEY HOOD RIVER HIGHWAY @ MP 11.3 RIGHT OF WAY ISSUES (DEE)

HWY 281

LOCATED IN THE NW 1/4 OF SEC. 7, SW 1/4 SEC. 6  
T 1 N, R 10 E, WILLAMETTE MERIDIAN  
HOOD RIVER COUNTY, OREGON  
FEBRUARY 25, 2003

## NARRATIVE

### PURPOSE

THE PURPOSE OF THIS SURVEY IS TO REFERENCE FOUND MONUMENTS, LOCATE RIGHT-OF-WAY LINES, AND IDENTIFY PERMANENT HORIZONTAL CONTROL ESTABLISHED FOR A DRAINAGE ENCROACHMENT SURVEY FOR THE OREGON DEPARTMENT OF TRANSPORTATION (ODOT). THIS SURVEY MEETS THE REQUIREMENTS OF ORS 209.155(1b)&(5).

### BASIS OF BEARING AND COORDINATES

THE BASIS OF BEARING IS ODOT R/W MAP 5B-31-15 (MARCH 1941). BASED ON THE CALCULATED BEARING OF S 9°5'29" E BETWEEN FOUND MONUMENTS 1014 AND 1012.

THIS SURVEY USES ASSUMED COORDINATES.  
POINT 1014: N 10000.00 E 20000.00

### ALIGNMENT RESOLUTION

ODOT RIGHT-OF-WAY MAP 5B-31-15 IS THE OFFICIAL RIGHT-OF-WAY MAP FOR THIS SECTION OF HIGHWAY 281. MAP 4F-16-11 (MICROFILM) IS IN GENERAL CONFORMITY WITH 5B-31-15 BUT ALSO SHOWS SUPPLEMENTAL INFORMATION INCLUDING ODOT SET MONUMENTS AND CERTAIN RIGHT-OF-WAY STATIONS OMITTED FROM 5B-31-15. THEREFORE, DATA FROM BOTH OF THESE MAPS WAS USED TO RETRACE THE CENTERLINE AND RIGHT-OF-WAY.

THE RIGHT OF WAY CENTERLINE WAS ESTABLISHED BY HOLDING RECORD DATA FROM ODOT DRAWING NO. 4F-16-11. TIED MONUMENTS WERE ROTATED ABOUT PT #1014 (STA. 31+46.70, 30' LT.) TO FIT THE RECORD BEARING (S 9°5'29" E) TO MONUMENT PT #1012 AT STA. 54+00.00, 40' LT. THE TANGENT LENGTH BETWEEN STA. 38+22.41 AND STA. 44+85.21 WAS SHORTENED 0.49' IN ORDER FOR STATIONING TO FIT PT #1012.

### INDEX

SHEET 1 - NARRATIVE, QUALITY CONTROL  
SHEET 2 - PROJECT CONTROL SHEET  
SHEET 3 - PROJECT RECOVERY SHEET

### PROJECT TEAM

FIELD LEADER : D. HOLLERS  
DRAWN BY : T. TAYLOR  
CALCULATED BY : T. TAYLOR  
PROJECT SURVEYOR : R. GALLES  
STANDARDS : S. MUMA  
SENIOR SURVEYOR : R. HAMILTON  
SURVEY MANAGER : B. TANDY

### REFERENCE DOCUMENTS

ODOT DRAWING NO.:  
5B-31-15 (MARCH 1941)  
4F-16-11 (MICROFILM)  
ODOT FIELD BOOK 1114 (DEE-WOODWORTH ACRES)  
HOOD RIVER COUNTY SURVEYS:  
PARTITION PLAT 2002 080  
PARTITION PLAT 2002 005  
88029  
91075  
HOOD RIVER CORNER NOTE 54  
HOOD RIVER DEED NUMBERS:  
93-3896  
98-5094  
2000-2448

### QUALITY CONTROL

HORIZONTAL CONTROL WAS ESTABLISHED BY EXECUTING A NETWORK USING FORCED CENTERING METHODS. TWO SETS OF HORIZONTAL ANGLES WERE TURNED AT EACH STATION. THE LENGTH OF EACH LEG OF THE NETWORK WAS DETERMINED BY MEASURING TWO SETS OF SLOPE DISTANCES AND TURNING TWO SETS OF ZENITH ANGLES BOTH IN THE AHEAD AND BACK DIRECTION. THE MEAN VALUES OF THE HORIZONTAL ANGLES AND DISTANCES WERE RECORDED AND USED FOR NETWORK COMPUTATIONS.

THE NETWORK WAS ADJUSTED USING THE LEAST SQUARES METHOD. SEE SHEET 2 FOR THE RESULTS OF THE NETWORK COMPUTATIONS.

### INSTRUMENT USED:

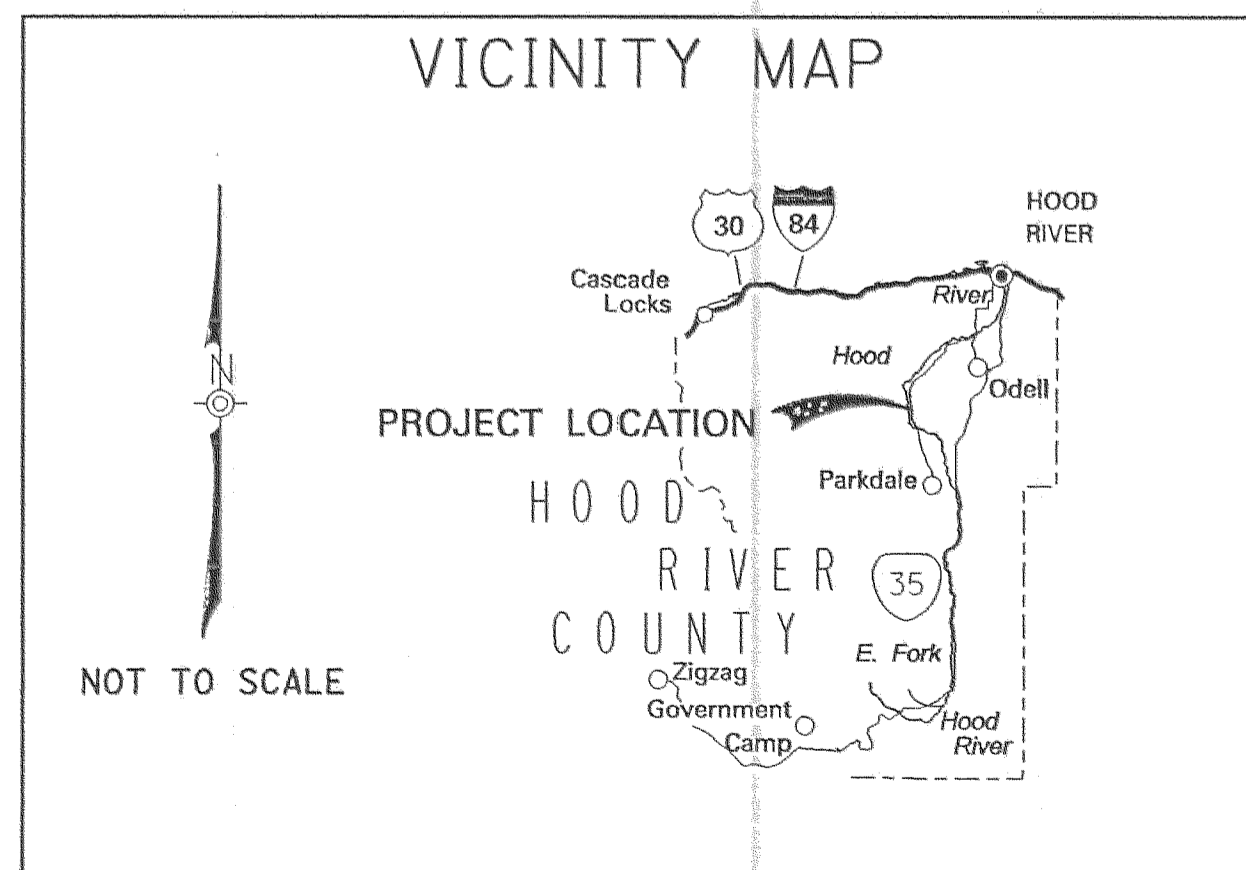
LEICA TCA 1800 TOTAL STATION (SER. #416521)

THE TOTAL STATION WAS CHECKED FOR CALIBRATION AND COLLIMATION PRIOR TO EXECUTING THE NETWORK. BASELINE RECORDS AND DETAILS REGARDING NETWORK PROCEDURES ARE ON FILE AT THE ADDRESS BELOW.

A SEARCH FOR SURVEY MONUMENTS WAS MADE WITHIN THE PROJECT LIMITS. THE HORIZONTAL POSITIONS OF THE FOUND MONUMENTS WERE ESTABLISHED BY TYING THE MONUMENTS FROM THE HORIZONTAL CONTROL. TWO INDEPENDENT MEASUREMENTS WERE MADE TO MONUMENTS THAT FELL WITHIN THE PROJECT LIMITS. THE EXTRA MEASUREMENTS WERE PERFORMED TO INCREASE THE CONFIDENCE AND CREDIBILITY OF PRESERVING THE MONUMENT LOCATIONS. MONUMENTS OUTSIDE THE LIMITS OF THE PROJECT WERE TIED AS SUPPORTING EVIDENCE TO ESTABLISH BOUNDARY LINES AND DETERMINE CENTERLINE RECOVERY.

A COPY OF THE ORIGINAL FIELD NOTES IS ON FILE AT THE ADDRESS BELOW.

THIS SURVEY WAS PREPARED USING HEWLETT-PACKARD PRODUCT NO. 51645A ON CONTINENTAL JPC4M2 POLYESTER FILM.



FILED

JUL 30 2003

*Rodol Tolito*  
COUNTY CLERK



REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Roger Lee Galles*  
OREGON  
JANUARY 29, 1991  
ROGER LEE GALLES  
2480

RENEWAL DATE 6-30-2005

GEOMETRONICS  
REGION 1, SURVEY GROUP  
123 NW FLANDERS STREET  
PORTLAND, OR 97209-4037  
(503) 731-3240

SHEET 1 OF 3

1N 10 7 300

Revised: 6-30-03 ODOT CS 2003 051

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## CONFIDENCE LEVEL LIMITS (95% PROBABILITY LEVEL)

PT#	SEMI MAJOR	SEMI MINOR	ORIENTATION
3	0.004	0.013	8°41'25"

FIXED STATIONS (POINTS 1 AND 2) NOT SUBJECT TO LEAST SQUARES ADJUSTMENT OR CONFIDENCE LEVEL ANALYSES

ORIENTATION IS FROM NORTH AZIMUTH (PRIOR TO ROTATING CONTROL CLOCKWISE 3°39'27")

## NETWORK LINES OF OBSERVATION BEARING TABLE

FROM	TO	DISTANCE	BEARING
1	3	1146.67	N 88°47'23" W
1	2	508.27	S 3°39'27" W
2	3	1234.27	N 64°29'43" W

## PROJECT NETWORK CONTROL TABLE

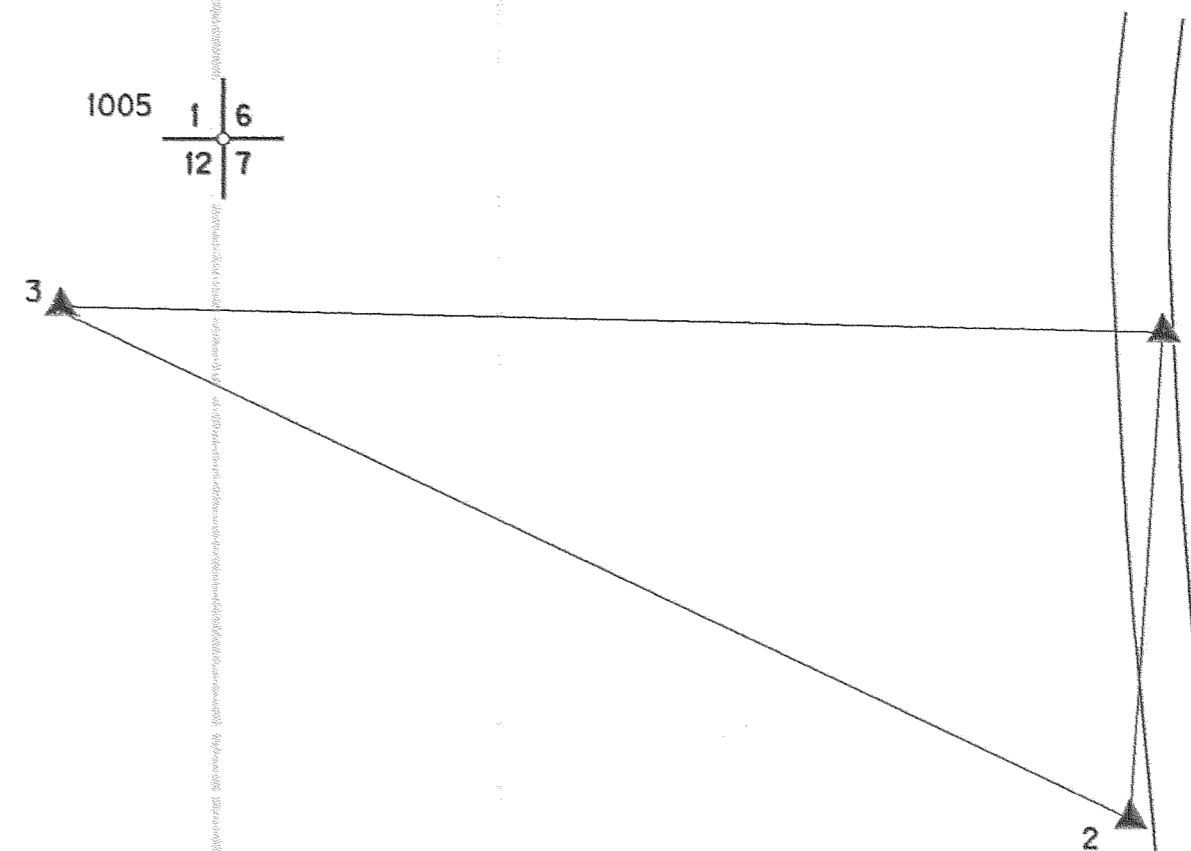
PT.	NORTHING	EASTING	DESCRIPTION
1	9675.324	19979.678	SET 5/8" x 30" IRON ROD, W/ 1-1/2" BRASS CAP, STAMPED "ODOT CONTROL"
2	9168.085	19947.254	SET MAG NAIL W/ 1-5/16" BRASS WASHER, STAMPED "ODOT CONTROL"
3	9699.543	18833.264	SET 5/8" x 30" IRON ROD, W/ 1-1/2" BRASS CAP, STAMPED "ODOT CONTROL"

COORDINATES SHOWN TO 3 DECIMAL PLACES FOR COMPUTATIONS ONLY, NOT INTENDED TO INDICATE ACCURACY

## TIED POSITIONS TO FOUND MONUMENTS

PT. #	ASSUMED NORTHING	ASSUMED EASTING	CENTERLINE STATION	CALCULATED OFFSET	DESCRIPTION
1000	9339.677	20019.055	38+16.22	34.790 LT	FOUND 1/2" IRON ROD W/ YELLOW PLASTIC CAP, STAMPED "LS 1028", CS 91075
1001	9755.077	19994.526	33+97.81	37.714 LT	FOUND 1/2" IRON ROD W/ YELLOW PLASTIC CAP, STAMPED "LS 1028", CS 91075
1002	9854.470	20001.444	32+95.45	44.458 LT	FOUND 1/2" IRON ROD W/ YELLOW PLASTIC CAP, STAMPED "WY EAST 2393", CS 2002 005
1005	9874.455	19000.102			FOUND 2" ALUMINUM DISK, STAMPED "TIN, R9E, R10E, HRC, 1, 6, 12, 7", HRC CORNER NO. 54
1006	10014.116	20002.005	31+32.44	29.996 LT	FOUND 5/8" IRON ROD, UP 1", ODOT DRAWING NO. 4F-16-11
1007	8670.074	20005.759	44+81.42	43.394 RT	FOUND 5/8" IRON ROD W/ YELLOW PLASTIC CAP, STAMPED "COUNTY SURVEYOR", UP 2", CAP DAMAGED, CS 88029
1008	8432.332	20071.729	47+19.89	30.401 RT	FOUND 1-1/2" IRON PIPE, DOWN 1'4", ODOT DRAWING NO. 4F-16-11
1009	8094.046	20255.762	50+99.84	29.606 LT	FOUND 1" IRON PIPE, MUSHROOMED TOP, DOWN 2", ODOT DRAWING NO. 4F-16-11
1010	8097.487	20265.365	50+99.65	39.802 LT	FOUND 1" IRON PIPE, FLUSH, ODOT DRAWING NO. 4F-16-11
1011	7950.794	20310.435	52+51.03	39.663 LT	FOUND 1" IRON PIPE, DOWN 2", ODOT DRAWING NO. 4F-16-11
1012	7807.404	20350.864	54+00.00	40.000 LT	FOUND 1" IRON PIPE, DOWN 2", ODOT DRAWING NO. 4F-16-11
1013	7804.823	20341.173	53+99.88	29.971 LT	FOUND 1" IRON PIPE, FLUSH, ODOT DRAWING NO. 4F-16-11
1014	10000.000	20000.000	31+46.70	30.000 LT	FOUND 5/8" IRON ROD, UP 8", ODOT DRAWING NO. 4F-16-11

COORDINATES SHOWN TO 3 DECIMAL PLACES FOR COMPUTATIONS ONLY, NOT INTENDED TO SHOW ACCURACY



## LEGEND

- ▲ SET NETWORK STATION AS NOTED
- EXISTING RIGHT OF WAY

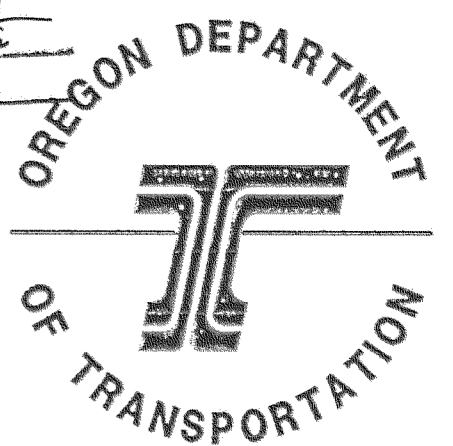


SCALE: 1" = 200'  
0 100 200 300

FILED

JUL 30 2003

*Ronald Johnson*  
COUNTY SURVEYOR



REGISTERED  
PROFESSIONAL  
LAND SURVEYOR  
*Roger Lee Galles*  
OREGON  
JANUARY 29, 1991  
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SHEET 2 OF 3

CS 2003 051

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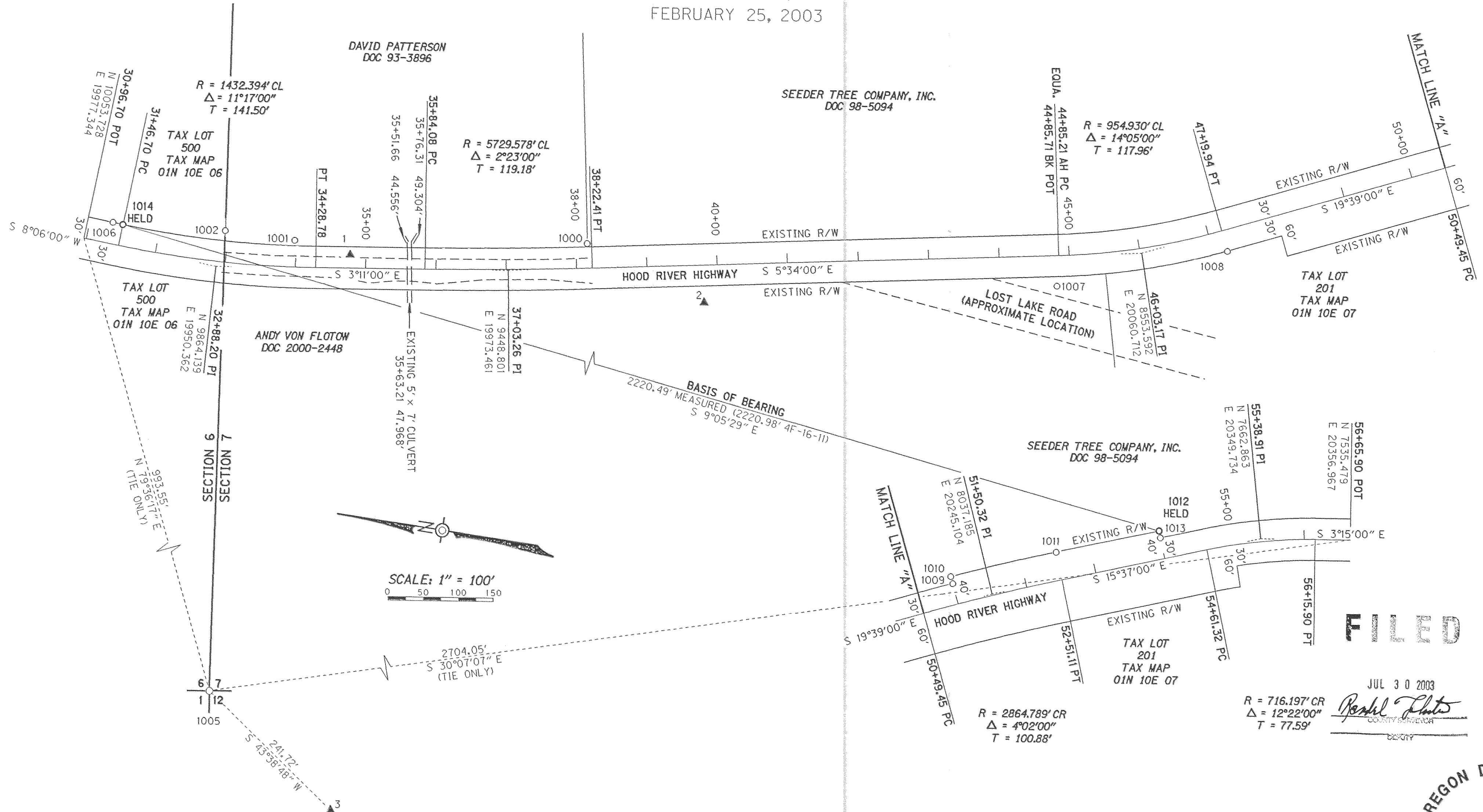
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R = 716.197' CR  
Δ = 12°22'00"  
T = 77.59'

*Ronell Photo*  
COUNTY SURVEYOR

LEGEND	
○	FOUND MONUMENT AS NOTED ON SHEET 2 OF 3
▲	SET NETWORK CONTROL STATION AS NOTED ON SHEET 2 OF 3
DOC	DEED DOCUMENT, HOOD RIVER COUNTY DEED RECORDS
- - -	EDGE OF PAVEMENT
==	CORRUGATED METAL PIPE
≡	HEADWALL

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SHEET 3 OF 3

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