

NARRATIVE

PURPOSE:

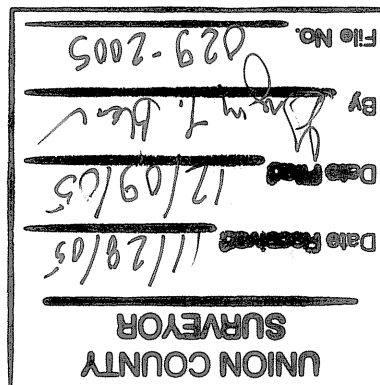
THE PURPOSE OF THIS SURVEY WAS TO COMPLY WITH THE SCOPE OF WORK REQUIREMENTS FOR OREGON BRIDGE DELIVERY PARTNERS (OBDDP) OTIA III STATE BRIDGE DELIVERY PROGRAM FOR THE OREGON DEPARTMENT OF TRANSPORTATION (ODOT). CONTRACT AT# 23856, WOC# 3-206, I-84: IRRIGATION JUNCTION - HILGARD INTERCHANGE, BUNDLE 206, PROJECT KEY NUMBER 14028, OBDDP SUBCONTRACT NUMBER ALLZ000002.90.K001. THIS SURVEY IS FOR THE HILGARD INTERCHANGE PROJECT SITE AT MILEPOST 253.03, HIGHWAY NO. 6(I-84). THE REQUIREMENTS INCLUDED ESTABLISHING A GEODETIC CONTROL NETWORK OVER THE PROJECT SITE, DETERMINATION OF RIGHT-OF-WAY LINES AND RECOVERY OF BOUNDARY AND RIGHT-OF-WAY MONUMENTS. THIS SURVEY COMPLIES WITH ORS 209.155, FOR A RECOVERY SURVEY. MONUMENTS RECOVERED WERE LOCATED BY BOTH GPS AND CONVENTIONAL SURVEY METHODS FROM CONTROL POINTS.

CONTROL NETWORK:

ODOT SURVEY REQUIREMENTS INCLUDED SETTING GEODETIC CONTROL MONUMENTS ESTABLISHED BY GPS METHODS WITH COORDINATES PUBLISHED ON OREGON STATE PLANE COORDINATE SYSTEM, REDUCED TO LOCAL GROUND COORDINATES [LOCAL DATUM PLANE (LDP)]. EXISTING UNION COUNTY GPS CONTROL STATIONS WERE RECOVERED AND USED TO CONTROL THIS SURVEY. NEW GPS CONTROL MONUMENTS WERE SET AND A CONVENTIONAL TRAVERSE WAS RUN BETWEEN THE GPS CONTROL POINTS TO ESTABLISH A CONTROL NETWORK OVER THE PROJECT SITE. THE NEWLY ESTABLISHED CONTROL STATIONS WERE OBSERVED MULTIPLE TIMES FROM TWO DIFFERENT BASE STATION SETUPS TO PROVIDE REDUNDANCY AND QUALITY CHECKS OF THE GPS MEASUREMENTS. ALL GPS OBSERVATIONS WERE INDIVIDUALLY ANALYZED WITHIN TRIMBLE GEOMATICS OFFICE (TGO) V. 1.61, TO VERIFY THE QUALITY OF GPS DATA COLLECTED AND TO EXCLUDE ANY OUTLIERS FROM THE DATA SET. ALL ACCEPTED COORDINATES FOR EACH NEW CONTROL STATION WERE THEN AVERAGED TO PRODUCE THE FINAL POSITION. HORIZONTAL AND VERTICAL CHECKS WERE MADE TO EXISTING UNION COUNTY GPS CONTROL STATIONS AND A NGS BENCHMARK LOCATED WITHIN THE PROJECT AREA. ALL GPS OBSERVATIONS ON KNOWN CONTROL STATIONS WERE FIELD VERIFIED TO MEET PROJECT ACCURACIES, PRIOR TO ANY OBSERVATIONS OF NEW CONTROL STATIONS. THE SURVEY WAS COMPLETED USING BOTH STATIC AND RTK SURVEY METHODS WITH A TRIMBLE SYSTEM CONSISTING OF A 5700 BASE STATION AND 5700 ROVER RECEIVER. THE HORIZONTAL DATUM USED FOR THIS PROJECT WAS NAD 83/91, OREGON NORTH ZONE (INTERNATIONAL FEET). THE VERTICAL CONTROL WAS BASED ON NGS BENCH MARK NO. SS4 (PID = RBO155), DATUM IS NAVD 1988 (U.S FEET). THIS SURVEY WAS PERFORMED FROM JUNE 2005 TO JULY 2005. THE PROJECT COORDINATE SYSTEM WAS CONVERTED TO A LOCAL DATUM PLANE(LDP)USING THE COMBINED SCALE FACTOR COMPUTED AT POINT NO. 2. TO CONVERT THE LDP COORDINATES TO THE OREGON STATE PLANE SYSTEM, MULTIPLY THE COORDINATE VALUES BY THE COMBINED SCALE FACTOR OF 0.99975430838.

PROJECT DATA SOURCE:

OREGON DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP NO.S 9B-16-14(3), 8B-6-10(6), 7B-30-9(2) AND ODOT CONSTRUCTION PLAN NO. 6V-123(4), IN CONJUNCTION WITH ODOT RIGHT-OF-WAY FILE NO.S 22795(13) WERE USED AS THE PRIMARY SOURCE OF INFORMATION TO DETERMINE THE 'L' LINE FOR HIGHWAY 6(I-84) AND THE HILGARD INTERSECTION ALIGNMENTS 'A', 'B', 'C', AND 'D' LINES.



FOUND MONUMENT COORDINATE TABLE

NO.	LDP NORTHING	LDP EASTING	DESCRIPTION	REFERENCE NO.	STATION - OFFSET - COMMENTS
100	619417.8949	8788373.6774	FND. 3" BD, SET IN CONC., GOOD SHAPE, STAMPED "OSHD, L.P.C.-B.P.C. 635+12.29, W/ GALV. POST, N. 2.50', STAMPED "S.H.R.P."		'L' STA: 635+12.82 OFFSET: 56.76 L
103	619277.8736	8786874.7686	FND. 3" BD, IN CONC., FLUSH W/ GROUND, STAMPED "OSHD, D 619+45.19, P.I.",	HELD	'D' STA: 619+22.04 PI = 'L' STA: 619+41.94 OFFSET: 105.28 R
104	619386.7073	8787099.7805	FND. 3" BD, SET IN CONC., STAMPED "OSHD A621+33.99", LOOSE AND NOT SOLID, UP 0.40, S.H.R.P., S. 1.75 W/SIGN STAMPED "S.H.R.P. P.O.T. 615+00"		'A' STA: 621+32.64 PI = 'L' STA: 621+33.43 OFFSET: 55.36 L
105	619555.4004	8786489.0628	FND. 3" BD SET IN CONC., STAMPED "OSHD", GOOD SHAPE, UP 0.15', W/ 4X4 WOOD POST STAMPED "S.H.R.P. P.O.T. 615+00.00, 41.10A, 69.30L",	HELD	'L' STA: 615+00.00 OFFSET: 69.30 L
106	619630.4834	8786508.0103	FND. 3" BD SET IN CONC., FLUSH W/ GROUND, STAMPED "OSHD RP, P.O.T. 615+00.00, 118.57A, 146.77L", W/ S.H.R.P. POST N. 3.75 STAMPED "S.H.R.P.",	HELD	'L' STA: 615+00.00 OFFSET: 146.74 L
109	619340.8436	8785838.0527	FND. 2.5" ALUM DISK STAMPED "BAGETT-GRIFFITH & ASSOC., S31,E-W - SW, 1/256, 1989 PLS 644"	9	
110	618791.5675	8787519.0224	FND. 2.5" ALUM DISK STAMPED "BAGETT-GRIFFITH & ASSOC., SP, T2S, R37E, RM 80.00 1/4 S31-S6, T35, R37E	9	
113	621419.3943	8790983.3710	FND. 3" BD, SET IN CONC., 0.10 ABOVE GND, GOOD SHAPE, STAMPED "OSHD, P.T. 669+84.09, 175.88"		'L' STA: 669+24.34 OFFSET: 165.38 R
116	621251.1276	8789950.1350	FND. 3" BD, SET IN CONC., STAMPED "OSHD 659+00.00, 96.08, P.O.C.", GOOD SHAPE, FLUSH W/ GND, W/ CARSONITE S.H.R.P., NW 1.40'		'L' STA: 658+99.79 - OFFSET: 96.13 L
117	621294.5480	8789921.4310	FND. 3" BD, IN CONC., 0.25" ABOVE GND., STAMPED, "STATE HIGHWAY DIV. REFERENCE, 659+00.00, 148.13", GOOD SHAPE		'L' STA: 658+99.80 - OFFSET: 148.18 L
118	619790.9872	8788699.6120	FND. 3" BD, IN CONC., DOWN 0.30, STAMPED "OSHD, 640+27.28, 61.12", W/ S.H.R.P. W. 1.10', STAMPED "SHRP",	HELD	'L' STA: 639+95.47 - OFFSET: 61.12 L
119	619019.8915	8786512.5118	FND. 3" BD, STAMPED "BAGETT-GRIFFITH & ASSOC., S-31, SW-SE-SW, 1/256, 1989, OPLS-644"	9	

"I CERTIFY THAT THIS SURVEY WAS PREPARED USING HP PRODUCT #51640A ON CONTINENTAL #JPC4M2 POLYESTER FILM."

REGISTERED PROFESSIONAL LAND SURVEYOR
 Timothy D. Mahoney
 OREGON
 JULY 26, 1988
 TIMOTHY D. MAHONEY
 2347
 EXPIRES 12/31/07

1/4 SECTION: SE & SW
 TOWNSHIP/RANGE: T2S, R37E
 TAX LOT NO: N/A
 FILE: 304149.82-ROS.dwg
 SURVEYED BY: GLE, RT

kpff Consulting Engineers
 111 SW Fifth Avenue, Suite 2500 Portland, OR 97204-3628
 (503) 227-3251 Civil Fax (503) 274-4681
 Portland Seattle Los Angeles San Francisco San Diego Phoenix Irvine Virginia

HORIZONTAL CONTROL, RECOVERY & RETRACEMENT SURVEY, HILGARD INTERCHANGE, OLD OREGON TRAIL HIGHWAY, HWY. 6 (I-84) & HWY. 244 FOR OREGON DEPARTMENT OF TRANSPORTATION IN SE 1/4 & SW 1/4, SEC. 31, T.2S., R.37E., W.M., UNION CO., OREGON

DATE: 12/05/05
 SCALE: N.T.S.
 CONTOUR INTERVAL: N/A
 PROJECT NO: 304149.82
 SHEET: 1 OF 5

REFERENCES

1. ODOT ROW MAP 5B-36-6
2. ODOT ROW MAP 7B-30-9, PART 3 OF 3
3. ODOT ROW MAP 9B-16-14
4. ODOT CONSTRUCTION PLAN NO. 6V-123
5. ODOT MAP 8B-8-4, JAN. 1958
6. ODOT ROW MAP 8B-6-10
24. BPA MAP 137144 DTM-D

UNION COUNTY RECORD OF SURVEYS

7. FILE NO. 040-1970, SEPT. 20, 1967
8. FILE NO. 006-1982, FEB. 16, 1982
9. FILE NO. 004-1989, FEB. 13, 1989
10. FILE NO. 020-1993, JUNE 30, 1993
11. FILE NO. 027-1996, JULY 10, 1996
12. FILE NO. 049-2002, MAY 19, 2002

ODOT RIGHT-OF-WAY FILES

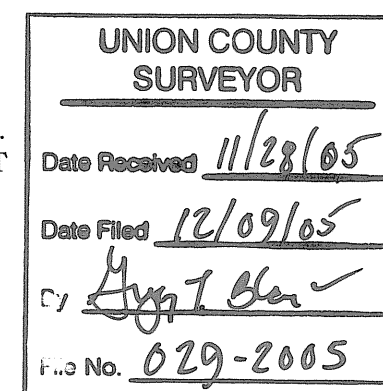
13. FILE NO. 22795, MAP REF. 8B-6-10
14. FILE NO. 27343
15. FILE NO. 20173
16. FILE NO. 29532
17. FILE NO. 27699
18. FILE NO. 27070
19. FILE NO. 27343
20. FILE NO. 29534
21. FILE NO. 19050
22. FILE NO. 19293
23. FILE NO. 18900

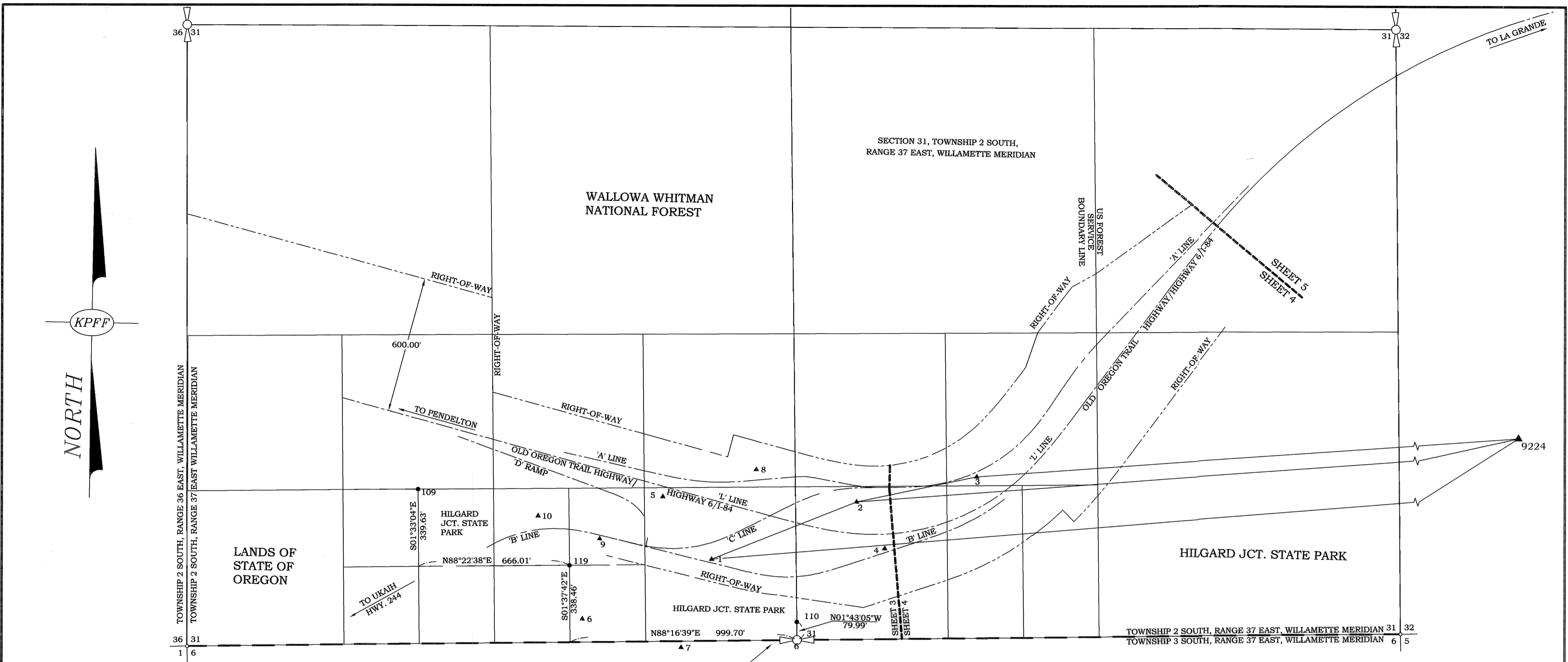
ABBREVIATIONS

AH.	AHEAD	ODOT	OREGON DEPARTMENT OF TRANSPORTATION
ALUM.	ALUMINUM MONUMENT	OSHD	OREGON STATE HIGHWAY DEPARTMENT
BD	BRASS DISK	OR	OREGON
BRG.	BEARING	P.C.	POINT OF CURVE
CHD.	CHORD	P.I.	POINT OF INTERSECTION
CONC.	CONCRETE	P.O.C.	POINT ON CURVE
DEPT.	DEPARTMENT	P.O.S.	POINT OF SPIRAL
DIV.	DIVISION	P.O.T.	POINT ON TANGENT
EQUA.	EQUATION	P.S.C.	POINT OF SPIRAL CURVE
FND.	FOUND	P.T.	POINT OF TANGENCY
GALV.	GALVANIZED	PT	POINT
GND.	GROUND	RPC	RED PLASTIC CAP
HWY.	HIGHWAY	ROW	RIGHT-OF-WAY
IR	IRON ROD	STA.	STATION
LDP	LOCAL DATUM PLANE	S.H.R.P.	STATE HIGHWAY REFERENCE POST
MON.	MONUMENT	TRANS.	TRANSPORTATION
NET.	NETWORK	W/	WITH
NO.	NUMBER	WM	WILLAMETTE MERIDIAN
		(X)	DENOTES REFERENCE NUMBER

BASIS OF BEARING

OREGON STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83/91. BASED ON OBSERVATIONS USING UNION COUNTY CONTROL MONUMENT NO. 9224.





KPFF

NORTH

SECTION 31, TOWNSHIP 2 SOUTH,
RANGE 37 EAST, WILLAMETTE MERIDIAN

WALLOWA WHITMAN
NATIONAL FOREST

LANDS OF
STATE OF
OREGON

HILGARD JCT. STATE PARK

PT. 110, SEE UNION COUNTY CORNER REFERENCE FILE NO. 39-2002R FOR CORNER REFERENCES, NOT LOCATED DURING THIS SURVEY.

LEGEND:

- MATCHLINE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIGNMENT LINE
- FOUND MONUMENTS
- ▲ KPFF NETWORK POINT
- ⊠ 1/4 CORNER
- (X) REFERENCE NUMBER

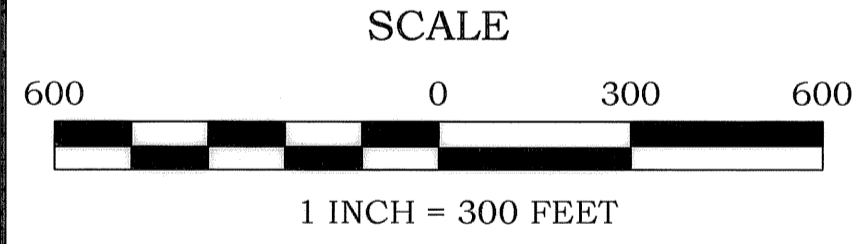
**UNION COUNTY
SURVEYOR**

Date Received 11/28/05

Date Filed 12/09/05

By [Signature]

File No. 029-2005



NOTE: SECTION LINES SHOWN ARE CALCULATED FROM (9) HOLDING FOUND MONUMENTS AT POINT NO.'S 109, 110 & 119.

GPS CONTROL NETWORK POINT
RESIDUALS FOR ANGLES AND DISTANCES

FROM PT.	TO PT.	OBSERVATION	RESIDUAL
9224	2	AZ. 266°34'05.3735"	0°00'00.0150"
		DIST. 29259.754SFT	0.021SFT
3	2	AZ. 258°44'19.3698"	0°00'00.0481"
		DIST. 540.981SFT	-0.016SFT
9224	1	AZ. 266°10'18.2480"	-0°00'00.0352"
		DIST. 29915.470SFT	0.015SFT
1	2	AZ. 68°56'56.4246"	0°00'01.4677"
		DIST. 686.925SFT	0.001SFT
1	3	AZ. 73°15'33.3108"	-0°00'01.0626"
		DIST. 1223.494SFT	-0.015SFT
9224	3	AZ. 266°42'49.2465"	0°00'00.0737"
		DIST. 24399.94SFT	0.0SFT

NETWORK POINT/TRVERSE POINT COORDINATE TABLE

NO.	LDP NORTHING	LDP EASTING	DESCRIPTION
1	619059.7443	8787137.9470	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
2	619324.3986	8787771.9520	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
3	619444.9214	8788299.4180	FND. 3 1/2" BD, ODOT CONTROL, SET IN CONC., DOWN 0.60, STAMPED "OSHD 1992", ODOT GPS CONTROL STA. "GARD"
4	619121.2543	8787900.1543	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
5	619330.3972	8786917.9813	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
6	618785.7732	8786573.5045	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
7	618668.7578	8787011.2473	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
8	619457.6230	8787326.9932	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
9	619139.8231	8786643.0425	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
10	619234.4523	8786369.4586	SET 5/8"X30" IR, W/ RPC, STAMPED "KPFF NETWORK POINT"
9224	621631.6679	8812601.1710	FND. 2 1/2" ALUM. DISK RIVITED TO ALUM PIPE, STAMPED "E. 1/4 CORNER OF SECTION 36, T35 S., R37E, WM"

"I CERTIFY THAT THIS SURVEY WAS PREPARED USING HP PRODUCT #51640A ON CONTINENTAL #JPC4M2 POLYESTER FILM."

REGISTERED PROFESSIONAL LAND SURVEYOR

Timothy D. Mahoney
OREGON
JULY 26, 1988
TIMOTHY D. MAHONEY
2347
EXPIRES 12/31/07

1/4 SECTION: SE & SW
TOWNSHIP/RANGE: T2S, R37E
TAX LOT NO: N/A
FILE: 304149.82-ROS.dwg
SURVEYED BY: GLE, RT

kpff Consulting Engineers
111 S.W. Fifth Avenue, Suite 2500 Portland, OR 97204-3628
(503) 227-3251 Civil Fax (503) 274-4681
Portland Seattle Los Angeles San Francisco San Diego Phoenix Irvine Virginia

HORIZONTAL CONTROL, RECOVERY & RETRACEMENT SURVEY, HILGARD INTERCHANGE,
OLD OREGON TRAIL HIGHWAY, HWY. 6 (I-84) & HWY. 244 FOR
OREGON DEPARTMENT OF TRANSPORTATION
IN SE 1/4 & SW 1/4, SEC. 31, T.2S., R.37E., W.M., UNION CO., OREGON

DATE: 12/05/05
SCALE: 1"=300'
CONTOUR INTERVAL: N/A
PROJECT NO: 304149.82
SHEET: 2 OF 5

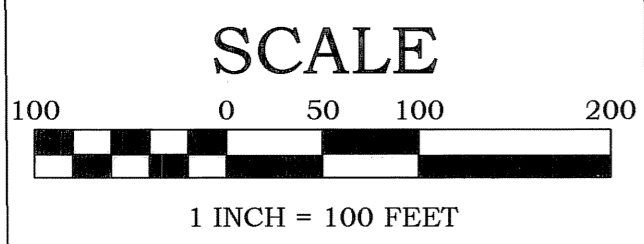
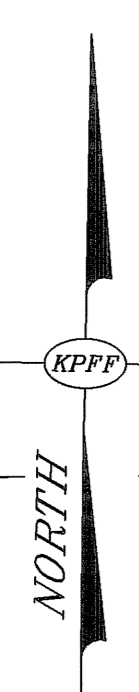
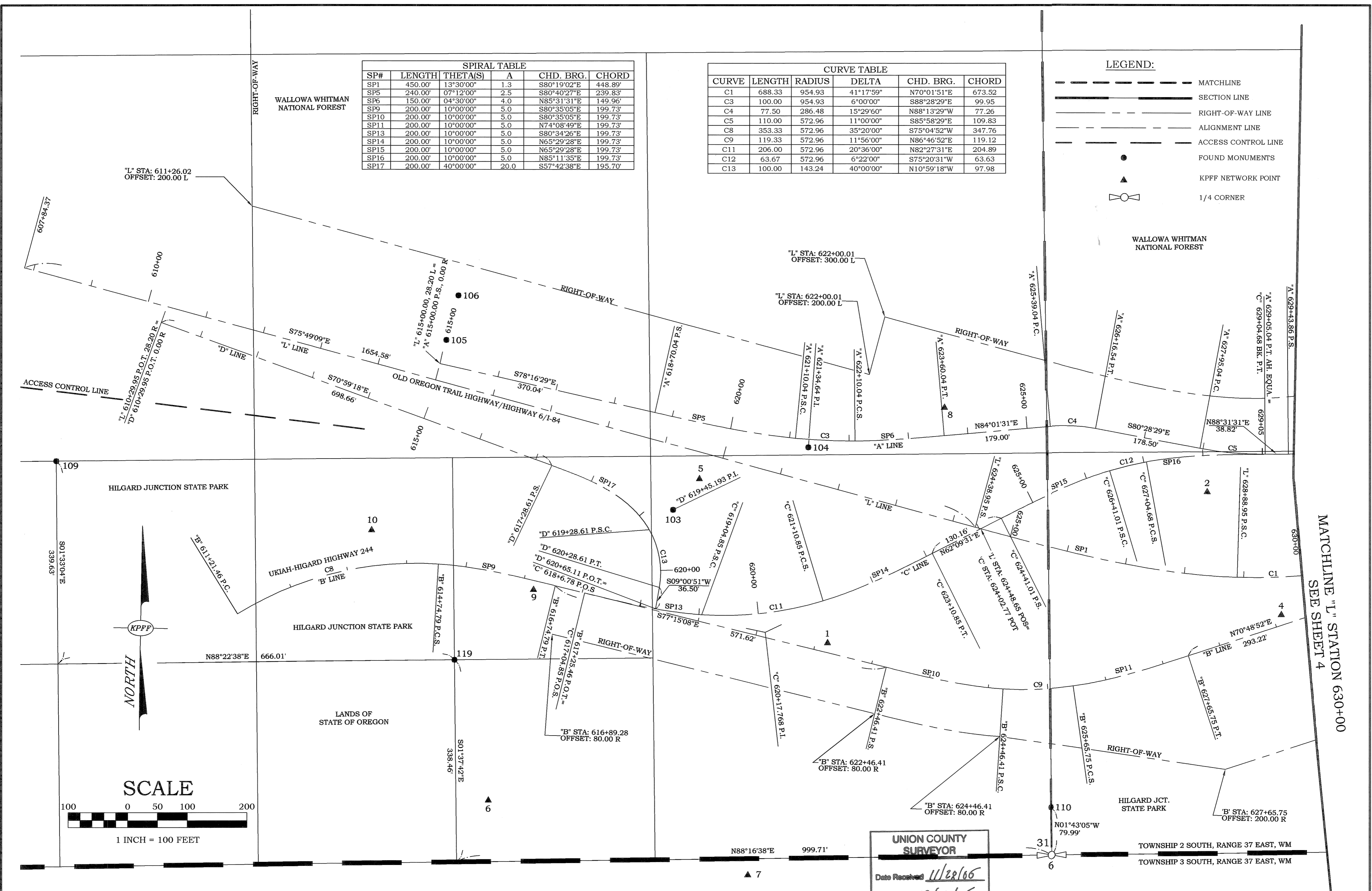
SURVEY NUMBER 029-2005

SPIRAL TABLE					
SP#	LENGTH	THETA(S)	A	CHD. BRG.	CHORD
SP1	450.00'	13°30'00"	1.3	S80°19'02"E	448.89'
SP5	240.00'	07°12'00"	2.5	S80°40'27"E	239.83'
SP6	150.00'	04°30'00"	4.0	N85°31'31"E	149.96'
SP9	200.00'	10°00'00"	5.0	S80°35'05"E	199.73'
SP10	200.00'	10°00'00"	5.0	S80°35'05"E	199.73'
SP11	200.00'	10°00'00"	5.0	N74°08'49"E	199.73'
SP13	200.00'	10°00'00"	5.0	S80°34'26"E	199.73'
SP14	200.00'	10°00'00"	5.0	N65°29'28"E	199.73'
SP15	200.00'	10°00'00"	5.0	N65°29'28"E	199.73'
SP16	200.00'	10°00'00"	5.0	N85°11'35"E	199.73'
SP17	200.00'	40°00'00"	20.0	S57°42'38"E	195.70'

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHD. BRG.	CHORD
C1	688.33	954.93	41°17'59"	N70°01'51"E	673.52
C3	100.00	954.93	6°00'00"	S88°28'29"E	99.95
C4	77.50	286.48	15°29'60"	N88°13'29"W	77.26
C5	110.00	572.96	11°00'00"	S85°58'29"E	109.83
C8	353.33	572.96	35°20'00"	S75°04'52"W	347.76
C9	119.33	572.96	11°56'00"	N86°46'52"E	119.12
C11	206.00	572.96	20°36'00"	N82°27'31"E	204.89
C12	63.67	572.96	6°22'00"	S75°20'31"W	63.63
C13	100.00	143.24	40°00'00"	N10°59'18"W	97.98

LEGEND:

- MATCHLINE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIGNMENT LINE
- ACCESS CONTROL LINE
- FOUND MONUMENTS
- KPFF NETWORK POINT
- 1/4 CORNER



"I CERTIFY THAT THIS SURVEY WAS PREPARED USING HP PRODUCT #51640A ON CONTINENTAL #JPC4M2 POLYESTER FILM."

REGISTERED PROFESSIONAL LAND SURVEYOR
Timothy D. Mahoney
 JULY 26, 1988
 TIMOTHY D. MAHONEY 2347
 EXPIRES 12/31/07

1/4 SECTION: SE & SW
 TOWNSHIP/RANGE: T2S, R37E
 TAX LOT NO.: N/A
 FILE: 304149.82-ROS.dwg
 SURVEYED BY: GLE, RT

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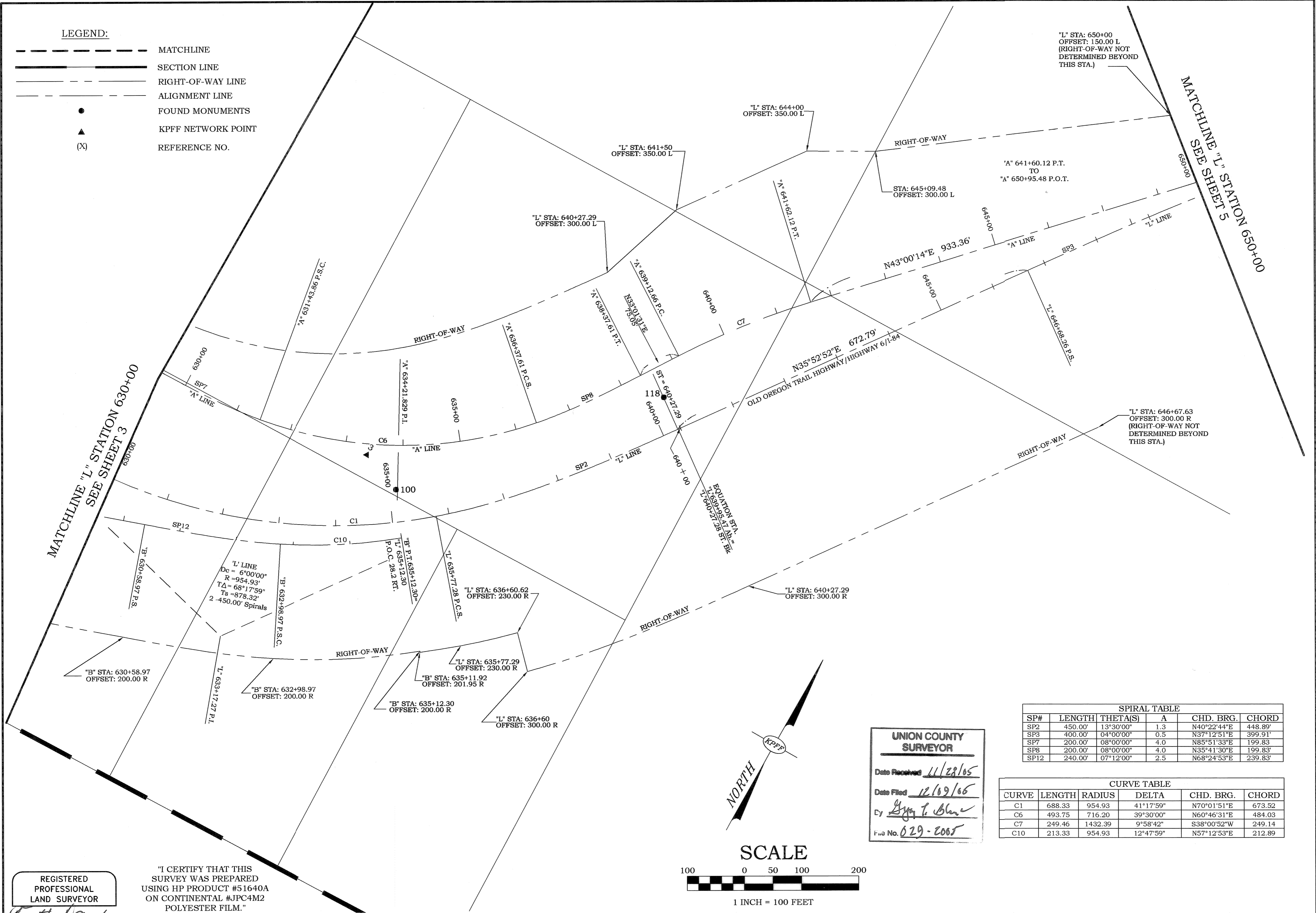
UNION COUNTY SURVEYOR
 Date Received 11/22/05
 Date Filed 12/09/05
 By Aug. I. Gal
 File No. 029-2005

DATE: 12/05/05
 SCALE: 1"=100'
 CONTOUR INTERVAL: N/A
 PROJECT NO.: 304149.82
 SHEET: 3 OF 5

SURVEY NUMBER 029-2005

LEGEND:

- MATCHLINE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIGNMENT LINE
- FOUND MONUMENTS
- ▲ KPFF NETWORK POINT
- (X) REFERENCE NO.



"L" STA: 650+00
 OFFSET: 150.00 L
 (RIGHT-OF-WAY NOT DETERMINED BEYOND THIS STA.)

MATCHLINE "L" STATION 650+00
 SEE SHEET 5

"A" 641+60.12 P.T.
 TO
 "A" 650+95.48 P.O.T.

STA: 645+09.48
 OFFSET: 300.00 L

"L" STA: 644+00
 OFFSET: 350.00 L

"L" STA: 641+50
 OFFSET: 350.00 L

"L" STA: 640+27.29
 OFFSET: 300.00 L

"A" 641+62.12 P.T.

N43°00'14"E 933.36'

645+00

"A" LINE

"L" LINE

"A" 636+37.61 P.C.

"A" 639+12.66 P.C.

640+00

N35°52'52"E 672.79'
 OLD OREGON TRAIL HIGHWAY / HIGHWAY 6/I-84

"L" STA: 646+67.63
 OFFSET: 300.00 R
 (RIGHT-OF-WAY NOT DETERMINED BEYOND THIS STA.)

MATCHLINE "L" STATION 630+00
 SEE SHEET 3

"L" LINE
 Dc = 6°00'00"
 R = 954.93'
 TA = 68°17'59"
 Ts = 878.32'
 2 - 450.00' Spirals

"B" 630+58.97 P.S.

"B" 632+98.97 P.S.C.

"B" P.T. 635+12.30
 "L" 635+12.30
 P.O.C. 28.2 RT.

"L" 635+77.28 P.C.S.

"L" STA: 636+60.62
 OFFSET: 230.00 R

EQUATION STA.
 "L" 640+27.29
 "L" 640+27.29 ST. BE.

"L" STA: 640+27.29
 OFFSET: 300.00 R

RIGHT-OF-WAY

"L" STA: 635+77.29
 OFFSET: 230.00 R

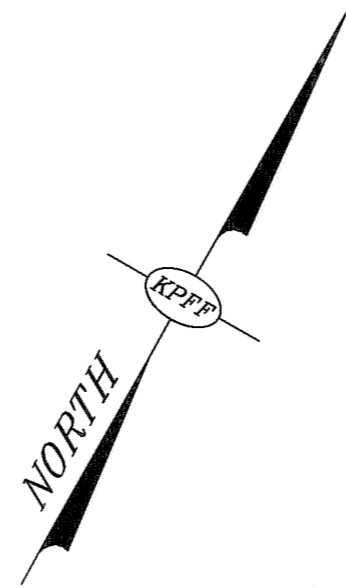
"B" STA: 635+11.92
 OFFSET: 201.95 R

"B" STA: 635+12.30
 OFFSET: 200.00 R

"L" STA: 636+60
 OFFSET: 300.00 R

"B" STA: 630+58.97
 OFFSET: 200.00 R

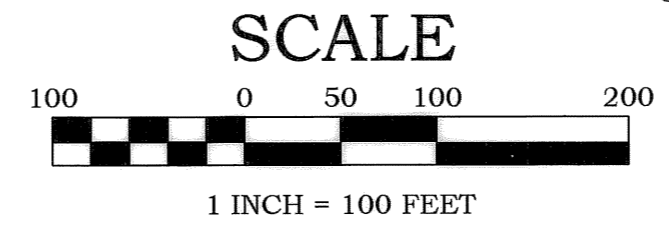
"B" STA: 632+98.97
 OFFSET: 200.00 R



UNION COUNTY
 SURVEYOR
 Date Received 11/28/05
 Date Filed 12/09/05
 By *Greg L. Blum*
 File No. 029-2005

SPIRAL TABLE					
SP#	LENGTH	THETA(S)	A	CHD. BRG.	CHORD
SP2	450.00'	13°30'00"	1.3	N40°22'44"E	448.89'
SP3	400.00'	04°00'00"	0.5	N37°12'51"E	399.91'
SP7	200.00'	08°00'00"	4.0	N85°51'33"E	199.83'
SP8	200.00'	08°00'00"	4.0	N35°41'30"E	199.83'
SP12	240.00'	07°12'00"	2.5	N68°24'53"E	239.83'

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHD. BRG.	CHORD
C1	688.33	954.93	41°17'59"	N70°01'51"E	673.52
C6	493.75	716.20	39°30'00"	N60°46'31"E	484.03
C7	249.46	1432.39	9°58'42"	S38°00'52"W	249.14
C10	213.33	954.93	12°47'59"	N57°12'53"E	212.89



"I CERTIFY THAT THIS SURVEY WAS PREPARED USING HP PRODUCT #51640A ON CONTINENTAL #JPC4M2 POLYESTER FILM."

REGISTERED PROFESSIONAL LAND SURVEYOR

Timothy D. Mahoney
 OREGON
 JULY 26, 1988
 TIMOTHY D. MAHONEY
 2347
 EXPIRES 12/31/07

1/4 SECTION:	SE & SW
TOWNSHIP/RANGE:	T2S, R37E
TAX LOT NO.:	N/A
FILE:	304149.82-ROS.dwg
SURVEYED BY:	GLE, RT

kpff Consulting Engineers
 111 S.W. Fifth Avenue, Suite 2500 Portland, OR 97204-3628
 (503) 227-3251 Civil Fax (503) 274-4681
 Portland Seattle Los Angeles San Francisco San Diego Phoenix Irvine Virginia

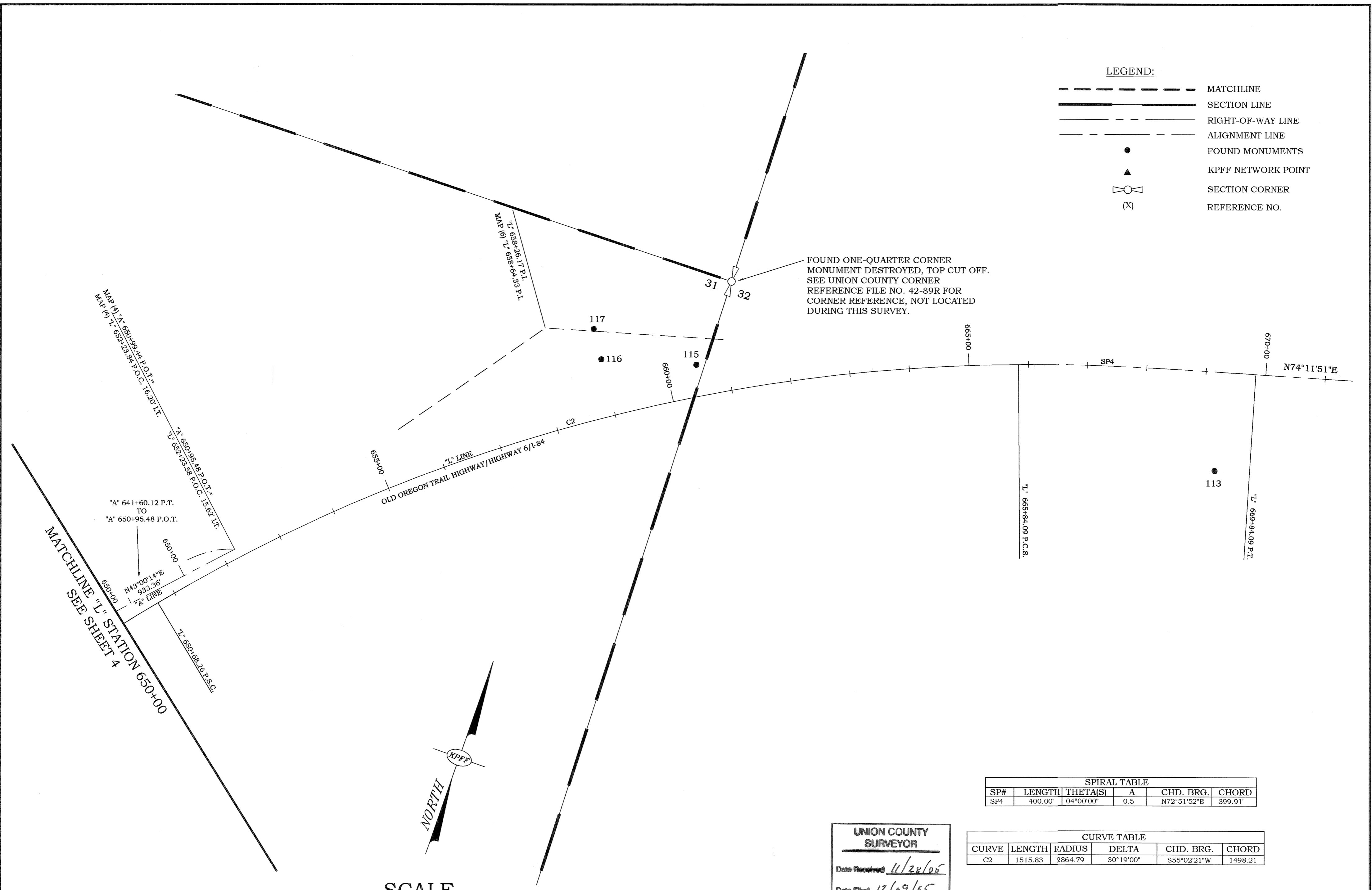
HORIZONTAL CONTROL, RECOVERY & RETRACEMENT SURVEY, HILGARD INTERCHANGE, OLD OREGON TRAIL HIGHWAY, HWY. 6 (I-84) & HWY. 244 FOR OREGON DEPARTMENT OF TRANSPORTATION IN SE 1/4 & SW 1/4, SEC. 31, T.2S., R.37E., W.M., UNION CO., OREGON

DATE:	12/05/05
SCALE:	1"=100'
CONTOUR INTERVAL:	N/A
PROJECT NO.:	304149.82
SHEET:	4 OF 5

SURVEY NUMBER 029-2005

LEGEND:

---	MATCHLINE
—	SECTION LINE
- - -	RIGHT-OF-WAY LINE
---	ALIGNMENT LINE
●	FOUND MONUMENTS
▲	KPPF NETWORK POINT
⊕	SECTION CORNER
(X)	REFERENCE NO.



FOUND ONE-QUARTER CORNER MONUMENT DESTROYED, TOP CUT OFF. SEE UNION COUNTY CORNER REFERENCE FILE NO. 42-89R FOR CORNER REFERENCE, NOT LOCATED DURING THIS SURVEY.

SPIRAL TABLE

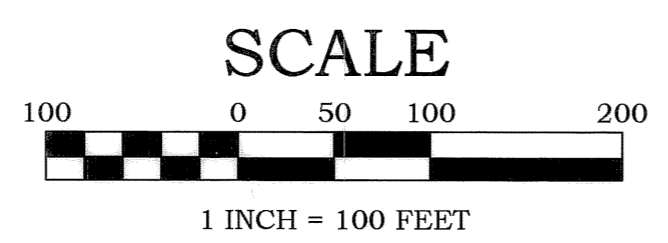
SP#	LENGTH	THETA(S)	A	CHD. BRG.	CHORD
SP4	400.00'	04°00'00"	0.5	N72°51'52"E	399.91'

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	CHD. BRG.	CHORD
C2	1515.83	2864.79	30°19'00"	S55°02'21"W	1498.21

UNION COUNTY SURVEYOR

Date Received 4/24/05
 Date Filed 12/09/05
 [Signature]
 License No. 029-2005



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REGISTERED PROFESSIONAL LAND SURVEYOR
 OREGON
 JULY 26, 1988
 TIMOTHY D. MAHONEY
 2347
 EXPIRES 12/31/07

1/4 SECTION: SE & SW
 TOWNSHIP/RANGE: T2S, R37E
 TAX LOT NO: N/A
 FILE: 304149.82-ROS.dwg
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DATE: 12/05/05
 SCALE: 1"=100'
 CONTOUR INTERVAL: N/A
 PROJECT NO: 304149.82
 SHEET: 5 OF 5

SURVEY NUMBER 029-2005