

S.E. 1/4	SEC. 17, T. 36 S., R. 1 W.,	W.M. (CAMP WHITE)	S.E. 1/4	SEC. 6, T. 37 S., R. 1 W.,	W.M. (10838-06)
N.E. 1/4	SEC. 6, T. 37 S., R. 1 W.,	W.M. (VILA)	S.E. 1/4	SEC. 6, T. 37 S., R. 1 W.,	W.M. (10838-07)
S.W. 1/4	SEC. 32, T. 36 S., R. 1 W.,	W.M. (PIPE)	N.W. 1/4	SEC. 32, T. 36 S., R. 1 W.,	W.M. (10838-08)
S.W. 1/4	SEC. 7, T. 37 S., R. 1 W.,	W.M. (BEACON)	N.W. 1/4	SEC. 30, T. 36 S., R. 1 W.,	W.M. (10838-09)
N.E. 1/4	SEC. 18, T. 37 S., R. 1 W.,	W.M. (10838-04)	N.W. 1/4	SEC. 29, T. 36 S., R. 1 W.,	W.M. (10838-10)

SITUATED IN JACKSON COUNTY, OREGON

**SURVEY NARRATIVE**

THIS SURVEY WAS PERFORMED FOR AND AT THE REQUEST OF JOHN PARIANI, REPRESENTING REGION 3 OF THE OREGON DEPARTMENT OF TRANSPORTATION. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH GEODETIC CONTROL FOR THE ODOT PRELIMINARY ENGINEERING PROJECT, MEDFORD HIGHWAY 62 CORRIDOR SOLUTION, LOCATED ALONG THE CRATER LAKE HIGHWAY, ALSO KNOWN AS STATE ROUTE 62.

THE GPS PORTION OF THIS SURVEY WAS COMPLETED IN AUGUST OF 2004. GPS SESSIONS WERE OBSERVED USING THREE LEICA SYSTEM 500 DUAL FREQUENCY GPS RECEIVERS, MODEL SR530 AND ANTENNA MODEL AT502 AND TERMINAL MODEL TR500. THE SYSTEM 500 HAS A STATED ACCURACY SPECIFICATION OF FIVE MILLIMETERS PLUS ONE PART PER MILLION WHEN USED IN STATIC OR RAPID STATIC MODE.

THE FIELD PROCEDURES ARE SUMMARIZED AS FOLLOWS. FIVE BRASS DISKS WERE SET IN CONCRETE MONUMENTS BY REGION 3 STAFF. FIVE EXISTING MONUMENTS WERE USED IN THE VICINITY OF THE PROJECT.

RAPID STATIC TIES WERE OBSERVED ON AUGUST 4, 2004 TO THE PROJECT FROM TWO MONUMENTS, "VILLA" AND "PIPE" WHICH WERE FILED IN THE JACKSON COUNTY SURVEYORS OFFICE APRIL 10, 2003, #17733. ADDITIONAL TIES WERE MADE TO "BEACON" (PID NZ0949), "CAMP WHITE 2" (PID NZ1100) AND "10838-04" WHICH WAS FILED BY REGION 3, NOVEMBER, 2000, #16727. SESSIONS WERE OBSERVED ON A TOTAL OF 8 BASELINES FROM "VILA" AND "PIPE" TO THE PROJECT. SESSIONS WERE OBSERVED ON A TOTAL OF 13 BASELINES WITHIN THE PROJECT. EACH OF THE STATIONS IN THE GPS NETWORK WERE OCCUPIED TWO OR MORE TIMES. ALL GPS OBSERVATIONS WERE COMPLETED BY ODOT GEOMETRONICS STAFF.

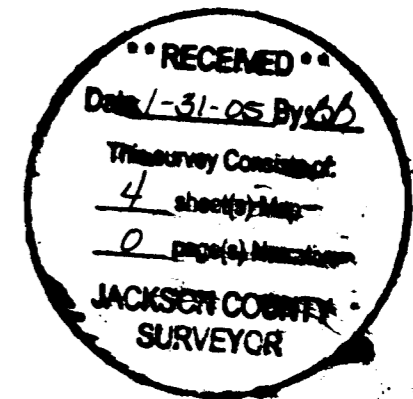
ANALYSIS AND ADJUSTMENT PROCEDURES ARE SUMMARIZED AS FOLLOWS. THE HORIZONTAL POSITIONS FOR THIS SURVEY ARE BASED ON REFERENCE ELLIPSOID WGS84 AND NAD83 (1991) PUBLISHED VALUES. DIGITAL LEVELS WERE RUN FROM BENCHMARKS G607, N7, K607, L607 AND M607 TO ALL OF THE PROJECT POINTS EXCEPT "PIPE", "CAMP WHITE 2" AND "BEACON". NGVD29 PUBLISHED VALUES WERE USED FOR THE VERTICAL COMPONENT AND CONSTRAINED TO IN THE FINAL ADJUSTMENT.

ALL POST PROCESSING, INCLUDING CONVERSION TO BOTH ORTHOMETRIC HEIGHTS AND THE OREGON COORDINATE SYSTEM WAS COMPLETED USING VERSION 3.0 OF LEICA SKI PRO SOFTWARE. SKI PRO VERSION 3.0 CALLS A THIRD PARTY LEAST SQUARES ADJUSTMENT ROUTINE IDENTIFIED AS "MOVE 3" VERSION 3.2.2. AN ADJUSTMENT WAS APPLIED TO A NETWORK OF 21 TOTAL BASELINES. DURING THE FINAL ADJUSTMENT, STATIONS "VILA" AND "PIPE" WERE HELD HORIZONTALLY AND STATIONS "VILA", "10838-04", "10838-06", "10838-07", "10838-08", "10838-09" AND "10838-10" WERE HELD VERTICALLY.

ACCEPTANCE OF THE ADJUSTMENT IS BASED ON A MAXIMUM RESIDUAL OF 0.10 FEET. THE MAXIMUM RESIDUAL OF 0.02 FEET IS FROM STATION "10838-07" TO "10838-04". THIS BASELINE HAS A LENGTH OF APPROXIMATELY 7400 FEET.

POSITIONAL ACCURACIES PUBLISHED ARE RELATIVE TO THE FIXED POINTS AND ARE STATED AT A 95% CONFIDENCE LEVEL BASED ON THE MOVE3 ADJUSTMENT REPORT.


SUPPORTING DATA FOR THIS SURVEY IS LOCATED IN CONTROL FILE 03-008 AT THE ODOT GEOMETRONICS UNIT, SALEM, OREGON



REGISTERED PROFESSIONAL LAND SURVEYOR

*J. David Brinton*  
 OREGON  
 DECEMBER 2, 1983  
 J. DAVID BRINTON  
 2065

EXPIRES 12-31-05

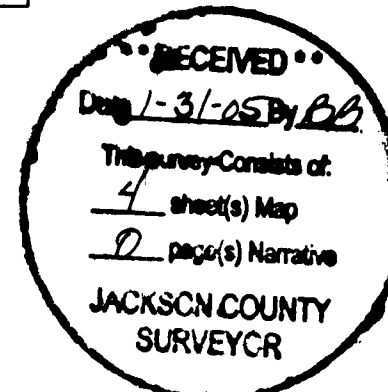
 OREGON DEPARTMENT OF TRANSPORTATION GEOMETRONICS UNIT 200 HAWTHORNE AVE. SE, * B-250 SALEM, OR 97301-5193 (503)986-3103; FAX (503)986-3548			
GEODETIC SURVEY REPORT HIGHWAY 62 CORRIDOR SOLUTION CRATER LAKE HIGHWAY *22 GEOMETRONICS CONTROL FILE 03-008 FOR OREGON DEPARTMENT OF TRANSPORTATION REGION 3			
COUNTY: JACKSON	DRAWN BY: JDB	KEY : 13226	SHEET OF
SURVEY DATE: AUGUST 4, 2004		FILE NAME: 13226GPS.DGN	2 4

S.E. 1/4 SEC. 17, T. 36 S., R. 1 W.,	W.M. (CAMP WHITE 2)	S.E. 1/4 SEC. 6, T. 37 S., R. 1 W.,	W.M. (10838-06)
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SITUATED IN JACKSON COUNTY, OREGON

STATION DESCRIPTIONS

<p>VILA</p> <p>THE MARK IS A 3" DIAMETER ODOT DISK STAMPED "VILA 1993". IT WAS RECOVERED IN GOOD CONDITION AND AS DESCRIBED IN JACKSON COUNTY SURVEY #17733.</p>	<p>10838-08</p> <p>THE MARK IS LOCATED APPROXIMATELY 2.0 MILES SOUTH OF WHITE CITY ALONG HIGHWAY 62. THE MARK IS A 3" BRASS DISK SET IN A 1' X 1' CONCRETE MONUMENT, FLUSH WITH THE GROUND WITH MAGNETS, CAST WITH "OREGON DOT DO NOT DISTURB GEODETIC CONTROL PT." AND STAMPED "10838-06"</p> <p>TO REACH THE MARK FROM THE INTERSECTION OF HIGHWAY 62 AND INTERSTATE 5 IN MEDFORD, TRAVEL 4.2 MILES NORTHEAST AND NORTH 0.9 MILES BEYOND VILAS RD. TO THE MARK ON THE GRAVEL SHOULDER ON THE RIGHT.</p> <p>THE MARK IS LOCATED 3.0 FEET SOUTH OF AN ORANGE CARSONITE POST, 4.2 FEET NORTHWEST OF THE NORTHWEST CORNER OF A BOX CULVERT HEADWALL, 11.7 FEET EAST OF THE EAST EDGE OF PAVEMENT AND 41.6 FEET NORTHWEST OF BENCH MARK "N 7".</p>
<p>PIPE</p> <p>THE MARK IS A 3" DIAMETER ODOT DISK STAMPED "PIPE 1993". IT WAS RECOVERED IN GOOD CONDITION AND AS DESCRIBED IN JACKSON COUNTY SURVEY #17733.</p>	<p>10838-09</p> <p>THE MARK IS LOCATED APPROXIMATELY 1.0 MILES SOUTH OF WHITE CITY ALONG HIGHWAY 62. THE MARK IS A 3" BRASS DISK SET IN A 1' X 1' CONCRETE MONUMENT, FLUSH WITH THE GROUND WITH MAGNETS, CAST WITH "OREGON DOT DO NOT DISTURB GEODETIC CONTROL PT." AND STAMPED "10838-06"</p> <p>TO REACH THE MARK FROM THE INTERSECTION OF HIGHWAY 62 AND INTERSTATE 5 IN MEDFORD, TRAVEL 5.1 MILES NORTHEAST AND NORTH 1.8 MILES BEYOND VILAS RD. TO AGATE RD. TURN LEFT. ON AGATE RD. TRAVEL WEST 0.1 MILE TO EAST GREGORY RD. THEN WEST ON EAST GREGORY RD. 0.5 MILE TO THE MARK ON THE RIGHT.</p> <p>THE MARK IS LOCATED 17.0 FEET SOUTHEAST OF AN ORANGE CARSONITE POST, 1.0 FOOT NORTH OF THE EDGE OF PAVEMENT, 36.5 FEET WEST OF A FENCE CORNER, 25.5 FEET EAST OF A FENCE CORNER, 43 FEET NORTHEAST OF POWER GUY POLE #36-1RA AND 36 FEET SOUTHEAST OF POWER POLE PPL #B8161 0/7/0/0/0/36.</p>
<p>BEACON</p> <p>THE MARK IS A BRASS DISK, UNMARKED. IT WAS RECOVERED IN GOOD CONDITION AND AS DESCRIBED IN THE NGS DATA SHEET, (PID NZ0949) IN 1996.</p>	<p>10838-10</p> <p>THE MARK IS LOCATED APPROXIMATELY 0.8 MILES SOUTH OF WHITE CITY ALONG HIGHWAY 62. THE MARK IS A 3" BRASS DISK SET IN A 1' X 1' CONCRETE MONUMENT, FLUSH WITH THE GROUND WITH MAGNETS, CAST WITH "OREGON DOT DO NOT DISTURB GEODETIC CONTROL PT." AND STAMPED "10838-06"</p> <p>TO REACH THE MARK FROM THE INTERSECTION OF HIGHWAYS 140 AND 62, TRAVEL SOUTH ON HIGHWAY 62 APPROXIMATELY 0.45 MILE TO THE MARK ON THE LEFT.</p> <p>THE MARK IS LOCATED 11.0 FEET WEST OF AN ORANGE CARSONITE POST, 65.5 FEET EAST OF THE EDGE OF PAVEMENT, 33 FEET NORTHWEST OF A CYCLONE FENCE CORNER, 1.3 FEET NORTH OF EAST GREGORY ROAD, AT MILE POINT 5.63, 39 FEET EAST OF A STOP SIGN, 20 FEET WEST OF PACIFICORP POLE #1582 AND 11 FEET WEST OF A GUY WIRE ANCHOR.</p>
<p>CAMP WHITE 2</p> <p>THE MARK IS A BRASS DISK, STAMPED "CAMP WHITE 2". IT WAS RECOVERED IN GOOD CONDITION AND AS DESCRIBED IN THE NGS DATA SHEET, (PID NZ1100) IN 1983.</p>	
<p>10838-04</p> <p>THE MARK IS A 3" DIAMETER ODOT DISK STAMPED "10838-04". IT WAS RECOVERED IN GOOD CONDITION AND AS DESCRIBED IN JACKSON COUNTY SURVEY #16727 IN 2000.</p>	
<p>10838-06</p> <p>THE MARK IS LOCATED APPROXIMATELY 3.2 MILES SOUTH OF WHITE CITY ALONG HIGHWAY 62. THE MARK IS A 3" BRASS DISK SET IN A 1' X 1' CONCRETE MONUMENT, FLUSH WITH THE GROUND WITH MAGNETS, CAST WITH "OREGON DOT DO NOT DISTURB GEODETIC CONTROL PT." AND STAMPED "10838-06"</p> <p>TO REACH THE MARK FROM THE INTERSECTION OF HIGHWAY 62 AND VILAS RD., TRAVEL SOUTH ON HIGHWAY 62 0.87 MILES TO COKER BUTTE RD. TURN RIGHT (WEST) AND TRAVEL 0.50 MILES, PAST A BARRICADE, TO THE MARK IN THE OLD PAVEMENT.</p> <p>THE MARK IS LOCATED 14.4 FEET EAST OF AN ORANGE CARSONITE WITNESS POST, 2.3 FEET EAST OF THE EDGE OF PAVEMENT, 30 FEET EAST OF A CYCLONE FENCE, 62 FEET SOUTHWEST OF A MANHOLE, 66 FEET NORTHEAST OF POWER POLE #B21029 AND 0.222 MILES WEST OF LEAR WAY.</p>	
<p>10838-07</p> <p>THE MARK IS LOCATED APPROXIMATELY 3.2 MILES SOUTH OF WHITE CITY ALONG HIGHWAY 62. THE MARK IS A 3" BRASS DISK SET IN A 1' X 1' CONCRETE MONUMENT, FLUSH WITH THE GROUND WITH MAGNETS, CAST WITH "OREGON DOT DO NOT DISTURB GEODETIC CONTROL PT." AND STAMPED "10838-07"</p> <p>TO REACH THE MARK FROM THE INTERSECTION OF HIGHWAY 62 AND VILAS RD., TRAVEL SOUTH ON HIGHWAY 62, 0.87 MILES TO COKER BUTTE RD AND THE MARK ON THE RIGHT.</p> <p>THE MARK IS LOCATED 8.5 FEET EAST OF AN ORANGE CARSONITE WITNESS POST, 5.0 FEET NORTHWEST THE EDGE OF PAVEMENT, 52 FEET EAST OF A LUMINAIRE, 55 FEET NORTH OF THE CENTERLINE OF COKER BUTTE RD., 95 FEET NORTH OF A STOP SIGN, AND 59 FEET NORTHEAST OF A MANHOLE.</p>	



REGISTERED PROFESSIONAL LAND SURVEYOR

*J. David Brinton*

OREGON DECEMBER 2, 1983  
J. DAVID BRINTON  
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EXPIRES 12-31-05

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<p><b>GEODETIC SURVEY REPORT</b></p> <p>HIGHWAY 62 CORRIDOR SOLUTION CRATER LAKE HIGHWAY #22</p> <p>GEOMETRONICS CONTROL FILE 03-008 FOR OREGON DEPARTMENT OF TRANSPORTATION REGION 3</p>			
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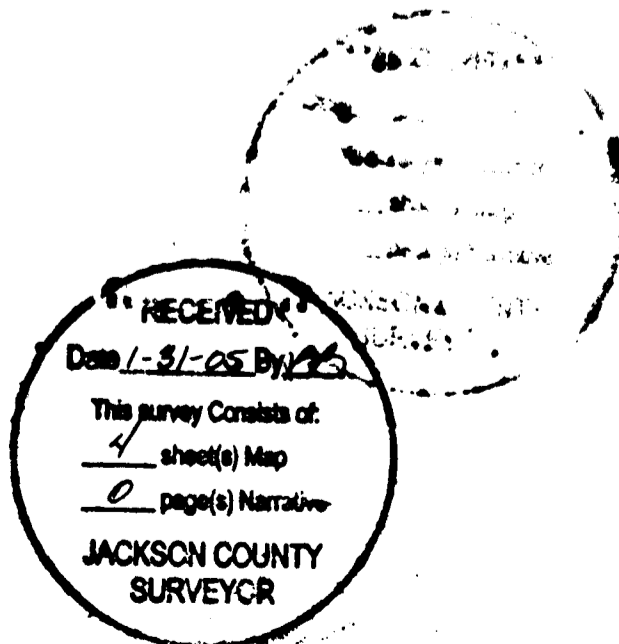
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MONUMENT INFORMATION

GRID COORDINATES ARE OREGON COORDINATE SYSTEM SOUTH ZONE  
 HORIZONTAL DATUM IS NAD 83 (1991)  
 VERTICAL DATUM IS NGVD 1929  
 ALL LINEAR VALUES ARE EXPRESSED IN INTERNATIONAL FEET.  
 VALUES MARKED WITH AN ASTERISK (\*) WERE HELD  
 ORIENTATION AZIMUTHS ARE EXPRESSED IN WHOLE DEGREES TO THE RIGHT FROM LOCAL GEODETIC NORTH.  
 CONVERGENCE ANGLES FROM GEODETIC NORTH TO GRID NORTH ARE EXPRESSED IN DEGREES, MINUTES, AND SECONDS IN THE CLOCKWISE DIRECTION.  
 REFERENCE ELLIPSOID IS WGS84  
 GEOID SEPARATIONS ARE BASED ON GEOID99

STATION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELL. HT.	GEOID-SEP	ORTH. HT.
10838-04	260834.906	4282123.280	42 21 27.34276	122 51 53.76861	1253.247*	-79.605	1332.852
10838-06	267802.764	4282151.750	42 22 36.15406	122 51 56.01061	1233.006*	-79.693	1312.699
10838-07	267772.132	4284678.714	42 22 36.55519	122 51 22.34555	1256.009*	-79.684	1335.693
10838-08	277145.693	4285035.093	42 24 09.21285	122 51 21.11196	1211.808*	-79.777	1291.585
10838-09	282520.862	4282557.285	42 25 01.59972	122 51 56.14796	1208.319*	-79.816	1288.135
10838-10	282455.849	4285590.960	42 25 01.80212	122 51 15.69541	1223.661*	-79.811	1303.472
BEACON	264361.462	4279642.599	42 22 01.47199	122 52 28.12699	1233.122	-79.654	1312.776
CAMP WHITE 2	289466.254	4289792.129	42 26 12.18913	122 50 22.31886	1249.303	-79.824	1329.127
PIPE	272239.422	4287372.535	42 23 21.41428*	122 50 48.13716*	1245.183	-79.720	1324.903
VILA	272356.882	4282265.559	42 23 21.15500*	122 51 56.20857*	1222.888*	-79.741	1302.629

STATION	<----- 95% CONFIDENCE REGIONS ----->				CONVERGENCE	PROJECTION S.F.	COMBINED S.F.
	SEMI-MAJ	SEMI-MIN	ORIENT.	HEIGHT			
10838-04	0.025	0.018	16	0.000	-1 37 05	0.99999398	0.99993404
10838-06	0.020	0.014	19	0.000	-1 37 06	0.99998936	0.99993039
10838-07	0.022	0.015	17	0.000	-1 36 43	0.99998933	0.99992926
10838-08	0.019	0.013	-8	0.000	-1 36 42	0.99998329	0.99992533
10838-09	0.022	0.017	-3	0.000	-1 37 06	0.99997996	0.99992216
10838-10	0.022	0.018	0	0.000	-1 36 39	0.99997994	0.99992142
BEACON	0.017	0.012	5	0.030	-1 37 28	0.99999167	0.99993269
CAMP WHITE 2	0.027	0.020	6	0.027	-1 36 02	0.99997557	0.99991582
PIPE	0.000	0.000	-7	0.024	-1 36 20	0.99998638	0.99992682
VILA	0.000	0.000	-7	0.000	-1 37 07	0.99998640	0.99992791



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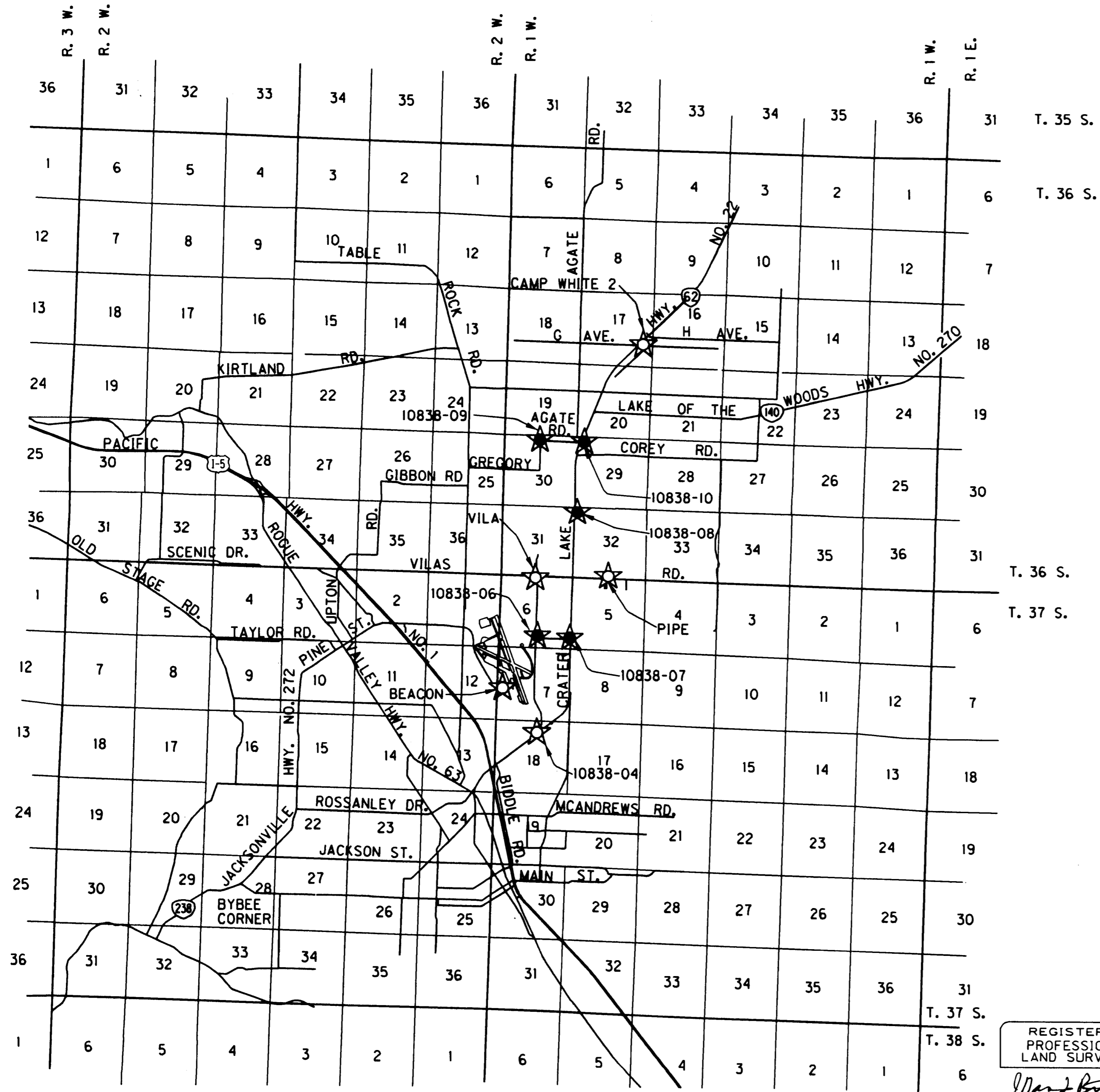
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 HIGHWAY 62 CORRIDOR SOLUTION  
 CRATER LAKE HIGHWAY •22  
 GEOMETRONICS CONTROL FILE 03-008  
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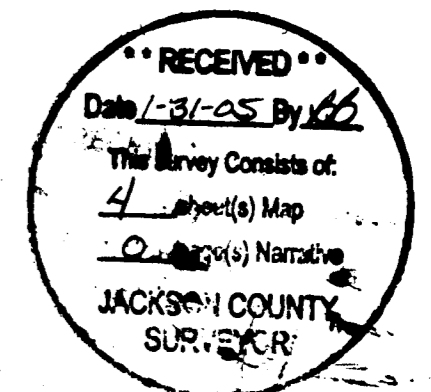
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LEGEND

- ☆ FOUND GPS GEODETIC CONTROL STATION
- ★ SET GEODETIC CONTROL STATION



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200 HAWTHORNE AVE. SE. • B-250  
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**GEODETIC SURVEY REPORT**

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CRATER LAKE HIGHWAY #22

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NOT TO SCALE