

Birch Creek Road Legalization Survey

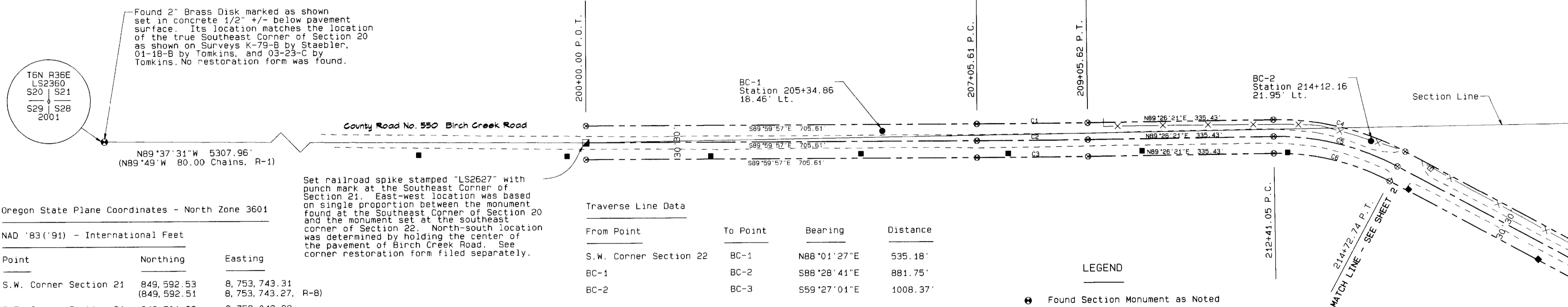
Survey Narrative

This survey was performed at the request of the Umatilla County Board of Commissioners. The purpose was to monument a portion of County Road No. 550, Birch Creek Road, for a road legalization and to provide a basis for right-of-way acquisition for a bridge replacement project after it was determined its location doesn't match the location shown in road records.

In performing the survey, I set two section corners. The Southeast Corner of Section 22 was established by holding the center of Hood Road (originally Road No. 107) for easting and the record G.L.O. distance of 80 chains south of the monument found at the Northeast Corner of Section 22 for northing. By doing so, the proportionate distance of 2640 feet from the corner to east 1/4 corner of the section (not set at this time) fits a plow line to the east very well for northing, though its east-west position falls on the east side of the pavement. The 1891 survey of Road No. 107 (Book "A", Pages 255-258, County Roads and Field Notes) call for beginning on the line between Sections 26 and 27, 17 chains south of the Northeast Corner of Section 27, and running north to the state line. Unfortunately, no calls to the section or 1/4 corners were made. There is also no call to the distance to the Birch Creek crossing (none in the G.L.O. notes either) and no mention as to whether the road began at the end of the existing road (Road No. 63). The plat of Road No. 107 shows the road on the section lines.

The Southeast Corner of Section 21 was established by holding the center of the paved portion of Birch Creek Road for northing and single-proportioning between the monument found at the Southeast Corner of Section 20 and the monument set at the Southeast Corner of Section 22 for easting using original G.L.O. distances. John Kimbrell (Book 1, Pages 401 & 402, Record of Private Surveys) refers to this corner as a stone in the road, though he doesn't say whether found or set. The notes of the 1878 survey for Road No. 63 (Book "A", Pages 106 & 107, County Roads and Field Notes) do not call for the corner, but the plat shows the road along the section line. The single-proportion position for the North 1/4 Corner of Section 27 (not set at this time) using this monument and the one set at the Northeast Corner of Section 27 fits the remains of an old north-south fence and plow line well.

The procedure used in this survey was to set intervisible iron pins for traverse points (labeled BC-1 through BC-7), GPS traverse through Tomkins Point 14, Tomkins Point 15, BC-1, BC-3, BC-6, and BC-7, constraining to values recorded for the two Tomkins monuments on Survey 03-23-C, adjust the traverse with Sokkia Spectrum Network Adjustment least squares adjustment program, and then using point-to-point traversing with a total station to obtain the values for BC-2, BC-4, and BC-5. Equipment used was a Sokkia Radian GPS system operated in both static and RTK modes and a Topcon GTS-813A robotic total station operated in both robotic and manual modes. Bearings shown are NAD '83 (91) grid bearings rotated 01°33'19" clockwise about BC-1. Distances shown are grid distances divided by a combined average project scale and elevation factor of 0.99993691.



Oregon State Plane Coordinates - North Zone 3601

NAD '83 ('91) - International Feet

Point	Northing	Easting
S.W. Corner Section 21	849,592.53 (849,592.51)	8,753,743.31 (8,753,743.27)
S.E. Corner Section 21	849,701.89	8,759,049.82
BC-1	849,734.85	8,759,583.95
BC-2	849,735.37	8,760,465.64
207+05.61 P.C. CL	849,721.03	8,759,755.13
209+05.62 P.T. CL	849,727.44	8,759,955.02
212+41.05 P.C. CL	849,739.82	8,760,290.21
214+72.74 P.T. CL	849,691.07	8,760,514.21

Curve Table

Curve No.	Delta	Radius	Arc Length	Chord Bearing	Chord Distance
C1	00°32'09"	21,355.31'	199.72'	N89°43'12"E	199.72'
C2	00°32'09"	21,325.31'	200.01'	N89°43'12"E	200.01'
C3	00°32'09"	21,295.31'	200.30'	N89°43'12"E	200.30'
C4	28°47'24"	491.09'	246.78'	S76°09'56"E	244.18'
C5	28°47'24"	461.09'	231.69'	S76°09'56"E	229.26'
C6	28°47'24"	431.09'	216.63'	S76°09'56"E	214.34'

Survey Records

- Odeil and Lewis, G. L. O. Contract No. 110, Dated February 7, 1865
- Plats and Field Notes of Road from Swifts to White Lane and Road from line between Summers and White to Government Mountain, both Road No. 63, Surveys Completed February, 1878 by J. L. Moorehouse, County Surveyor, Book "A", Pages 104-108, County Roads and Field Notes.
- Plat and Field Notes of Road C-4 by John C. Arnold, Originally Surveyed in May, 1878; Plat re-drawn in December, 1892. Book "A", Pages 112-114, County Roads and Field Notes.
- Plat and Field Notes of Road No. 76. Book "A", Page 193, County Roads and Field Notes. Plat and Field Notes Recorded August 25, 1880.
- Plat and Field Notes of Road No. 107, Book "A", Pages 255-258, County Roads and Field Notes. Viewer's Report dated August 19, 1881
- Survey for Fred Stine by John Kimbrell, County Surveyor, Book 1, Pages 401-402, Record of Private Surveys. Dated April 9, 1899.
- Survey for Hammons, Tinker, and Flynn by Bartleson, Survey No. 99-282-B.
- GPS/Remonumentation Survey by Tomkins for the Umatilla County Surveyor, Survey No. 03-23-C.

- LEGEND
- Found Section Monument as Noted
 - Set Section Monument as Noted
 - Set 5/8" X 30" Iron Rebar with Yellow Plastic Cap Marked "UCPWO...LS2627"
 - ▲ Set Railroad Spike with Punch Mark Stamped "LS2627"
 - ⊙ Calculated Point Only - Nothing Found or Set
 - Power Pole
 - Telephone Pedestal
 - Guy Wire and Anchor
 - R/W Centerline
 - - - R/W Line
 - - - Edge of Traveled Road
 - Culvert
 - X X Fence

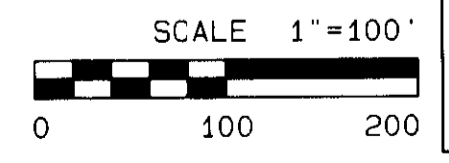
REGISTERED PROFESSIONAL LAND SURVEYOR
 Gary H. Roberts
 OREGON
 JULY 20, 1993
 GARY H. ROBERTS
 2627
 RENEWS 12/31/2004

Umatilla County Road Department
 3920 Westgate
 Pendleton, Oregon 97801
 Phone 541/278-5424

Birch Creek Road Legalization Survey
 County Road No. 550

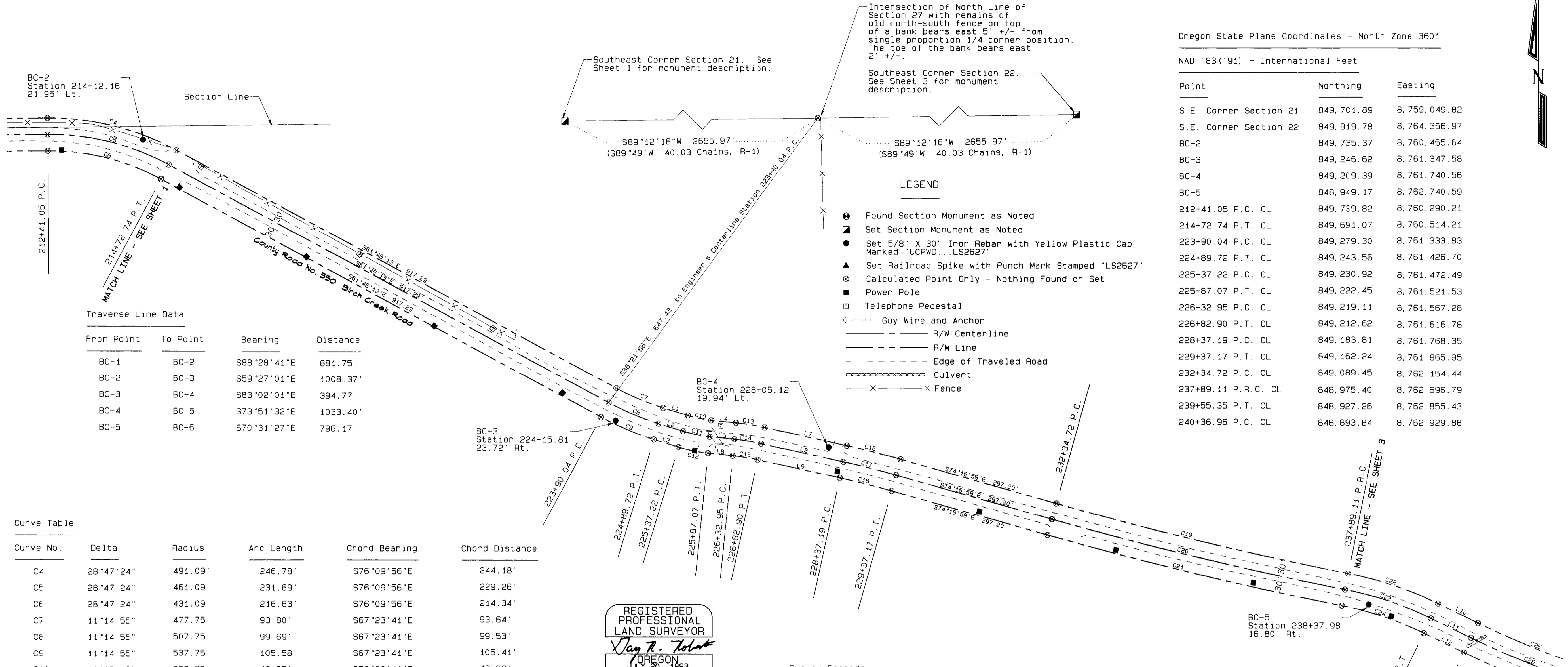
Located in Sections 22 and 27
 Township 5 North, Range 36 E.W.M.

Sheet 1 of 3 Date of Survey: June, 2003



RECEIVED BY
 Umatilla County Surveyor
 Date 6-03
 Rec'd By [Signature]
 No. 03-105-0

Birch Creek Road Legalization Survey



Traverse Line Data

From Point	To Point	Bearing	Distance
BC-1	BC-2	S88°28'41"E	881.75'
BC-2	BC-3	S59°27'01"E	1008.37'
BC-3	BC-4	S83°02'01"E	394.77'
BC-4	BC-5	S73°51'32"E	1033.40'
BC-5	BC-6	S70°31'27"E	796.17'

Curve Table

Curve No.	Delta	Radius	Arc Length	Chord Bearing	Chord Distance
C4	28°47'24"	491.09'	246.78'	S76°09'56"E	244.18'
C5	28°47'24"	461.09'	231.69'	S76°09'56"E	229.26'
C6	28°47'24"	431.09'	216.63'	S76°09'56"E	214.34'
C7	11°14'55"	477.75'	93.80'	S67°23'41"E	93.64'
C8	11°14'55"	507.75'	99.69'	S67°23'41"E	99.53'
C9	11°14'55"	537.75'	105.58'	S67°23'41"E	105.41'
C10	11°16'19"	223.35'	43.95'	S78°38'41"E	43.88'
C11	11°16'19"	253.35'	49.84'	S78°38'41"E	49.76'
C12	11°16'19"	283.35'	55.74'	S78°38'41"E	55.64'
C13	6°37'34"	461.90'	53.41'	S80°58'31"E	53.37'
C14	6°37'34"	431.90'	49.95'	S80°58'31"E	49.92'
C15	6°37'34"	401.90'	46.49'	S80°58'31"E	46.47'
C16	3°23'39"	1717.70'	101.76'	S75°58'55"E	101.74'
C17	3°23'39"	1687.70'	99.98'	S75°58'55"E	99.96'
C18	3°23'39"	1657.70'	98.20'	S75°58'55"E	98.18'
C19	4°34'29"	6913.40'	551.99'	S76°34'11"E	551.85'
C20	4°34'29"	6943.40'	554.39'	S76°34'11"E	554.24'
C21	4°34'29"	6973.40'	556.78'	S76°34'11"E	556.64'
C22	14°35'25"	682.85'	173.89'	S71°33'44"E	173.42'
C23	14°35'25"	652.85'	166.25'	S71°33'44"E	165.80'
C24	14°35'25"	622.85'	158.61'	S71°33'44"E	158.18'
C25	8°32'23"	1644.33'	245.08'	S68°32'25"E	244.85'
C26	8°32'23"	1674.33'	249.55'	S68°32'25"E	249.32'
C27	8°32'23"	1704.33'	254.02'	S68°32'25"E	253.79'

Line Table

Line No.	Distance	Bearing
L1	47.51'	S73°01'11"E
L2	47.51'	S73°01'11"E
L3	47.51'	S73°01'11"E
L4	45.88'	S84°16'11"E
L5	45.88'	S84°16'11"E
L6	45.88'	S84°16'11"E
L7	154.29'	S77°40'53"E
L8	154.29'	S77°40'53"E
L9	154.29'	S77°40'53"E
L10	81.61'	S64°16'14"E
L11	81.61'	S64°16'14"E
L12	81.61'	S64°16'14"E

- Survey Records
- Odell and Lewis, G. L. O. Contract No. 110, Dated February 7, 1865
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Oregon State Plane Coordinates - North Zone 3601

NAD '83('91) - International Feet

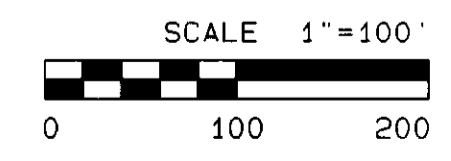
Point	Northing	Easting
S.E. Corner Section 21	849,701.89	8,759,049.82
S.E. Corner Section 22	849,919.78	8,764,356.97
BC-2	849,735.37	8,760,465.64
BC-3	849,246.62	8,761,347.58
BC-4	849,209.39	8,761,740.56
BC-5	848,949.17	8,762,740.59
212+41.05 P.C. CL	849,739.82	8,760,290.21
214+72.74 P.T. CL	849,691.07	8,760,514.21
223+90.04 P.C. CL	849,279.30	8,761,333.83
224+89.72 P.T. CL	849,243.56	8,761,426.70
225+37.22 P.C. CL	849,230.92	8,761,472.49
225+87.07 P.T. CL	849,222.45	8,761,521.53
226+32.95 P.C. CL	849,219.11	8,761,567.28
226+82.90 P.T. CL	849,212.62	8,761,616.78
228+37.19 P.C. CL	849,163.81	8,761,768.35
229+37.17 P.T. CL	849,162.24	8,761,865.95
232+34.72 P.C. CL	849,069.45	8,762,154.44
237+89.11 P.R.C. CL	848,975.40	8,762,696.79
239+55.35 P.T. CL	848,927.26	8,762,855.43
240+36.96 P.C. CL	848,893.84	8,762,929.88

REGISTERED PROFESSIONAL LAND SURVEYOR
 Gary R. Roberts
 JUL 20, 1993
 2627
 RENEWS 12/31/2004

Umatilla County Road Department
 3920 Westgate
 Pendleton, Oregon 97801
 Phone 541/278-5424

Birch Creek Road Legalization Survey
 County Road No. 550

Located in Sections 22 and 27
 Township 6 North, Range 36 E.W.M.



RECEIVED BY
 Umatilla County Surveyor
 Date 6-03
 Rec'd By KR
 No. 03-165-C

Sheet 2 of 3 Date of Survey: June, 2003

Birch Creek Road Legalization Survey

Survey Records

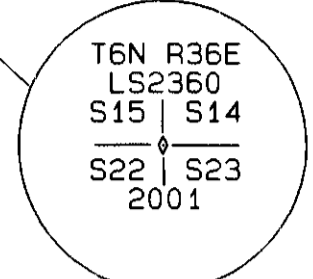
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Southeast Corner Section 20. See Sheet 1 for monument description.

Southeast Corner Section 21. See Sheet 1 for monument description.

Southeast Corner Section 22. Set railroad spike stamped "LS2627" with punch mark flush with road surface at record G.L.O. distance south of the monument at the northeast corner of the section and in the center of the paved surface of Hood Road. See restoration form filed separately.

Found 2" Brass Disk marked as shown set in concrete 1/2" +/- below pavement surface. Its location matches the location of the northeast corner of Section 22 as shown on Survey 03-23-C by Tomkins. I believe it to be a perpetuation of the 5/8" rebar set by Bartleson, Survey No. 99-282-B. No restoration form was found.



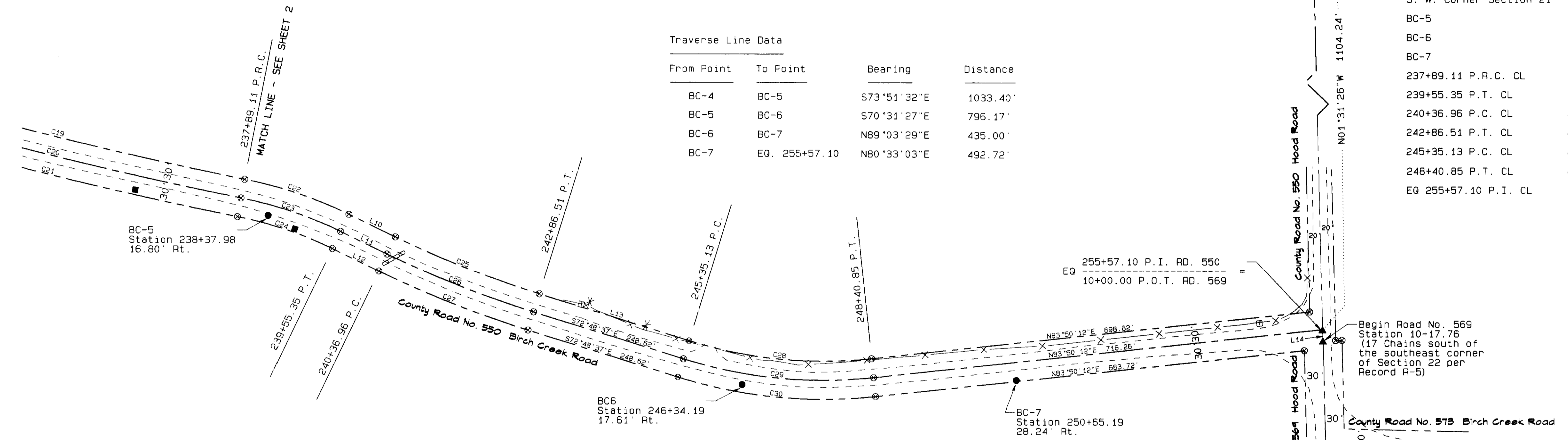
Oregon State Plane Coordinates - North Zone 3601

NAD '83('91) - International Feet

Point	Northing	Easting
N. E. Corner Section 22	855,197.70 (855,197.64)	8,764,220.99 (8,764,220.98)
S. E. Corner Section 22	849,919.78	8,764,356.97
S. W. Corner Section 22	849,701.89	8,759,049.82
S. W. Corner Section 21	849,592.53	8,753,743.31
BC-5	848,949.17	8,762,740.59
BC-6	848,704.20	8,763,498.09
BC-7	848,723.15	8,763,932.64
237+89.11 P.R.C. CL	848,975.40	8,762,696.79
239+55.35 P.T. CL	848,927.26	8,762,855.43
240+36.96 P.C. CL	848,893.84	8,762,929.88
242+86.51 P.T. CL	848,808.96	8,763,164.29
245+35.13 P.C. CL	848,741.97	8,763,403.69
248+40.85 P.T. CL	848,721.01	8,763,706.55
EQ 255+57.10 P.I. CL	848,817.20	8,764,416.28

Traverse Line Data

From Point	To Point	Bearing	Distance
BC-4	BC-5	S73°51'32"E	1033.40'
BC-5	BC-6	S70°31'27"E	796.17'
BC-6	BC-7	N89°03'29"E	435.00'
BC-7	EQ 255+57.10	N80°33'03"E	492.72'



Curve Table

Curve No.	Delta	Radius	Arc Length	Chord Bearing	Chord Distance
C19	4°34'29"	6913.40'	551.99'	S76°34'11"E	551.85'
C20	4°34'29"	6943.40'	554.39'	S76°34'11"E	554.24'
C21	4°34'29"	6973.40'	556.78'	S76°34'11"E	556.64'
C22	14°35'25"	682.85'	173.89'	S71°33'44"E	173.42'
C23	14°35'25"	652.85'	166.25'	S71°33'44"E	165.80'
C24	14°35'25"	622.85'	158.61'	S71°33'44"E	158.18'
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C26	8°32'23"	1674.33'	249.55'	S68°32'25"E	249.32'
C27	8°32'23"	1704.33'	254.02'	S68°32'25"E	253.79'
C28	23°21'11"	720.06'	293.49'	S84°29'12"E	291.46'
C29	23°21'11"	750.06'	305.72'	S84°29'12"E	303.60'
C30	23°21'11"	780.06'	317.94'	S84°29'12"E	315.75'

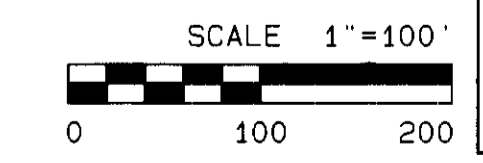
Line Table

Line No.	Distance	Bearing
L10	81.61'	S64°16'14"E
L11	81.61'	S64°16'14"E
L12	81.61'	S64°16'14"E
L13	248.62'	S72°48'37"E
L14	17.76'	N01°31'26"W

LEGEND

- Found Section Monument as Noted
- Set Section Monument as Noted
- Set 5/8" X 30" Iron Rebar with Yellow Plastic Cap Marked "UCPWD...LS2627"
- ▲ Set Railroad Spike with Punch Mark Stamped "LS2627"
- ⊙ Calculated Point Only - Nothing Found or Set
- Power Pole
- ⊕ Telephone Pedestal
- Guy Wire and Anchor
- R/W Centerline
- - - R/W Line
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- Culvert
- X — X Fence

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 County Road No. 550

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 Township 6 North, Range 36 E.W.M.

Sheet 3 of 3 Date of Survey: June, 2003

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