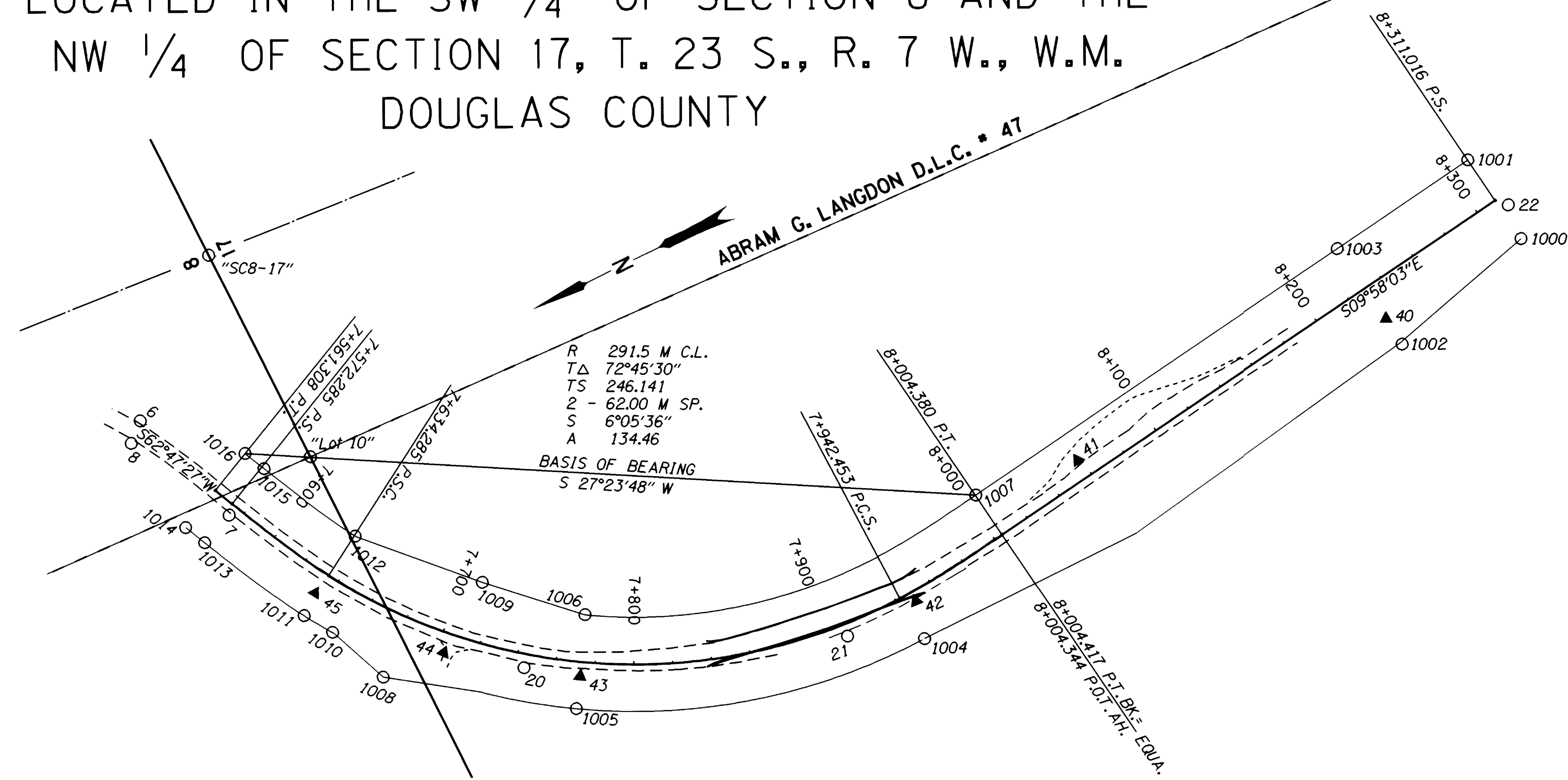


CONTROL NETWORK AND FOUND MONUMENTS

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
6	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 6".	11966.640	3763.898	100.476
7	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 7". GOOD CONDITION.	11944.798	3700.956	103.346
8	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 8".	11975.600	3755.301	99.609
20	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 20".	11838.586	3567.029	112.057
21	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 21".	11680.062	3513.925	120.985
22	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 22".	11278.830	3577.641	141.579
23	FOUND 13 MM SO. I. ROD WITH A 38 MM ALUMINUM CAP STAMPED, "ODOT HORIZ. CONTROL 23".	11058.011	3670.020	
40	SET 13 MM X 0.76 M SO. I. ROD WITH 38 MM ALUM. CAP STAMPED, "ODOT HORIZ. CONTROL 40".	11360.475	3549.720	138.468
41	SET 13 MM X 0.76 M SO. I. ROD WITH 38 MM ALUM. CAP STAMPED, "ODOT HORIZ. CONTROL 41".	11535.017	3548.519	128.184
42	SET 13 MM X 0.76 M SO. I. ROD WITH 38 MM ALUM. CAP STAMPED, "ODOT HORIZ. CONTROL 42".	11640.635	3516.115	123.098
43	SET 13 MM X 0.76 M SO. I. ROD WITH 38 MM ALUM. CAP STAMPED, "ODOT HORIZ. CONTROL 43".	11814.125	3551.271	113.547
44	SET 13 MM X 0.76 M SO. I. ROD WITH 38 MM ALUM. CAP STAMPED, "ODOT HORIZ. CONTROL 44".	11873.161	3591.051	109.952
45	SET 13 MM X 0.76 M SO. I. ROD WITH 38 MM ALUM. CAP STAMPED, "ODOT HORIZ. CONTROL 45".	11920.933	3646.328	106.699
1000	FOUND 3/8" (16 MM) I. ROD, 0.18 M BELOW SURFACE IN GOOD CONDITION. STATION 272+66.49 P.S., 80' RT. WITH CARSONITE POST NEARBY.	11279.937	3559.006	
1001	FOUND 3/8" (16 MM) I. ROD, 0.05 M ABOVE SURFACE IN GOOD CONDITION. STATION 272+66.49 P.S., 80' LT. WITH CARSONITE POST NEARBY.	11288.414	3607.231	
1002	FOUND 3/8" (16 MM) I. ROD, 0.02 M ABOVE SURFACE IN GOOD CONDITION. STATION 270+00, 80' RT.	11358.091	3534.299	
1003	FOUND 3/8" (16 MM) I. ROD, 0.06 M ABOVE SURFACE IN GOOD CONDITION. STATION 270+00, 80' LT.	11368.424	3593.119	
1004	FOUND 3/8" (16 MM) I. ROD, 0.12 M BELOW SURFACE IN GOOD CONDITION. STATION 260+61.21 P.C.S., 80' RT.	11644.443	3496.522	
1005	FOUND 3/8" (16 MM) I. ROD, 0.02 M ABOVE SURFACE IN GOOD CONDITION. STATION 255+00, 80' RT.	11822.670	3536.705	
1006	FOUND 3/8" (16 MM) I. ROD, 0.06 M BELOW SURFACE IN GOOD CONDITION. STATION 255+00, 80' LT.	11798.752	3579.209	
1007	FOUND 3/8" (16 MM) I. ROD, 0.02 M ABOVE SURFACE IN GOOD CONDITION. STATION 262+61.21 P.T. BK., 262+60.97 P.O.T. AH., 80' LT.	11590.135	3553.419	
1008	FOUND 3/8" (16 MM) I. ROD, 0.02 M ABOVE SURFACE IN GOOD CONDITION. STATION 252+00, 110' RT.	11906.669	3592.160	
1009	FOUND 3/8" (16 MM) I. ROD, 0.02 M ABOVE SURFACE IN GOOD CONDITION. STATION 253+00, 100' LT.	11840.138	3616.126	
1010	FOUND 3/8" (16 MM) I. ROD, 0.04 M ABOVE SURFACE IN GOOD CONDITION. STATION 251+00, 80' RT.	11920.994	3623.887	
1011	FOUND 3/8" (16 MM) I. ROD, 0.03 M ABOVE SURFACE IN GOOD CONDITION. STATION 250+48.57 P.S.C., 80' RT.	11930.774	3637.751	
1012	FOUND 3/8" (16 MM) I. ROD, 0.04 M ABOVE SURFACE IN GOOD CONDITION. STATION 250+48.57 P.S.C., 80' LT.	11890.053	3664.609	
1013	FOUND 3/8" (16 MM) I. ROD, 0.10 M BELOW SURFACE IN GOOD CONDITION. STATION 248+48.57 P.S., 80' RT.	11962.020	3693.091	
1014	FOUND 3/8" (16 MM) I. ROD, FLUSH WITH SURFACE IN GOOD CONDITION. STATION 248+07.44 P.T., 80' RT.	11967.739	3704.229	
1015	FOUND 3/8" (16 MM) I. ROD, 0.01 M BELOW SURFACE IN GOOD CONDITION. STATION 248+48.57 P.S., 80' LT.	11918.629	3715.484	
1016	FOUND 3/8" (16 MM) I. ROD, FLUSH WITH SURFACE IN GOOD CONDITION. STATION 248+07.44 P.T., 80' LT.	11924.377	3726.648	
LOT10	FOUND 1 1/2" (38 MM) I. PIPE WITH 2 1/2" (64 MM) ALUMINUM CAP STAMPED, "T235 PLS 839 R7W SE LOT 10 1982", 0.27 M ABOVE SURFACE IN GOOD CONDITION. (REF. DCSO #M90-32)	11894.338	3711.375	
SC8-17	FOUND 2" (51 MM) I. PIPE WITH 3" (76 MM) BRASS CAP STAMPED, "US DEPT OF THE INTERIOR BUR OF LAND MANAGEMENT UNLAWFUL TO DISTURB 1/4 SB/S17 T235 R7W 1965 CADASTRAL SURVEY", 0.09 M ABOVE SURFACE IN GOOD CONDITION. (REF. DCSO #M90-32)	11899.571	3827.699	

HORIZONTAL CONTROL, RECOVERY, AND RETRACEMENT MAP

LOCATED IN THE SW 1/4 OF SECTION 8 AND THE
NW 1/4 OF SECTION 17, T. 23 S., R. 7 W., W.M.
DOUGLAS COUNTY



SURVEY NARRATIVE

THE PURPOSE OF THIS METRIC SURVEY NETWORK WAS TO ESTABLISH CONTROL FOR A HIGHWAY PROJECT NAMED "M.P. 4.7 SLIDE" ON THE ELKTON-SUTHERLIN HWY. (HWY. 138W).

BASIS OF BEARING WAS ESTABLISHED BY CALCULATING COORDINATES FOR R/W MONUMENTS 1016 (ENGLISH STA. 248+07.44 P.T., 80 FT. LT.) AND 1007 (ENGLISH STA. 262+61.21 P.T. 80 FT. LT.) AS SHOWN ON R/W DRAWING NO. 8B-13-11. "FOUND" MONUMENTS 6 THRU 8 AND 20 THRU 23 AND "SET" MONUMENTS 40 THRU 45 WERE USED IN THE NETWORK. EACH NETWORK POINT WAS OCCUPIED ONCE EXCEPT FOR POINT #23. COORDINATES ARE ASSUMED.

A LEICA TCA1800 TOTAL STATION WAS USED TO ESTABLISH HORIZONTAL CONTROL FOR THIS PROJECT. THE TCA1800 TOTAL STATION HAS A STANDARD ANGULAR ERROR OF +/- 1 SECOND, AND A STANDARD DISTANCE ERROR OF +/- 2 MM, 2PPM.

A LEVEL CIRCUIT THROUGH THE HORIZONTAL CONTROL POINTS WAS MADE USING A WILD NA2002 LEVEL, STARTING FROM BM #U 335, A BRASS DISK STAMPED "USC&GS & SS RESET IN 1974", SET IN THE S.E. CORNER OF SMITH BRIDGE OVER THE UMPQUA RIVER. ELEV. = 179.525 FT. = 54.7192 M. THE STANDARD DEVIATION FOR A WILD NA2002 IS 0.9 MM IN A 1 KM DOUBLE RUN LEVEL CIRCUIT.

THE SURVEY WAS COMPLETED JUNE 16, 1998.

THE LEAST SQUARES ADJUSTMENT PRODUCED: ANGULAR RESIDUALS (THE AMOUNT THE FIELD OBSERVED ANGLES WERE CHANGED DUE TO THE ADJUSTMENT) AVERAGING 1.88 SECONDS AND NO GREATER THAN 8 SECONDS; DISTANCE RESIDUALS (THE AMOUNTS THE FIELD OBSERVED DISTANCES WERE CHANGED DUE TO THE ADJUSTMENT) AVERAGING LESS THAN 1 MM AND NO GREATER THAN 3 MM.

THERE IS A 95% PROBABILITY THAT THE FINAL POSITIONS OF THE CONTROL POINTS ARE WITHIN THE ERROR ELLIPSES AS SHOWN IN THE TABLE BELOW.

ERROR ANALYSIS

POINT	STANDARD DEVIATIONS		STANDARD ERROR ELLIPSE		
	NORTH	EAST	SEMI MAJOR	SEMI MINOR	ORIENTATION
40	0.001	0.003	0.003	0.001	N73°20'05"E
41	0.001	0.009	0.009	0.001	N83°35'45"E
42	0.002	0.012	0.012	0.001	N80°19'38"E
21	0.002	0.014	0.014	0.001	N80°58'57"E
43	0.002	0.019	0.019	0.002	N88°05'07"E
44	0.002	0.021	0.021	0.002	S87°00'53"E
20	0.002	0.020	0.020	0.002	S89°53'10"E
45	0.005	0.023	0.024	0.003	S81°04'50"E
7	0.008	0.024	0.025	0.004	S75°34'01"E
6	0.011	0.025	0.027	0.006	S69°32'23"E
8	0.010	0.026	0.027	0.005	S70°38'02"E

RETRACEMENT NARRATIVE

RETRACEMENT OF THE RIGHT-OF-WAY CENTERLINE WAS ACCOMPLISHED BY ANALYZING THE EXISTING ALIGNMENT AS SHOWN ON R/W DRAWING NO. 8B-13-11 IN COMPARISON TO THE LOCATION OF THE FOUND MONUMENTS. A "BEST FIT" APPROACH WAS TAKEN BY HOLDING A TANGENT SPLITTING POINTS 1014 & 1016 AND POINTS 1013 & 1015. RECORD DELTA WAS HELD FOR THE FOLLOWING TANGENT, WHICH PASSES THROUGH RECORD P.T. AT 262+61.21, AND SPLITTS POINTS 1002 & 1003. MINOR ADJUSTMENTS WERE MADE TO THE CURVE AND SPIRALS PASSING THROUGH THE PROJECT AREA TO BEST FIT THE FOUND R/W MONUMENTS. THE ENGLISH STATION 248+07.44 WAS MULTIPLIED BY 0.3048 TO OBTAIN THE METRIC STATIONING FOR THIS ALIGNMENT.

TO CONVERT COORDINATES TO ENGLISH, DIVIDE THE METRIC COORDINATES BY 0.3048

○ 23

FILED
Date: 9-29-1998 By: J.P.
This survey consists of:
Map: M129-15
Narrative:
Corner Rpt.:
DOUGLAS COUNTY SURVEYOR J.P.

REGISTERED PROFESSIONAL LAND SURVEYOR

Christine V. Blevins

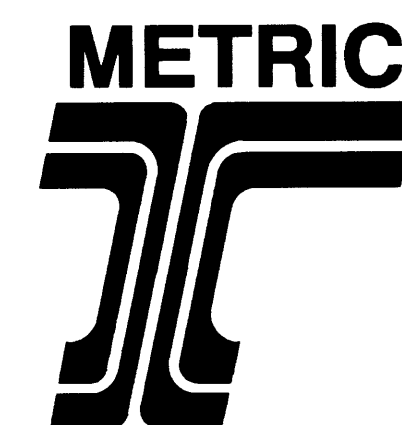
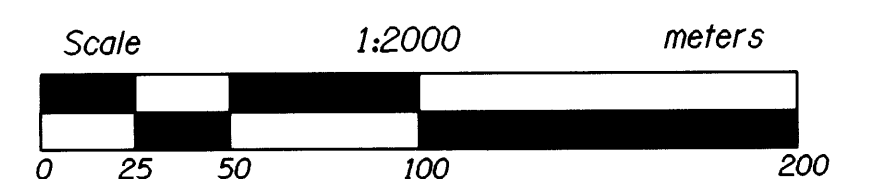
OREGON JULY 19, 1994 CHRISTINE V. BLEVINS 2469

Expires : Dec. 31, 1999

CHRISTINE V. BLEVINS P.L.S.
Oregon Department of Transportation
3500 N.W. Stewart Parkway
Roseburg, Oregon 97470

LEGEND

- ▲ SET MONUMENT
- FOUND MONUMENT



OREGON DEPARTMENT OF TRANSPORTATION
HORIZONTAL CONTROL, RECOVERY,
AND RETRACEMENT MAP
M.P. 4.7 SLIDE
ELKTON-SUTHERLIN HIGHWAY
DOUGLAS COUNTY
ODOT
3500 Stewart Parkway, Suite 140
Roseburg, Oregon 97470

KEY NO.: 09988