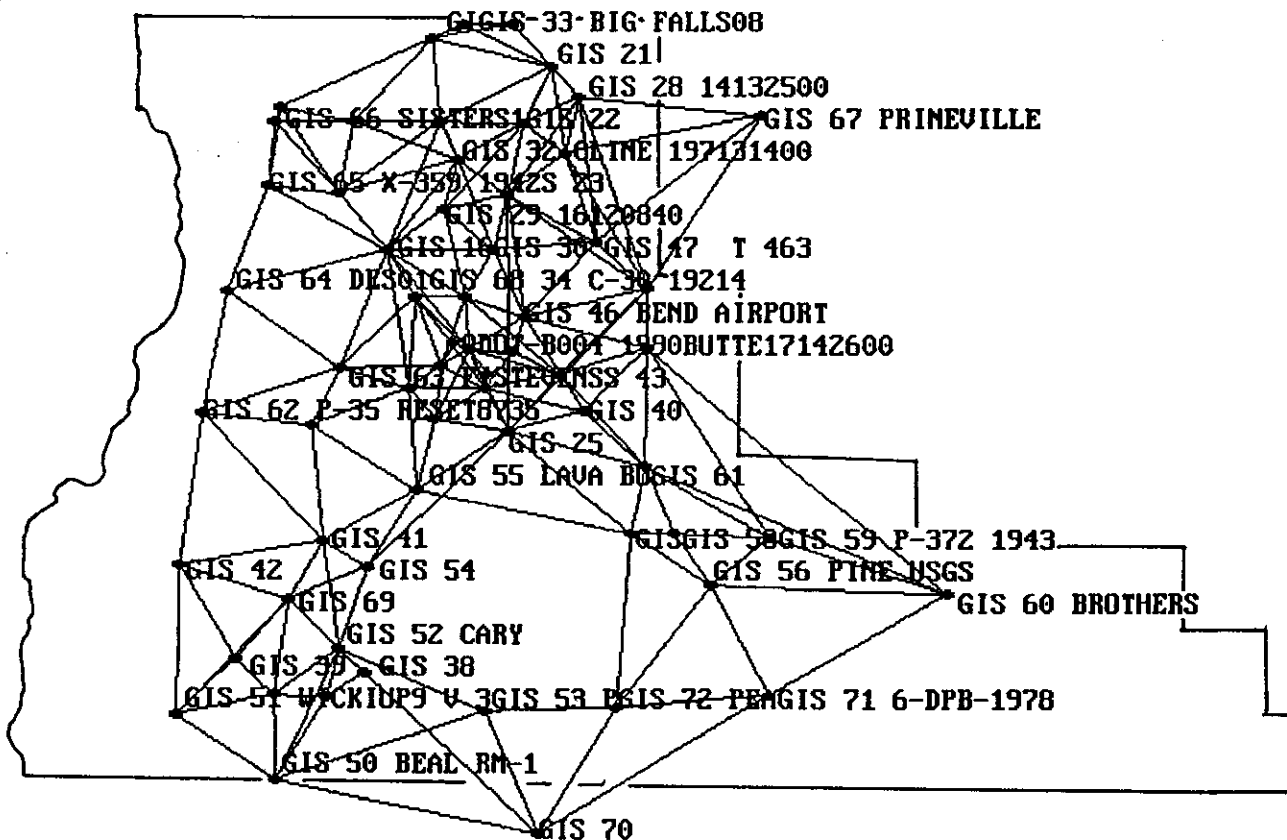


DESCHUTES COUNTY PRIME CONTROL NETWORK

BY _____

DESCHUTES COUNTY SURVEYOR'S OFFICE



OGMC # 5

FILED

DATE 8-5-92
DESCHUTES COUNTY SURVEYOR

BY Heila Oelle

DESCHUTES COUNTY PRIME CONTROL NETWORK

GENERAL:

The control network was started in June of 1988 by the Deschutes County Public Works Department for the evaluation of G.P.S. survey for the control of a county wide G.I.S project. This trial lasted one week with rented GPS receivers, 1 Trimble 4000 SL & 2 Trimble 4000 SX, and found to be a more favorable way to obtain survey control over conventional survey procedures. Due to the need to complete the control project the Public Works Department purchased three Trimble 4000 ST Geodetic Surveyor receivers in October of 1990 and completed the GPS field work in June of 1991.

The Public Works Department turned the project over to the Deschutes County Surveyors Office in July of 1991 for the completion of additional field work, (remeasures, level loops, witness post, sketches, descriptions, etc.), and the office work on the evaluation of loop closures, adjustments, and final report.

MEASUREMENTS:

We used Trim 640 single baseline processor for the reduction of GPS measurements to produce fix solution base lines and holding to Trimble's guideline to high confidence limits for the ratio and rms criteria.

Level loops were run with a Wild Ni 2 level and standard rod. Most were 1 turn from bench to control point.

CLOSURES:

We ran numerous loop closures on the base lines to check for HI errors and isolation of bad lines for remeasure. In the most part loop closures were 0.5 to 1 ppm for lines from 40 to 80 km in length with 3 or more independent sessions. The computations of open end closures from one fix point to another fix point (high precision points) using all independent sessions with closures of 0.86 to 1.76 ppm.

ADJUSTMENT:

HORIZONTAL

A minimal constrained adjustment was accomplished by holding Pilot Butte fix with excellent result and many partial constrained adjustments using combinations of two to five fix points, all showing excellent internal consistency. One such adjustment holding Big Falls, Brothers, Prineville, Sisters and Wickiup fix and checking Pilot Butte (fiducial point) by 9 mm north and 9 mm east. For completion we added Pilot Butte to the system for the fully constrained adjustment of the network. Datum for all adjustments was nad 83 (1991) in latitude, longitude and ellipsoidal height.

ORTHOMETRIC

First we used NGS GEOID 90 program to compute geoid heights at each control point to make a geoid model of the control area. By fixing orthometric heights of three reliable points in a constrained adjustment, we can cause the geoid model transformation (deflection in latitude and longitude plus a height constant) onto the same orthometric datum. Here we can analyze the record elevation at our control points by using different combinations of fixed height to find errors in data entry, movement of bench marks and bad elevations. Of the 38 known orthometric elevations we held 35 fixed for ngvd 27, as they agreed within 20 mm of a constrained adjustment of 7 points held fix. The coordinate adjustment summary shows the points held fix, points not held fix for the NAVD 88 elevations are 38,44,51 & 72

DATUM DIFFERENCES:

NAD 83 is the readjustment and shift of existing control points from NAD 27 to NAD 83 (GRS 80). In 1991 the NGS completed the Oregon High Precision GPS Network and this data being labeled NAD 83-(1991). Then the NGS readjusted the old NAD 83 control points to NAD 83(1991),but this still reflects the poor internal consistency as compared to GPS survey measurements.

Due to the fact that we used GPS survey measurements, we could not use the NAD 83 (1991) values as fixed, so we established new values for the old points and called this datum NAD 83-91 GPS.

TYPICAL COMPARISON:

NAME	NAD	LATITUDE	LONGITUDE	NORTHING	EASTING
CAREY	83	43 45 10.54784	121 27 40.45008	232196.803	1422589.531
	83-91	10.54210	40.44186	96.633	89.713
	83-91 GPS	10.54426	40.43964	96.690	89.764
CLINE 1971	83	44 15 11.46939	121 18 10.51856	287644.780	1435871.408
	83-91	11.46201	10.51775	44.552	71.424
	83-91 GPS	11.46185	10.51745	44.547	71.431
FIRST	83	44 02 28.05427	121 27 56.10221	264219.501	1422608.589
	83-91	28.04665	56.09410	19.264	08.767
	83-91 GPS	28.04986	56.09387	19.363	08.773
LAVA BUTTE	83	43 55 04.29273	121 21 21.72467	250428.359	1431248.629
	83-91	04.28693	21.71857	28.178	48.763
	83-91 GPS	04.28799	21.71645	28.210	48.809
PINE	83	43 49 19.66392	120 55 50.31115	239529.813	1465358.375
	83-91	19.66169	50.31058	29.744	58.387
	83-91 GPS	19.66593	50.31372	29.875	58.318

DESCRIPTION SHEET:

The description sheet shows information about each control station in the network, such as name, number, horizontal & vert.datum, ec cartesian, spc Oregon South, scale factor, convergence, general information and sketch.

NOTE: ALL VALUES ARE NAD 83 (1991) GPS

COUNTY COORDINATE SYSTEM:

The County Surveyors Office and the County GIS Section agreed on a conformal mapping projection for the best fit of the 80 % population area of Deschutes County, for a grid to ground distances, being no worse than 1 part in 50,000. This system is the best for the integration maps, deeds, etc., into the County GIS and should be of assistance to local surveyors. The County Surveyor in the process of establishing coordinates at section and 1/4 section corners on the Deschutes County Plane Coordinate System.

SYSTEM DATA:

DATUM = NAD 83(1991)

PROJECTION = TRANSVERSE MERCATOR

ZONE = NONE

CENTRAL MERIDIAN = W 121° 17' 00.0000"

LATITUDE OF ORIGIN = N 43° 00' 00.000"

ORIGIN NORTHING = 0.00000

ORIGIN EASTING = 3,300,000.00

LINEAR UNITS = INTERNATIONAL FOOT

ACKNOWLEDGMENT:

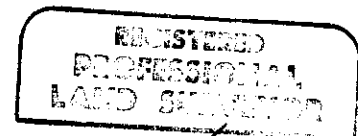
A county wide control project of this magnitude and complexity could not be accomplished with the help and cooperation of many people.

Commendations are due to Public Works Director, Larry Rice, for his foresight to know that a system of this kind is essential to the development of Deschutes County. Other Public Works personal who spent many long hours working in the hot days and cold nights: Scott Freshwaters, Roy Easter, Jack Smith and Pete Manley.

Mr. Lyle Riggers, Oregon Advisor, of the National Geodetic Survey deserves a special appreciation for his technical assistance and cooperation throughout the project.

A special recognition goes to the author-programmer of Trimnet-Plus, Mike Potterfield of Trimble Navigation, for the opportunity to beta test this very extraordinary gps survey adjustment program. Also his guidance and technical advice helped set the direction of this project.

A debt of gratitude to the Deschutes County Surveyor, Jeff Kern, for the support and patience in the long amount time it has taken to complete the Deschutes County Prime Control Network.



W.C. Kauffman 8-4-92
OREGON
AUGUST 22, 1975
W. C. KAUFFMAN
1001

REDUNDANT

VECTORS

REDUNDANT VECTORS			GPS NETWORK MODULE			
From	To	Solutn #	File	Delta X	Delta Y	Delta Z
0013	0031	1	13313241.FIX	+0.0000	+0.0000	+0.0000
		78	31131433.FIX	-0.0030	-0.0050	+0.0000
		79	31131443.FIX	-0.0010	+0.0000	-0.0080
		236	00130031.FIX	+0.0000	+0.0030	-0.0180
0013	0034	2	13343241.FIX	+0.0000	+0.0000	+0.0000
		102	34131443.FIX	-0.0090	-0.0130	+0.0040
0013	0036	4	13363113.FIX	+0.0000	+0.0000	+0.0000
		5	13363191.FIX	-0.0120	-0.0080	+0.0310
		244	13361051.FIX	-0.0190	-0.0150	+0.0270
0013	0045	6	13453113.FIX	+0.0000	+0.0000	+0.0000
		139	45132914.FIX	-0.0110	-0.0090	+0.0000
0014	0015	11	15141452.FIX	+0.0000	+0.0000	+0.0000
		12	15143131.FIX	+0.0090	-0.0010	-0.0130
0014	0017	8	14171452.FIX	+0.0000	+0.0000	+0.0000
		22	17140771.FIX	+0.0250	+0.0290	+0.0170
0016	0029	18	16291472.FIX	+0.0000	+0.0000	+0.0000
		19	16291473.FIX	-0.0020	-0.0060	-0.0030
0016	0032	87	32160812.FIX	+0.0000	+0.0000	+0.0000
		88	32161472.FIX	-0.0220	-0.0140	+0.0070
0016	0034	103	34161473.FIX	+0.0000	+0.0000	+0.0000
		104	34163132.FIX	-0.0080	-0.0030	-0.0330
0017	0019	23	19171451.FIX	+0.0000	+0.0000	+0.0000
		24	19173041.FIX	+0.0220	+0.0040	-0.0060
0019	0033	98	33191461.FIX	+0.0000	+0.0000	+0.0000
		233	19330911.FIX	+0.0130	-0.0130	-0.0010
0020	0033	99	33201461.FIX	+0.0000	+0.0000	+0.0000
		100	33201462.FIX	-0.0330	-0.0200	+0.0040
0021	0022	34	22211463.FIX	+0.0000	+0.0000	+0.0000
		231	21223321.FIX	-0.0160	-0.0140	+0.0150
0021	0028	31	21280803.FIX	+0.0000	+0.0000	+0.0000
		32	21283321.FIX	-0.0030	+0.0030	+0.0090
		66	28211463.FIX	+0.0060	+0.0080	+0.0240
0022	0023	35	22231482.FIX	+0.0000	+0.0000	+0.0000
		38	23223321.FIX	-0.0050	-0.0100	-0.0110
		39	23223331.FIX	-0.0080	-0.0050	-0.0240
0022	0027	36	22271482.FIX	+0.0000	+0.0000	+0.0000
		61	27223321.FIX	+0.0190	+0.0160	-0.0260

From	To	Solutn #	File	Delta X	Delta Y	Delta Z
0022	0028	37	22283321.FIX	+0.0000	+0.0000	+0.0000
		67	28221463.FIX	-0.0100	-0.0150	+0.0280
0022	0032	90	32221471.FIX	+0.0000	+0.0000	+0.0000
		91	32223331.FIX	-0.0110	+0.0130	-0.0240
0023	0027	62	27231482.FIX	+0.0000	+0.0000	+0.0000
		63	27233321.FIX	+0.0260	+0.0320	-0.0170
0023	0030	41	23303311.FIX	+0.0000	+0.0000	+0.0000
		42	23303331.FIX	+0.0210	+0.0120	+0.0040
		74	30231441.FIX	+0.0140	+0.0160	+0.0050
0023	0032	92	32231441.FIX	+0.0000	+0.0000	+0.0000
		93	32233331.FIX	+0.0150	+0.0040	-0.0070
0024	0026	45	24261431.FIX	+0.0000	+0.0000	+0.0000
		55	26243121.FIX	+0.0030	+0.0150	-0.0230
0025	0040	47	25400793.FIX	+0.0000	+0.0000	+0.0000
		48	25403033.FIX	-0.0260	+0.0190	-0.0010
		232	25400881.FIX	-0.0080	+0.0020	-0.0110
0025	0043	49	25433111.FIX	+0.0000	+0.0000	+0.0000
		135	43250793.FIX	+0.0420	+0.0190	+0.0080
0025	0045	50	25453111.FIX	+0.0000	+0.0000	+0.0000
		51	25453112.FIX	+0.0030	+0.0030	-0.0050
		140	45252831.FIX	+0.0020	+0.0060	+0.0170
0025	0061	53	25613033.FIX	+0.0000	+0.0000	+0.0000
		54	25613123.FIX	+0.0030	-0.0030	-0.0170
0026	0061	59	26610792.FIX	+0.0000	+0.0000	+0.0000
		60	26613201.FIX	+0.0070	+0.0030	+0.0330
0027	0028	65	27283321.FIX	+0.0000	+0.0000	+0.0000
		69	28273342.FIX	-0.0020	-0.0030	+0.0100
0028	0067	215	67283101.FIX	+0.0000	+0.0000	+0.0000
		216	67283342.FIX	+0.0050	+0.0040	-0.0210
0029	0030	72	29301442.FIX	+0.0000	+0.0000	+0.0000
		73	29303331.FIX	+0.0060	-0.0050	-0.0100
0029	0032	94	32291472.FIX	+0.0000	+0.0000	+0.0000
		95	32293331.FIX	+0.0090	+0.0050	-0.0150
0029	0034	105	34291442.FIX	+0.0000	+0.0000	+0.0000
		106	34291473.FIX	-0.0130	-0.0100	+0.0200
0030	0032	96	32300812.FIX	+0.0000	+0.0000	+0.0000
		97	32303331.FIX	-0.0100	-0.0020	-0.0050
0030	0034	107	34300802.FIX	+0.0000	+0.0000	+0.0000
		108	34301442.FIX	+0.0190	+0.0200	-0.0070
0030	0046	75	30460802.FIX	+0.0000	+0.0000	+0.0000
		76	30463311.FIX	-0.0170	+0.0010	+0.0080
0030	0047	77	30473311.FIX	+0.0000	+0.0000	+0.0000
		155	47303103.FIX	-0.0080	+0.0190	-0.0090
0031	0034	82	31341443.FIX	+0.0000	+0.0000	+0.0000
		109	34313241.FIX	+0.0050	+0.0090	-0.0110

From	To	Solutn #	File	Delta X	Delta Y	Delta Z
0031	0045	141	45310801.FIX	+0.0000	+0.0000	+0.0000
		239	00450031.FIX	+0.0040	+0.0200	-0.0170
		243	45312841.FIX	-0.0010	+0.0060	+0.0240
		262	00000031.K01	+0.0078	+0.0224	+0.0004
0034	0046	111	34460802.FIX	+0.0000	+0.0000	+0.0000
		148	46343104.FIX	-0.0070	+0.0110	-0.0010
0035	0036	113	35363112.FIX	+0.0000	+0.0000	+0.0000
		116	36353093.FIX	-0.0080	-0.0120	+0.0190
0035	0045	114	35453112.FIX	+0.0000	+0.0000	+0.0000
		261	00000035.K01	+0.0180	+0.0010	-0.0125
0036	0045	142	45363112.FIX	+0.0000	+0.0000	+0.0000
		143	45363113.FIX	+0.0160	-0.0050	+0.0050
0037	0041	119	37412923.FIX	+0.0000	+0.0000	+0.0000
		120	37413092.FIX	-0.0090	+0.0030	-0.0230
0039	0069	220	69393062.FIX	+0.0000	+0.0000	+0.0000
		221	69393091.FIX	+0.0180	+0.0110	-0.0300
0040	0043	125	40433111.FIX	+0.0000	+0.0000	+0.0000
		136	43400793.FIX	-0.0120	+0.0220	+0.0200
0040	0061	127	40613033.FIX	+0.0000	+0.0000	+0.0000
		128	40613122.FIX	+0.0060	+0.0140	-0.0130
0041	0052	168	52413022.FIX	+0.0000	+0.0000	+0.0000
		169	52413063.FIX	-0.0150	+0.0010	+0.0120
0041	0054	129	41543063.FIX	+0.0000	+0.0000	+0.0000
		177	54413133.FIX	+0.0000	-0.0090	-0.0100
0041	0062	130	41623023.FIX	+0.0000	+0.0000	+0.0000
		198	62412922.FIX	-0.0010	+0.0120	-0.0420
0043	0045	144	45432961.FIX	+0.0000	+0.0000	+0.0000
		145	45433111.FIX	+0.0120	-0.0340	+0.0500
0043	0046	149	46433104.FIX	+0.0000	+0.0000	+0.0000
		150	46433121.FIX	-0.0050	-0.0150	+0.0240
0044	0045	146	45442961.FIX	+0.0000	+0.0000	+0.0000
		263	00000044.K01	+0.0115	+0.0047	+0.0230
0046	0047	151	46473311.FIX	+0.0000	+0.0000	+0.0000
		156	47463103.FIX	-0.0240	-0.0060	+0.0030
0048	0051	160	48513062.FIX	+0.0000	+0.0000	+0.0000
		165	51480822.FIX	-0.0030	+0.0220	+0.0080
0048	0069	224	69480822.FIX	+0.0000	+0.0000	+0.0000
		225	69483062.FIX	-0.0250	-0.0320	-0.0140
0049	0052	163	49523061.FIX	+0.0000	+0.0000	+0.0000
		171	52493251.FIX	+0.0060	+0.0070	+0.0260
0050	0053	254	53501782.FIX	+0.0000	+0.0000	+0.0000
		265	53501911.FIX	-0.0030	+0.0270	-0.0080
0052	0053	175	53522991.FIX	+0.0000	+0.0000	+0.0000
		251	53521781.FIX	+0.0010	+0.0340	-0.0010
0052	0069	174	52693251.FIX	+0.0000	+0.0000	+0.0000
		227	69523063.FIX	-0.0040	-0.0250	-0.0090

From	To	Solutn #	File	Delta X	Delta Y	Delta Z
0053	0070	252	53701781.FIX	+0.0000	+0.0000	+0.0000
		256	53701771.FIX	-0.0020	-0.0300	-0.0160
		264	53701911.FIX	-0.0190	-0.0190	+0.0080
0056	0060	191	60563341.FIX	+0.0000	+0.0000	+0.0000
		246	56601791.FIX	-0.0070	+0.0060	-0.0280
0057	0061	194	61570792.FIX	+0.0000	+0.0000	+0.0000
		195	61573123.FIX	-0.0060	+0.0180	-0.0200
0059	0060	188	59603031.FIX	+0.0000	+0.0000	+0.0000
		192	60593341.FIX	+0.0180	+0.0130	-0.0020
0070	0072	257	72701771.FIX	+0.0000	+0.0000	+0.0000
		258	72701772.FIX	+0.0200	-0.0020	+0.0060

LOOP CLOSURES

Trimble Loop Closure Utility

Start Traverse at Station: 0024
Starting Coords : 44°07'28.37759" N 121°01'37.39511" W 992.213

Baseline 1

File Name: 67243342.FIX
From Station: 0024 To Station: 0067
Distance Travelled (m): 23527.270
Current Coords : 44°18'04.47471" N 120°51'53.73347" W 946.753

Baseline 2

File Name: 67283101.FIX
From Station: 0067 To Station: 0028
Distance Travelled (m): 44649.710
Current Coords : 44°19'11.96107" N 121°07'41.99899" W 875.341

Baseline 3

File Name: 27283321.FIX
From Station: 0028 To Station: 0027
Distance Travelled (m): 51289.381
Current Coords : 44°15'43.29511" N 121°08'54.58154" W 903.998

Baseline 4

File Name: 47273342.FIX
From Station: 0027 To Station: 0047
Distance Travelled (m): 62007.023
Current Coords : 44°10'17.43362" N 121°06'08.03173" W 962.854

Baseline 5

File Name: 47463103.FIX
From Station: 0047 To Station: 0046
Distance Travelled (m): 73844.552
Current Coords : 44°05'37.33901" N 121°12'11.65991" W 1019.987

Baseline 6

File Name: 46243121.FIX
From Station: 0046 To Station: 0024
Distance Travelled (m): 88362.403
Current Coords : 44°07'28.37795" N 121°01'37.39643" W 992.229

End Traverse at Station: 0024

Distance Travelled (m): 88362.403 Precision (ppm): 0.40
dx: -0.027 dy: 0.012 dz: 0.019 dh: 0.016
Ending Coords : 44°07'28.37795" N 121°01'37.39643" W 992.229
Reference Coords: 44°07'28.37759" N 121°01'37.39511" W 992.213

Trimble Loop Closure Utility

Start Traverse at Station: 0040

Starting Coords : 43°59'56.97572" N 121°06'58.29775" W 1075.734

Baseline 1

File Name: 40DD2454.FIX

From Station: 0040

To Station: 00DD

Distance Travelled (m): 5875.777

Current Coords : 44°03'04.23600" N 121°06'11.07305" W 1030.202

Baseline 2

File Name: CCDD2453.FIX

From Station: 00DD

To Station: 00CC

Distance Travelled (m): 10707.848

Current Coords : 44°05'40.76289" N 121°06'10.60789" W 998.680

Baseline 3

File Name: BBCC2452.FIX

From Station: 00CC

To Station: 00BB

Distance Travelled (m): 15538.624

Current Coords : 44°08'17.24985" N 121°06'09.98017" W 988.878

Baseline 4

File Name: 47BB2451.FIX

From Station: 00BB

To Station: 0047

Distance Travelled (m): 19251.751

Current Coords : 44°10'17.52468" N 121°06'08.35660" W 968.587

End Traverse at Station: 0047

Distance Travelled (m): 19251.751 Precision (ppm): 2.55

dx: -0.000 dy: 0.034 dz: -0.035 dh: -0.045

Ending Coords : 44°10'17.52468" N 121°06'08.35660" W 968.587

Reference Coords: 44°10'17.52483" N 121°06'08.35579" W 968.632

Trimble Loop Closure Utility

Start Traverse at Station: 0027

Starting Coords : 44°15'43.39359" N 121°08'54.90626" W 902.900

Baseline 1

File Name: 27283321.FIX

From Station: 0027 To Station: 0028

Distance Travelled (m): 6639.671

Current Coords : 44°19'12.05965" N 121°07'42.32399" W 874.244

Baseline 2

File Name: 28211463.FIX

From Station: 0028 To Station: 0021

Distance Travelled (m): 11442.757

Current Coords : 44°21'01.23892" N 121°10'16.76358" W 847.138

Baseline 3

File Name: 21223321.FIX

From Station: 0021 To Station: 0022

Distance Travelled (m): 18671.813

Current Coords : 44°17'28.65591" N 121°12'33.56532" W 872.093

Baseline 4

File Name: 22231482.FIX

From Station: 0022 To Station: 0023

Distance Travelled (m): 26928.403

Current Coords : 44°13'06.66245" N 121°13'48.38689" W 925.865

Baseline 5

File Name: 27233321.FIX

From Station: 0023 To Station: 0027

Distance Travelled (m): 35041.987

Current Coords : 44°15'43.39338" N 121°08'54.90605" W 902.908

End Traverse at Station: 0027

Distance Travelled (m): 35041.987 Precision (ppm): 0.32

dx: -0.001 dy: -0.011 dz: 0.001 dh: 0.008

Ending Coords : 44°15'43.39338" N 121°08'54.90605" W 902.908

Reference Coords: 44°15'43.39359" N 121°08'54.90626" W 902.900

Trimble Loop Closure Utility

Start Traverse at Station: 0033
Starting Coords : 44°23'31.36579" N 121°17'46.93602" W 871.474

Baseline 1
File Name: 19330911.FIX
From Station: 0033 To Station: 0019
Distance Travelled (m): 3933.923
Current Coords : 44°22'42.08203" N 121°20'30.79594" W 823.600

Baseline 2
File Name: 19180782.FIX
From Station: 0019 To Station: 0018
Distance Travelled (m): 13517.531
Current Coords : 44°17'32.85149" N 121°19'52.75763" W 907.469

Baseline 3
File Name: 32180781.FIX
From Station: 0018 To Station: 0032
Distance Travelled (m): 18446.799
Current Coords : 44°15'11.46302" N 121°18'10.51877" W 1228.872

Baseline 4
File Name: 32223331.FIX
From Station: 0032 To Station: 0022
Distance Travelled (m): 27044.358
Current Coords : 44°17'28.64919" N 121°12'33.56699" W 879.134

Baseline 5
File Name: 22211463.FIX
From Station: 0022 To Station: 0021
Distance Travelled (m): 34273.420
Current Coords : 44°21'01.23208" N 121°10'16.76511" W 854.153

Baseline 6
File Name: 21201462.FIX
From Station: 0021 To Station: 0020
Distance Travelled (m): 40894.104
Current Coords : 44°23'34.79545" N 121°13'45.48305" W 823.086

Baseline 7
File Name: 33201461.FIX
From Station: 0020 To Station: 0033
Distance Travelled (m): 46239.968
Current Coords : 44°23'31.36557" N 121°17'46.93737" W 871.434

End Traverse at Station: 0033
Distance Travelled (m): 46239.968 Precision (ppm): 1.09
dx: -0.013 dy: 0.036 dz: -0.033 dh: -0.040
Ending Coords : 44°23'31.36557" N 121°17'46.93737" W 871.434
Reference Coords: 44°23'31.36579" N 121°17'46.93602" W 871.474

Trimble Loop Closure Utility

Start Traverse at Station: 0032
Starting Coords : 44°15'11.46937" N 121°18'10.51856" W 1232.100

Baseline 1

File Name: 32293331.FIX
From Station: 0032 To Station: 0029
Distance Travelled (m): 5795.028
Current Coords : 44°12'11.93601" N 121°19'25.72207" W 953.486

Baseline 2

File Name: 16291472.FIX
From Station: 0029 To Station: 0016
Distance Travelled (m): 13732.215
Current Coords : 44°09'39.46746" N 121°24'13.39832" W 1026.135

Baseline 3

File Name: 34163132.FIX
From Station: 0016 To Station: 0034
Distance Travelled (m): 24105.192
Current Coords : 44°06'53.98592" N 121°17'27.31172" W 1031.633

Baseline 4

File Name: 34300802.FIX
From Station: 0034 To Station: 0030
Distance Travelled (m): 30230.379
Current Coords : 44°09'44.12717" N 121°15'05.57166" W 982.530

Baseline 5

File Name: 30231441.FIX
From Station: 0030 To Station: 0023
Distance Travelled (m): 36713.649
Current Coords : 44°13'06.66329" N 121°13'48.38820" W 936.165

Baseline 6

File Name: 32233331.FIX
From Station: 0023 To Station: 0032
Distance Travelled (m): 43697.974
Current Coords : 44°15'11.46976" N 121°18'10.51844" W 1232.096

End Traverse at Station: 0032

Distance Travelled (m): 43697.974 Precision (ppm): 0.29
dx: 0.008 dy: 0.008 dz: 0.006 dh: -0.004
Ending Coords : 44°15'11.46976" N 121°18'10.51844" W 1232.096
Reference Coords: 44°15'11.46937" N 121°18'10.51856" W 1232.100

Trimble Loop Closure Utility

Start Traverse at Station: 0019
Starting Coords : 44°22'42.08986" N 121°20'30.79605" W 823.000

Baseline 1
File Name: 19171451.FIX
From Station: 0019 To Station: 0017
Distance Travelled (m): 13145.593
Current Coords : 44°17'28.25271" N 121°27'11.77578" W 920.580

Baseline 2
File Name: 17140771.FIX
From Station: 0017 To Station: 0014
Distance Travelled (m): 21400.731
Current Coords : 44°13'05.77308" N 121°28'22.86419" W 975.413

Baseline 3
File Name: 16141453.FIX
From Station: 0014 To Station: 0016
Distance Travelled (m): 29842.669
Current Coords : 44°09'39.46866" N 121°24'13.39851" W 1022.355

Baseline 4
File Name: 32161472.FIX
From Station: 0016 To Station: 0032
Distance Travelled (m): 42881.902
Current Coords : 44°15'11.47059" N 121°18'10.51832" W 1228.309

Baseline 5
File Name: 32180781.FIX
From Station: 0032 To Station: 0018
Distance Travelled (m): 47811.170
Current Coords : 44°17'32.85907" N 121°19'52.75719" W 906.905

Baseline 6
File Name: 19180782.FIX
From Station: 0018 To Station: 0019
Distance Travelled (m): 57394.778
Current Coords : 44°22'42.08964" N 121°20'30.79551" W 823.037

End Traverse at Station: 0019
Distance Travelled (m): 57394.778 Precision (ppm): 0.69
dx: -0.006 dy: -0.033 dz: 0.021 dh: 0.037
Ending Coords : 44°22'42.08964" N 121°20'30.79551" W 823.037
Reference Coords: 44°22'42.08986" N 121°20'30.79605" W 823.000

Trimble Loop Closure Utility

Start Traverse at Station: 0066
Starting Coords : 44°18'20.37223" N 121°33'21.54834" W 965.308

Baseline 1
File Name: 15663131.FIX
From Station: 0066 To Station: 0015
Distance Travelled (m): 1814.783
Current Coords : 44°17'28.39805" N 121°33'59.79431" W 972.336

Baseline 2
File Name: 15653131.FIX
From Station: 0015 To Station: 0065
Distance Travelled (m): 9077.288
Current Coords : 44°13'33.84129" N 121°34'23.43431" W 1163.335

Baseline 3
File Name: 65163042.FIX
From Station: 0065 To Station: 0016
Distance Travelled (m): 24432.657
Current Coords : 44°09'39.39178" N 121°24'13.72574" W 1040.650

Baseline 4
File Name: 16141453.FIX
From Station: 0016 To Station: 0014
Distance Travelled (m): 32874.595
Current Coords : 44°13'05.69541" N 121°28'23.19094" W 993.712

Baseline 5
File Name: 17140771.FIX
From Station: 0014 To Station: 0017
Distance Travelled (m): 41129.733
Current Coords : 44°17'28.17434" N 121°27'12.10317" W 938.874

Baseline 6
File Name: 19173041.FIX
From Station: 0017 To Station: 0019
Distance Travelled (m): 54275.310
Current Coords : 44°22'42.01071" N 121°20'31.12598" W 841.295

Baseline 7
File Name: 66193041.FIX
From Station: 0019 To Station: 0066
Distance Travelled (m): 73158.492
Current Coords : 44°18'20.37060" N 121°33'21.54867" W 965.301

End Traverse at Station: 0066
Distance Travelled (m): 73158.492 Precision (ppm): 0.70
dx: -0.022 dy: -0.022 dz: -0.041 dh: -0.007
Ending Coords : 44°18'20.37060" N 121°33'21.54867" W 965.301
Reference Coords: 44°18'20.37223" N 121°33'21.54834" W 965.308

Trimble Loop Closure Utility

Start Traverse at Station: 0014
Starting Coords : 44°13'05.69169" N 121°28'23.19883" W 988.596

Baseline 1

File Name: 14653131.FIX
From Station: 0014 To Station: 0065
Distance Travelled (m): 8046.237
Current Coords : 44°13'33.83748" N 121°34'23.44270" W 1158.216

Baseline 2

File Name: 65643042.FIX
From Station: 0065 To Station: 0064
Distance Travelled (m): 20885.433
Current Coords : 44°07'04.63120" N 121°37'44.06128" W 1926.428

Baseline 3

File Name: 63643052.FIX
From Station: 0064 To Station: 0063
Distance Travelled (m): 36514.286
Current Coords : 44°02'27.97902" N 121°27'56.42788" W 1402.092

Baseline 4

File Name: 63682913.FIX
From Station: 0063 To Station: 0068
Distance Travelled (m): 48001.275
Current Coords : 44°06'46.10326" N 121°21'44.96942" W 1065.122

Baseline 5

File Name: 34683132.FIX
From Station: 0068 To Station: 0034
Distance Travelled (m): 53729.380
Current Coords : 44°06'53.90616" N 121°17'27.64663" W 1041.013

Baseline 6

File Name: 34161473.FIX
From Station: 0034 To Station: 0016
Distance Travelled (m): 64102.367
Current Coords : 44°09'39.38806" N 121°24'13.73247" W 1035.542

Baseline 7

File Name: 16141453.FIX
From Station: 0016 To Station: 0014
Distance Travelled (m): 72544.305
Current Coords : 44°13'05.69185" N 121°28'23.19787" W 988.604

End Traverse at Station: 0014

Distance Travelled (m): 72544.305 Precision (ppm): 0.32
dx: 0.017 dy: -0.013 dz: 0.009 dh: 0.008
Ending Coords : 44°13'05.69185" N 121°28'23.19787" W 988.604
Reference Coords: 44°13'05.69169" N 121°28'23.19883" W 988.596

Trimble Loop Closure Utility

Start Traverse at Station: 0068
Starting Coords : 44°06'46.02140" N 121°21'44.43944" W 1058.183

Baseline 1
File Name: 68163132.FIX
From Station: 0068 To Station: 0016
Distance Travelled (m): 6289.229
Current Coords : 44°09'39.30575" N 121°24'13.20235" W 1028.577

Baseline 2
File Name: 63163051.FIX
From Station: 0016 To Station: 0063
Distance Travelled (m): 20503.524
Current Coords : 44°02'27.89670" N 121°27'55.89824" W 1395.171

Baseline 3
File Name: 63372912.FIX
From Station: 0063 To Station: 0037
Distance Travelled (m): 27722.664
Current Coords : 43°58'57.35572" N 121°30'16.68518" W 1567.446

Baseline 4
File Name: 36373191.FIX
From Station: 0037 To Station: 0036
Distance Travelled (m): 39352.985
Current Coords : 44°01'12.38143" N 121°22'09.76752" W 1169.184

Baseline 5
File Name: 68363113.FIX
From Station: 0036 To Station: 0068
Distance Travelled (m): 49668.547
Current Coords : 44°06'46.02116" N 121°21'44.43967" W 1058.197

End Traverse at Station: 0068
Distance Travelled (m): 49668.547 Precision (ppm): 0.32
dx: -0.012 dy: -0.010 dz: 0.004 dh: 0.013
Ending Coords : 44°06'46.02116" N 121°21'44.43967" W 1058.197
Reference Coords: 44°06'46.02140" N 121°21'44.43944" W 1058.183

Trimble Loop Closure Utility

Start Traverse at Station: 0064
Starting Coords : 44°07'04.96075" N 121°37'43.42995" W 1915.723

Baseline 1
File Name: 62643052.FIX
From Station: 0064 To Station: 0062
Distance Travelled (m): 14039.767
Current Coords : 43°59'37.02721" N 121°39'32.13377" W 1933.542

Baseline 2
File Name: 62373191.FIX
From Station: 0062 To Station: 0037
Distance Travelled (m): 26487.661
Current Coords : 43°58'57.76574" N 121°30'16.58402" W 1563.636

Baseline 3
File Name: 63372912.FIX
From Station: 0037 To Station: 0063
Distance Travelled (m): 33706.801
Current Coords : 44°02'28.30682" N 121°27'55.79662" W 1391.375

Baseline 4
File Name: 63163051.FIX
From Station: 0063 To Station: 0016
Distance Travelled (m): 47921.096
Current Coords : 44°09'39.71608" N 121°24'13.09996" W 1024.809

Baseline 5
File Name: 16643042.FIX
From Station: 0016 To Station: 0064
Distance Travelled (m): 66580.654
Current Coords : 44°07'04.96045" N 121°37'43.43081" W 1915.652

End Traverse at Station: 0064
Distance Travelled (m): 66580.654 Precision (ppm): 1.11
dx: 0.007 dy: 0.048 dz: -0.056 dh: -0.071
Ending Coords : 44°07'04.96045" N 121°37'43.43081" W 1915.652
Reference Coords: 44°07'04.96075" N 121°37'43.42995" W 1915.723

Trimble Loop Closure Utility

Start Traverse at Station: 0046
Starting Coords : 44°05'37.77164" N 121°12'12.12437" W 1038.999

Baseline 1
File Name: 31462971.FIX
From Station: 0046 To Station: 0031
Distance Travelled (m): 7391.616
Current Coords : 44°03'38.28563" N 121°16'59.78874" W 1254.962

Baseline 2
File Name: 31131433.FIX
From Station: 0031 To Station: 0013
Distance Travelled (m): 11097.313
Current Coords : 44°02'40.05600" N 121°19'25.19104" W 1109.185

Baseline 3
File Name: 13683113.FIX
From Station: 0013 To Station: 0068
Distance Travelled (m): 19315.397
Current Coords : 44°06'46.51675" N 121°21'44.77434" W 1065.601

Baseline 4
File Name: 34683132.FIX
From Station: 0068 To Station: 0034
Distance Travelled (m): 25043.502
Current Coords : 44°06'54.31953" N 121°17'27.45106" W 1041.497

Baseline 5
File Name: 34460802.FIX
From Station: 0034 To Station: 0046
Distance Travelled (m): 32444.975
Current Coords : 44°05'37.77282" N 121°12'12.12416" W 1038.983

End Traverse at Station: 0046
Distance Travelled (m): 32444.975 Precision (ppm): 1.23
dx: 0.023 dy: 0.029 dz: 0.015 dh: -0.016
Ending Coords : 44°05'37.77282" N 121°12'12.12416" W 1038.983
Reference Coords: 44°05'37.77164" N 121°12'12.12437" W 1038.999

Trimble Loop Closure Utility

Start Traverse at Station: 0024
Starting Coords : 44°07'28.47498" N 121°01'37.72043" W 998.000

Baseline 1
File Name: 24261431.FIX
From Station: 0024 To Station: 0026
Distance Travelled (m): 6821.637
Current Coords : 44°03'47.49527" N 121°01'37.31018" W 1010.717

Baseline 2
File Name: 26610792.FIX
From Station: 0026 To Station: 0061
Distance Travelled (m): 20045.913
Current Coords : 43°56'39.14482" N 121°01'44.79218" W 1086.053

Baseline 3
File Name: 40613122.FIX
From Station: 0061 To Station: 0040
Distance Travelled (m): 29327.480
Current Coords : 43°59'56.98249" N 121°06'58.29862" W 1075.687

Baseline 4
File Name: 40433111.FIX
From Station: 0040 To Station: 0043
Distance Travelled (m): 34496.567
Current Coords : 44°02'14.19564" N 121°09'11.29726" W 1062.635

Baseline 5
File Name: 46433104.FIX
From Station: 0043 To Station: 0046
Distance Travelled (m): 41949.083
Current Coords : 44°05'37.43659" N 121°12'11.98393" W 1025.741

Baseline 6
File Name: 46473311.FIX
From Station: 0046 To Station: 0047
Distance Travelled (m): 53786.594
Current Coords : 44°10'17.53093" N 121°06'08.35713" W 968.618

Baseline 7
File Name: 47243342.FIX
From Station: 0047 To Station: 0024
Distance Travelled (m): 61750.460
Current Coords : 44°07'28.47554" N 121°01'37.72060" W 997.959

End Traverse at Station: 0024
Distance Travelled (m): 61750.460 Precision (ppm): 0.71
dx: 0.018 dy: 0.037 dz: -0.016 dh: -0.041
Ending Coords : 44°07'28.47554" N 121°01'37.72060" W 997.959
Reference Coords: 44°07'28.47498" N 121°01'37.72043" W 998.000

Trimble Loop Closure Utility

Start Traverse at Station: 0013

Starting Coords : 44°02'39.71953" N 121°19'25.05533" W 1115.614

Baseline 1

File Name: 13453113.FIX

From Station: 0013 To Station: 0045

Distance Travelled (m): 5656.666

Current Coords : 44°01'18.86774" N 121°15'37.12597" W 1134.054

Baseline 2

File Name: 45252831.FIX

From Station: 0045 To Station: 0025

Distance Travelled (m): 11251.795

Current Coords : 43°58'43.25060" N 121°13'28.44140" W 1204.396

Baseline 3

File Name: 25613123.FIX

From Station: 0025 To Station: 0061

Distance Travelled (m): 27402.810

Current Coords : 43°56'39.14656" N 121°01'44.79991" W 1105.771

Baseline 4

File Name: 40613033.FIX

From Station: 0061 To Station: 0040

Distance Travelled (m): 36684.375

Current Coords : 43°59'56.98359" N 121°06'58.30532" W 1095.425

Baseline 5

File Name: 40433111.FIX

From Station: 0040 To Station: 0043

Distance Travelled (m): 41853.462

Current Coords : 44°02'14.19631" N 121°09'11.30356" W 1082.373

Baseline 6

File Name: 43442961.FIX

From Station: 0043 To Station: 0044

Distance Travelled (m): 47841.713

Current Coords : 44°03'29.06517" N 121°13'19.41250" W 1092.247

Baseline 7

File Name: 31442971.FIX

From Station: 0044 To Station: 0031

Distance Travelled (m): 52755.161

Current Coords : 44°03'37.95001" N 121°16'59.65336" W 1261.458

Baseline 8

File Name: 31131443.FIX

From Station: 0031 To Station: 0013

Distance Travelled (m): 56460.860

Current Coords : 44°02'39.72043" N 121°19'25.05537" W 1115.674

End Traverse at Station: 0013

Distance Travelled (m): 56460.860 Precision (ppm): 1.18

dx: -0.013 dy: -0.020 dz: 0.062 dh: 0.060

Ending Coords : 44°02'39.72043" N 121°19'25.05537" W 1115.674

Reference Coords: 44°02'39.71953" N 121°19'25.05533" W 1115.614

Trimble Loop Closure Utility

Start Traverse at Station: 0036

Starting Coords : 44°01'12.75115" N 121°22'09.69645" W 1162.498

Baseline 1

File Name: 36553093.FIX

From Station: 0036 To Station: 0055

Distance Travelled (m): 11424.110

Current Coords : 43°55'04.50516" N 121°21'21.45242" W 1509.815

Baseline 2

File Name: 55253133.FIX

From Station: 0055 To Station: 0025

Distance Travelled (m): 23962.841

Current Coords : 43°58'43.45898" N 121°13'28.17089" W 1183.897

Baseline 3

File Name: 25350881.FIX

From Station: 0025 To Station: 0035

Distance Travelled (m): 32680.869

Current Coords : 43°59'27.43693" N 121°19'54.53017" W 1175.181

Baseline 4

File Name: 35453112.FIX

From Station: 0035 To Station: 0045

Distance Travelled (m): 39377.406

Current Coords : 44°01'19.07701" N 121°15'36.85394" W 1113.554

Baseline 5

File Name: 45132914.FIX

From Station: 0045 To Station: 0013

Distance Travelled (m): 45034.072

Current Coords : 44°02'39.92890" N 121°19'24.78436" W 1095.121

Baseline 6

File Name: 13361051.FIX

From Station: 0013 To Station: 0036

Distance Travelled (m): 49587.809

Current Coords : 44°01'12.75024" N 121°22'09.69507" W 1162.460

End Traverse at Station: 0036

Distance Travelled (m): 49587.809 Precision (ppm): 1.13

dx: 0.030 dy: -0.010 dz: -0.046 dh: -0.037

Ending Coords : 44°01'12.75024" N 121°22'09.69507" W 1162.460

Reference Coords: 44°01'12.75115" N 121°22'09.69645" W 1162.498

Trimble Loop Closure Utility

Start Traverse at Station: 0037

Starting Coords : 43°58'57.75179" N 121°30'16.92198" W 1553.930

Baseline 1

File Name: 37412923.FIX

From Station: 0037 To Station: 0041

Distance Travelled (m): 13407.008

Current Coords : 43°51'45.98066" N 121°29'13.49535" W 1274.989

Baseline 2

File Name: 69413063.FIX

From Station: 0041 To Station: 0069

Distance Travelled (m): 21070.781

Current Coords : 43°48'11.29820" N 121°32'05.73085" W 1260.657

Baseline 3

File Name: 52693251.FIX

From Station: 0069 To Station: 0052

Distance Travelled (m): 29210.068

Current Coords : 43°45'10.78772" N 121°27'40.48084" W 1253.918

Baseline 4

File Name: 52543063.FIX

From Station: 0052 To Station: 0054

Distance Travelled (m): 39080.774

Current Coords : 43°50'14.80576" N 121°25'23.69532" W 1255.494

Baseline 5

File Name: 55543133.FIX

From Station: 0054 To Station: 0055

Distance Travelled (m): 49532.711

Current Coords : 43°55'04.53157" N 121°21'21.75735" W 1502.933

Baseline 6

File Name: 36553093.FIX

From Station: 0055 To Station: 0036

Distance Travelled (m): 60956.821

Current Coords : 44°01'12.77793" N 121°22'10.00198" W 1155.618

Baseline 7

File Name: 36373191.FIX

From Station: 0036 To Station: 0037

Distance Travelled (m): 72587.142

Current Coords : 43°58'57.75162" N 121°30'16.92141" W 1553.882

End Traverse at Station: 0037

Distance Travelled (m): 72587.142 Precision (ppm): 0.69

dx: 0.027 dy: 0.020 dz: -0.037 dh: -0.048

Ending Coords : 43°58'57.75162" N 121°30'16.92141" W 1553.882

Reference Coords: 43°58'57.75179" N 121°30'16.92198" W 1553.930

Trimble Loop Closure Utility

Start Traverse at Station: 0042
Starting Coords : 43°50'14.62840" N 121°41'15.93416" W 1426.007

Baseline 1

File Name: 42623023.FIX
From Station: 0042 To Station: 0062
Distance Travelled (m): 17515.067
Current Coords : 43°59'36.76085" N 121°39'32.20314" W 1924.668

Baseline 2

File Name: 62373191.FIX
From Station: 0062 To Station: 0037
Distance Travelled (m): 29962.960
Current Coords : 43°58'57.49941" N 121°30'16.65330" W 1554.760

Baseline 3

File Name: 37413092.FIX
From Station: 0037 To Station: 0041
Distance Travelled (m): 43369.951
Current Coords : 43°51'45.72888" N 121°29'13.22683" W 1275.851

Baseline 4

File Name: 69413063.FIX
From Station: 0041 To Station: 0069
Distance Travelled (m): 51033.724
Current Coords : 43°48'11.04656" N 121°32'05.46237" W 1261.523

Baseline 5

File Name: 69423091.FIX
From Station: 0069 To Station: 0042
Distance Travelled (m): 63916.427
Current Coords : 43°50'14.62803" N 121°41'15.93390" W 1425.983

End Traverse at Station: 0042

Distance Travelled (m): 63916.427 Precision (ppm): 0.43
dx: 0.010 dy: 0.005 dz: -0.025 dh: -0.024
Ending Coords : 43°50'14.62803" N 121°41'15.93390" W 1425.983
Reference Coords: 43°50'14.62840" N 121°41'15.93416" W 1426.007

Trimble Loop Closure Utility

Start Traverse at Station: 0053
Starting Coords : 43°41'21.24837" N 121°15'17.62740" W 2414.233

Baseline 1
File Name: 53721771.FIX
From Station: 0053 To Station: 0072
Distance Travelled (m): 15239.989
Current Coords : 43°41'44.80276" N 121°03'59.04074" W 1606.937

Baseline 2
File Name: 57721792.FIX
From Station: 0072 To Station: 0057
Distance Travelled (m): 35180.890
Current Coords : 43°52'28.77085" N 121°02'50.48506" W 1302.880

Baseline 3
File Name: 57553123.FIX
From Station: 0057 To Station: 0055
Distance Travelled (m): 60449.655
Current Coords : 43°55'04.43058" N 121°21'21.74256" W 1510.349

Baseline 4
File Name: 55543133.FIX
From Station: 0055 To Station: 0054
Distance Travelled (m): 70901.592
Current Coords : 43°50'14.70511" N 121°25'23.68015" W 1262.914

Baseline 5
File Name: 52543063.FIX
From Station: 0054 To Station: 0052
Distance Travelled (m): 80772.298
Current Coords : 43°45'10.68743" N 121°27'40.46547" W 1261.343

Baseline 6
File Name: 53521781.FIX
From Station: 0052 To Station: 0053
Distance Travelled (m): 98886.668
Current Coords : 43°41'21.24895" N 121°15'17.62653" W 2414.309

End Traverse at Station: 0053
Distance Travelled (m): 98886.668 Precision (ppm): 0.81
dx: -0.005 dy: -0.046 dz: 0.065 dh: 0.075
Ending Coords : 43°41'21.24895" N 121°15'17.62653" W 2414.309
Reference Coords: 43°41'21.24837" N 121°15'17.62740" W 2414.233

Trimble Loop Closure Utility

Start Traverse at Station: 0056
Starting Coords : 43°49'19.79246" N 120°55'50.07451" W 1948.056

Baseline 1
File Name: 72561792.FIX
From Station: 0056 To Station: 0072
Distance Travelled (m): 17804.323
Current Coords : 43°41'44.78814" N 121°03'58.77378" W 1621.714

Baseline 2
File Name: 72711772.FIX
From Station: 0072 To Station: 0071
Distance Travelled (m): 35565.379
Current Coords : 43°42'29.60330" N 120°50'48.16179" W 1500.301

Baseline 3
File Name: 71601791.FIX
From Station: 0071 To Station: 0060
Distance Travelled (m): 58631.491
Current Coords : 43°48'49.91938" N 120°36'00.76404" W 1408.641

Baseline 4
File Name: 59603031.FIX
From Station: 0060 To Station: 0059
Distance Travelled (m): 79491.381
Current Coords : 43°52'16.15088" N 120°50'49.82689" W 1312.852

Baseline 5
File Name: 59563341.FIX
From Station: 0059 To Station: 0056
Distance Travelled (m): 88154.304
Current Coords : 43°49'19.79345" N 120°55'50.07409" W 1948.051

End Traverse at Station: 0056
Distance Travelled (m): 88154.304 Precision (ppm): 0.37
dx: 0.021 dy: 0.017 dz: 0.018 dh: -0.006
Ending Coords : 43°49'19.79345" N 120°55'50.07409" W 1948.051
Reference Coords: 43°49'19.79246" N 120°55'50.07451" W 1948.056

Trimble Loop Closure Utility

Start Traverse at Station: 0053

Starting Coords : 43°41'20.98777" N 121°15'17.62543" W 2416.521

Baseline 1

File Name: 53701781.FIX

From Station: 0053 To Station: 0070

Distance Travelled (m): 15087.753

Current Coords : 43°33'58.36878" N 121°10'34.85503" W 1575.200

Baseline 2

File Name: 70711772.FIX

From Station: 0070 To Station: 0071

Distance Travelled (m): 46013.222

Current Coords : 43°42'29.35682" N 120°50'48.42751" W 1487.813

Baseline 3

File Name: 56711791.FIX

From Station: 0071 To Station: 0056

Distance Travelled (m): 60372.329

Current Coords : 43°49'19.54726" N 120°55'50.34062" W 1935.526

Baseline 4

File Name: 72561792.FIX

From Station: 0056 To Station: 0072

Distance Travelled (m): 78176.652

Current Coords : 43°41'44.54171" N 121°03'59.03975" W 1609.210

Baseline 5

File Name: 53721771.FIX

From Station: 0072 To Station: 0053

Distance Travelled (m): 93416.641

Current Coords : 43°41'20.98737" N 121°15'17.62535" W 2416.508

End Traverse at Station: 0053

Distance Travelled (m): 93416.641 Precision (ppm): 0.19

dx: 0.002 dy: 0.000 dz: -0.018 dh: -0.013

Ending Coords : 43°41'20.98737" N 121°15'17.62535" W 2416.508

Reference Coords: 43°41'20.98777" N 121°15'17.62543" W 2416.521

Trimble Loop Closure Utility

Start Traverse at Station: 0053

Starting Coords : 43°41'20.98777" N 121°15'17.62543" W 2416.521

Baseline 1

File Name: 53701781.FIX

From Station: 0053 To Station: 0070

Distance Travelled (m): 15087.753

Current Coords : 43°33'58.36878" N 121°10'34.85503" W 1575.200

Baseline 2

File Name: 70711772.FIX

From Station: 0070 To Station: 0071

Distance Travelled (m): 46013.222

Current Coords : 43°42'29.35682" N 120°50'48.42751" W 1487.813

Baseline 3

File Name: 72711772.FIX

From Station: 0071 To Station: 0072

Distance Travelled (m): 63774.278

Current Coords : 43°41'44.54107" N 121°03'59.04008" W 1609.244

Baseline 4

File Name: 53721771.FIX

From Station: 0072 To Station: 0053

Distance Travelled (m): 79014.266

Current Coords : 43°41'20.98672" N 121°15'17.62567" W 2416.541

End Traverse at Station: 0053

Distance Travelled (m): 79014.266 Precision (ppm): 0.49

dx: -0.024 dy: -0.029 dz: -0.009 dh: 0.021

Ending Coords : 43°41'20.98672" N 121°15'17.62567" W 2416.541

Reference Coords: 43°41'20.98777" N 121°15'17.62543" W 2416.521

Trimble Loop Closure Utility

Start Traverse at Station: 0050
Starting Coords : 43°36'58.82480" N 121°32'51.46064" W 1280.219

Baseline 1
File Name: 70501911.FIX
From Station: 0050 To Station: 0070
Distance Travelled (m): 30499.180
Current Coords : 43°33'58.57914" N 121°10'35.00026" W 1572.555

Baseline 2
File Name: 53701771.FIX
From Station: 0070 To Station: 0053
Distance Travelled (m): 45586.901
Current Coords : 43°41'21.19720" N 121°15'17.77075" W 2413.901

Baseline 3
File Name: 53521781.FIX
From Station: 0053 To Station: 0052
Distance Travelled (m): 63701.271
Current Coords : 43°45'10.63542" N 121°27'40.60975" W 1260.942

Baseline 4
File Name: 52503061.FIX
From Station: 0052 To Station: 0050
Distance Travelled (m): 80403.823
Current Coords : 43°36'58.82437" N 121°32'51.46054" W 1280.285

End Traverse at Station: 0050
Distance Travelled (m): 80403.823 Precision (ppm): 0.84
dx: -0.028 dy: -0.050 dz: 0.036 dh: 0.066
Ending Coords : 43°36'58.82437" N 121°32'51.46054" W 1280.285
Reference Coords: 43°36'58.82480" N 121°32'51.46064" W 1280.219

Trimble Loop Closure Utility

Start Traverse at Station: 0039

Starting Coords : 43°44'28.17854" N 121°36'24.30558" W 1289.178

Baseline 1

File Name: 39423091.FIX

From Station: 0039 To Station: 0042

Distance Travelled (m): 12536.993

Current Coords : 43°50'14.82302" N 121°41'16.31124" W 1445.152

Baseline 2

File Name: 42413023.FIX

From Station: 0042 To Station: 0041

Distance Travelled (m): 28926.257

Current Coords : 43°51'45.92368" N 121°29'13.60472" W 1294.985

Baseline 3

File Name: 69413063.FIX

From Station: 0041 To Station: 0069

Distance Travelled (m): 36590.030

Current Coords : 43°48'11.24185" N 121°32'05.83953" W 1280.656

Baseline 4

File Name: 52693251.FIX

From Station: 0069 To Station: 0052

Distance Travelled (m): 44729.316

Current Coords : 43°45'10.73200" N 121°27'40.59033" W 1273.917

Baseline 5

File Name: 49523061.FIX

From Station: 0052 To Station: 0049

Distance Travelled (m): 50371.483

Current Coords : 43°42'12.69597" N 121°28'37.62070" W 1278.695

Baseline 6

File Name: 49483061.FIX

From Station: 0049 To Station: 0048

Distance Travelled (m): 56417.065

Current Coords : 43°42'12.89023" N 121°33'07.57673" W 1291.268

Baseline 7

File Name: 48393062.FIX

From Station: 0048 To Station: 0039

Distance Travelled (m): 62486.578

Current Coords : 43°44'28.17910" N 121°36'24.30535" W 1289.190

End Traverse at Station: 0039

Distance Travelled (m): 62486.578 Precision (ppm): 0.35

dx: 0.006 dy: 0.000 dz: 0.021 dh: 0.012

Ending Coords : 43°44'28.17910" N 121°36'24.30535" W 1289.190

Reference Coords: 43°44'28.17854" N 121°36'24.30558" W 1289.178

Trimble Loop Closure Utility

Start Traverse at Station: 0051

Starting Coords : 43°40'56.50637" N 121°41'15.72153" W 1312.357

Baseline 1

File Name: 51503021.FIX

From Station: 0051 To Station: 0050

Distance Travelled (m): 13479.025

Current Coords : 43°36'58.64008" N 121°32'51.43627" W 1285.921

Baseline 2

File Name: 48503061.FIX

From Station: 0050 To Station: 0048

Distance Travelled (m): 23177.632

Current Coords : 43°42'12.60867" N 121°33'07.57236" W 1283.922

Baseline 3

File Name: 48393062.FIX

From Station: 0048 To Station: 0039

Distance Travelled (m): 29247.145

Current Coords : 43°44'27.89770" N 121°36'24.30095" W 1281.838

Baseline 4

File Name: 39423091.FIX

From Station: 0039 To Station: 0042

Distance Travelled (m): 41784.138

Current Coords : 43°50'14.54259" N 121°41'16.30656" W 1437.798

Baseline 5

File Name: 42513021.FIX

From Station: 0042 To Station: 0051

Distance Travelled (m): 59011.091

Current Coords : 43°40'56.50678" N 121°41'15.72091" W 1312.382

End Traverse at Station: 0051

Distance Travelled (m): 59011.091 Precision (ppm): 0.52

dx: 0.007 dy: -0.015 dz: 0.026 dh: 0.025

Ending Coords : 43°40'56.50678" N 121°41'15.72091" W 1312.382

Reference Coords: 43°40'56.50637" N 121°41'15.72153" W 1312.357

OPEN END

CLOSURES

Trimble Loop Closure Utility

Start Traverse at Station: 0066

Starting Coords : 44°18'20.44212" N 121°33'21.22157" W 947.349

Baseline 1

File Name: 66143131.FIX

From Station: 0066 To Station: 0014

Distance Travelled (m): 11754.941

Current Coords : 44°13'05.76430" N 121°28'22.86346" W 975.766

Baseline 2

File Name: 16141453.FIX

From Station: 0014 To Station: 0016

Distance Travelled (m): 20196.879

Current Coords : 44°09'39.45990" N 121°24'13.39780" W 1022.708

Baseline 3

File Name: 36163051.FIX

From Station: 0016 To Station: 0036

Distance Travelled (m): 36085.596

Current Coords : 44°01'12.53467" N 121°22'09.96202" W 1163.284

Baseline 4

File Name: 45363113.FIX

From Station: 0036 To Station: 0045

Distance Travelled (m): 44838.680

Current Coords : 44°01'18.86124" N 121°15'37.12098" W 1114.343

Baseline 5

File Name: 40453111.FIX

From Station: 0045 To Station: 0040

Distance Travelled (m): 56670.966

Current Coords : 43°59'56.97603" N 121°06'58.29761" W 1075.654

Baseline 6

File Name: 40613033.FIX

From Station: 0040 To Station: 0061

Distance Travelled (m): 65952.531

Current Coords : 43°56'39.13837" N 121°01'44.79125" W 1086.000

Baseline 7

File Name: 58613032.FIX

From Station: 0061 To Station: 0058

Distance Travelled (m): 74523.671

Current Coords : 43°52'26.95541" N 120°59'04.31019" W 1269.193

Baseline 8

File Name: 56580791.FIX

From Station: 0058 To Station: 0056

Distance Travelled (m): 81780.161

Current Coords : 43°49'19.66741" N 120°55'50.31426" W 1933.511

Baseline 9

File Name: 56601791.FIX

From Station: 0056 To Station: 0060

Distance Travelled (m): 108386.654

Current Coords : 43°48'49.79426" N 120°36'01.00215" W 1394.110

End Traverse at Station: 0060

Distance Travelled (m):	108386.654	Precision (ppm):	1.33
dx: 0.041	dy: 0.137	dz: -0.018	dh: -0.112
Ending Coords :	43°48'49.79426" N	120°36'01.00215" W	1394.110
Reference Coords:	43°48'49.79156" N	120°36'01.00060" W	1394.222

Trimble Loop Closure Utility

Start Traverse at Station: 0051
Starting Coords : 43°40'56.59981" N 121°41'15.57620" W 1307.409

Baseline 1
File Name: 69513062.FIX
From Station: 0051 To Station: 0069
Distance Travelled (m): 18202.061
Current Coords : 43°48'11.05496" N 121°32'05.68984" W 1268.352

Baseline 2
File Name: 69413063.FIX
From Station: 0069 To Station: 0041
Distance Travelled (m): 25865.835
Current Coords : 43°51'45.73715" N 121°29'13.45470" W 1282.677

Baseline 3
File Name: 55413133.FIX
From Station: 0041 To Station: 0055
Distance Travelled (m): 38053.468
Current Coords : 43°55'04.28759" N 121°21'21.71742" W 1510.625

Baseline 4
File Name: 55353093.FIX
From Station: 0055 To Station: 0035
Distance Travelled (m): 46405.364
Current Coords : 43°59'27.22016" N 121°19'54.79587" W 1176.008

Baseline 5
File Name: 35453112.FIX
From Station: 0035 To Station: 0045
Distance Travelled (m): 53101.901
Current Coords : 44°01'18.86039" N 121°15'37.12008" W 1114.373

Baseline 6
File Name: 45442961.FIX
From Station: 0045 To Station: 0044
Distance Travelled (m): 58157.579
Current Coords : 44°03'29.05702" N 121°13'19.40639" W 1072.460

Baseline 7
File Name: 44462971.FIX
From Station: 0044 To Station: 0046
Distance Travelled (m): 62395.214
Current Coords : 44°05'37.42806" N 121°12'11.98324" W 1025.703

Baseline 8
File Name: 46473311.FIX
From Station: 0046 To Station: 0047
Distance Travelled (m): 74232.724
Current Coords : 44°10'17.52240" N 121°06'08.35645" W 968.579

Baseline 9
File Name: 47673342.FIX
From Station: 0047 To Station: 0067
Distance Travelled (m): 98052.229
Current Coords : 44°18'04.56394" N 120°51'54.05950" W 952.467

End Traverse at Station: 0067

Distance Travelled (m):	98052.229	Precision (ppm):	1.25
dx: -0.036	dy: 0.008	dz: -0.117	dh: -0.073
Ending Coords :	44°18'04.56394" N	120°51'54.05950" W	952.467
Reference Coords:	44°18'04.56691" N	120°51'54.05792" W	952.540

Trimble Loop Closure Utility

Start Traverse at Station: 0060

Starting Coords : 43°48'49.79156" N 120°36'01.00060" W 1394.222

Baseline 1

File Name: 59603031.FIX

From Station: 0060 To Station: 0059

Distance Travelled (m): 20859.890

Current Coords : 43°52'16.02301" N 120°50'50.06515" W 1298.445

Baseline 2

File Name: 26593341.FIX

From Station: 0059 To Station: 0026

Distance Travelled (m): 46627.311

Current Coords : 44°03'47.48896" N 121°01'37.30819" W 1010.700

Baseline 3

File Name: 26243121.FIX

From Station: 0026 To Station: 0024

Distance Travelled (m): 53448.943

Current Coords : 44°07'28.46851" N 121°01'37.71873" W 997.957

Baseline 4

File Name: 67243342.FIX

From Station: 0024 To Station: 0067

Distance Travelled (m): 76976.213

Current Coords : 44°18'04.56552" N 120°51'54.05834" W 952.491

End Traverse at Station: 0067

Distance Travelled (m): 76976.213 Precision (ppm): 0.86

dx: -0.005 dy: 0.009 dz: -0.065 dh: -0.049

Ending Coords : 44°18'04.56552" N 120°51'54.05834" W 952.491

Reference Coords: 44°18'04.56691" N 120°51'54.05792" W 952.540

Trimble Loop Closure Utility

Start Traverse at Station: 0051

Starting Coords : 43°40'56.59981" N 121°41'15.57620" W 1307.409

Baseline 1

File Name: 51503021.FIX

From Station: 0051 To Station: 0050

Distance Travelled (m): 13479.025

Current Coords : 43°36'58.73315" N 121°32'51.29049" W 1280.975

Baseline 2

File Name: 70501911.FIX

From Station: 0050 To Station: 0070

Distance Travelled (m): 43978.205

Current Coords : 43°33'58.48697" N 121°10'34.83099" W 1573.331

Baseline 3

File Name: 70711772.FIX

From Station: 0070 To Station: 0071

Distance Travelled (m): 74903.674

Current Coords : 43°42'29.47509" N 120°50'48.40242" W 1485.955

Baseline 4

File Name: 71601791.FIX

From Station: 0071 To Station: 0060

Distance Travelled (m): 97969.786

Current Coords : 43°48'49.79255" N 120°36'01.00362" W 1394.272

End Traverse at Station: 0060

Distance Travelled (m): 97969.786 Precision (ppm): 0.91

dx: -0.066 dy: 0.021 dz: 0.057 dh: 0.050

Ending Coords : 43°48'49.79255" N 120°36'01.00362" W 1394.272

Reference Coords: 43°48'49.79156" N 120°36'01.00060" W 1394.222

Trimble Loop Closure Utility

Start Traverse at Station: 0051

Starting Coords : 43°40'56.59981" N 121°41'15.57620" W 1307.409

Baseline 1

File Name: 42513021.FIX

From Station: 0051 To Station: 0042

Distance Travelled (m): 17226.953

Current Coords : 43°50'14.63606" N 121°41'16.16147" W 1432.833

Baseline 2

File Name: 42623023.FIX

From Station: 0042 To Station: 0062

Distance Travelled (m): 34742.019

Current Coords : 43°59'36.76797" N 121°39'32.43114" W 1931.493

Baseline 3

File Name: 62643052.FIX

From Station: 0062 To Station: 0064

Distance Travelled (m): 48781.787

Current Coords : 44°07'04.70174" N 121°37'43.72804" W 1913.654

Baseline 4

File Name: 65643042.FIX

From Station: 0064 To Station: 0065

Distance Travelled (m): 61620.983

Current Coords : 44°13'33.90864" N 121°34'23.10834" W 1145.451

Baseline 5

File Name: 66653131.FIX

From Station: 0065 To Station: 0066

Distance Travelled (m): 70574.602

Current Coords : 44°18'20.44032" N 121°33'21.22172" W 947.425

End Traverse at Station: 0066

Distance Travelled (m): 70574.602 Precision (ppm): 1.33

dx: -0.052 dy: -0.078 dz: 0.013 dh: 0.076

Ending Coords : 44°18'20.44032" N 121°33'21.22172" W 947.425

Reference Coords: 44°18'20.44212" N 121°33'21.22157" W 947.349

Trimble Loop Closure Utility

Start Traverse at Station: 0033

Starting Coords : 44°23'31.36580" N 121°17'46.93527" W 871.266

Baseline 1

File Name: 33211462.FIX

From Station: 0033 To Station: 0021

Distance Travelled (m): 10993.005

Current Coords : 44°21'01.23157" N 121°10'16.76373" W 854.013

Baseline 2

File Name: 21280803.FIX

From Station: 0021 To Station: 0028

Distance Travelled (m): 15796.075

Current Coords : 44°19'12.05320" N 121°07'42.32426" W 881.129

Baseline 3

File Name: 67283342.FIX

From Station: 0028 To Station: 0067

Distance Travelled (m): 36918.512

Current Coords : 44°18'04.56798" N 120°51'54.05918" W 952.535

End Traverse at Station: 0067

Distance Travelled (m): 36918.512 Precision (ppm): 1.18

dx: -0.010 dy: 0.037 dz: 0.020 dh: -0.005

Ending Coords : 44°18'04.56798" N 120°51'54.05918" W 952.535

Reference Coords: 44°18'04.56691" N 120°51'54.05792" W 952.540

Trimble Loop Closure Utility

Start Traverse at Station: 0033

Starting Coords : 44°23'31.36580" N 121°17'46.93527" W 871.266

Baseline 1

File Name: 33191461.FIX

From Station: 0033 To Station: 0019

Distance Travelled (m): 3933.937

Current Coords : 44°22'42.08222" N 121°20'30.79599" W 823.389

Baseline 2

File Name: 66193041.FIX

From Station: 0019 To Station: 0066

Distance Travelled (m): 22817.119

Current Coords : 44°18'20.44198" N 121°33'21.22151" W 947.373

End Traverse at Station: 0066

Distance Travelled (m): 22817.119 Precision (ppm): 1.08

dx: -0.010 dy: -0.018 dz: 0.014 dh: 0.024

Ending Coords : 44°18'20.44198" N 121°33'21.22151" W 947.373

Reference Coords: 44°18'20.44212" N 121°33'21.22157" W 947.349

Trimble Loop Closure Utility

Start Traverse at Station: 0066

Starting Coords : 44°18'20.44212" N 121°33'21.22157" W 947.349

Baseline 1

File Name: 66143131.FIX

From Station: 0066 To Station: 0014

Distance Travelled (m): 11754.941

Current Coords : 44°13'05.76430" N 121°28'22.86346" W 975.766

Baseline 2

File Name: 16141453.FIX

From Station: 0014 To Station: 0016

Distance Travelled (m): 20196.879

Current Coords : 44°09'39.45990" N 121°24'13.39780" W 1022.708

Baseline 3

File Name: 68163132.FIX

From Station: 0016 To Station: 0068

Distance Travelled (m): 26486.108

Current Coords : 44°06'46.17546" N 121°21'44.63449" W 1052.308

Baseline 4

File Name: 13683113.FIX

From Station: 0068 To Station: 0013

Distance Travelled (m): 34704.192

Current Coords : 44°02'39.71415" N 121°19'25.05129" W 1095.907

Baseline 5

File Name: 13313241.FIX

From Station: 0013 To Station: 0031

Distance Travelled (m): 38409.886

Current Coords : 44°03'37.94368" N 121°16'59.64888" W 1241.685

End Traverse at Station: 0031

Distance Travelled (m): 38409.886 Precision (ppm): 1.76

dx: 0.016 dy: 0.059 dz: -0.028 dh: -0.062

Ending Coords : 44°03'37.94368" N 121°16'59.64888" W 1241.685

Reference Coords: 44°03'37.94301" N 121°16'59.64811" W 1241.747

Trimble Loop Closure Utility

Start Traverse at Station: 0031

Starting Coords : 44°03'37.94301" N 121°16'59.64811" W 1241.747

Baseline 1

File Name: 31462971.FIX

From Station: 0031 To Station: 0046

Distance Travelled (m): 7391.616

Current Coords : 44°05'37.42916" N 121°12'11.98352" W 1025.781

Baseline 2

File Name: 46243121.FIX

From Station: 0046 To Station: 0024

Distance Travelled (m): 21909.467

Current Coords : 44°07'28.46849" N 121°01'37.72052" W 998.008

Baseline 3

File Name: 67243342.FIX

From Station: 0024 To Station: 0067

Distance Travelled (m): 45436.737

Current Coords : 44°18'04.56550" N 120°51'54.06014" W 952.542

End Traverse at Station: 0067

Distance Travelled (m): 45436.737 Precision (ppm): 1.45

dx: -0.059 dy: -0.002 dz: -0.030 dh: 0.002

Ending Coords : 44°18'04.56550" N 120°51'54.06014" W 952.542

Reference Coords: 44°18'04.56691" N 120°51'54.05792" W 952.540

Trimble Loop Closure Utility

Start Traverse at Station: 0031

Starting Coords : 44°03'37.94301" N 121°16'59.64811" W 1241.747

Baseline 1

File Name: 31430871.FIX

From Station: 0031 To Station: 0043

Distance Travelled (m): 10745.171

Current Coords : 44°02'14.18925" N 121°09'11.29688" W 1062.697

Baseline 2

File Name: 43400793.FIX

From Station: 0043 To Station: 0040

Distance Travelled (m): 15914.226

Current Coords : 43°59'56.97685" N 121°06'58.29921" W 1075.754

Baseline 3

File Name: 40613033.FIX

From Station: 0040 To Station: 0061

Distance Travelled (m): 25195.791

Current Coords : 43°56'39.13920" N 121°01'44.79286" W 1086.101

Baseline 4

File Name: 59613031.FIX

From Station: 0061 To Station: 0059

Distance Travelled (m): 41915.103

Current Coords : 43°52'16.02505" N 120°50'50.06684" W 1298.448

Baseline 5

File Name: 60593341.FIX

From Station: 0059 To Station: 0060

Distance Travelled (m): 62774.988

Current Coords : 43°48'49.79321" N 120°36'01.00270" W 1394.240

End Traverse at Station: 0060

Distance Travelled (m): 62774.988 Precision (ppm): 1.14

dx: -0.029 dy: 0.043 dz: 0.049 dh: 0.018

Ending Coords : 43°48'49.79321" N 120°36'01.00270" W 1394.240

Reference Coords: 43°48'49.79156" N 120°36'01.00060" W 1394.222

Trimble Loop Closure Utility

Start Traverse at Station: 0031
Starting Coords : 44°03'37.94301" N 121°16'59.64811" W 1241.747

Baseline 1
File Name: 31353241.FIX
From Station: 0031 To Station: 0035
Distance Travelled (m): 8667.783
Current Coords : 43°59'27.22077" N 121°19'54.79549" W 1176.017

Baseline 2
File Name: 55353093.FIX
From Station: 0035 To Station: 0055
Distance Travelled (m): 17019.679
Current Coords : 43°55'04.28820" N 121°21'21.71704" W 1510.634

Baseline 3
File Name: 55543133.FIX
From Station: 0055 To Station: 0054
Distance Travelled (m): 27471.616
Current Coords : 43°50'14.56276" N 121°25'23.65450" W 1263.204

Baseline 4
File Name: 69543063.FIX
From Station: 0054 To Station: 0069
Distance Travelled (m): 37232.905
Current Coords : 43°48'11.05612" N 121°32'05.68957" W 1268.358

Baseline 5
File Name: 69480822.FIX
From Station: 0069 To Station: 0048
Distance Travelled (m): 48380.919
Current Coords : 43°42'12.70425" N 121°33'07.42633" W 1278.970

Baseline 6
File Name: 48513062.FIX
From Station: 0048 To Station: 0051
Distance Travelled (m): 59564.338
Current Coords : 43°40'56.60223" N 121°41'15.57563" W 1307.394

End Traverse at Station: 0051
Distance Travelled (m): 59564.338 Precision (ppm): 1.30
dx: 0.044 dy: 0.046 dz: 0.044 dh: -0.015
Ending Coords : 43°40'56.60223" N 121°41'15.57563" W 1307.394
Reference Coords: 43°40'56.59981" N 121°41'15.57620" W 1307.409

Trimble Loop Closure Utility

Start Traverse at Station: 0031

Starting Coords : 44°03'37.94301" N 121°16'59.64811" W 1241.747

Baseline 1

File Name: 31341443.FIX

From Station: 0031 To Station: 0034

Distance Travelled (m): 6086.623

Current Coords : 44°06'53.97676" N 121°17'27.31030" W 1028.266

Baseline 2

File Name: 34300802.FIX

From Station: 0034 To Station: 0030

Distance Travelled (m): 12211.809

Current Coords : 44°09'44.11810" N 121°15'05.57017" W 979.163

Baseline 3

File Name: 30231441.FIX

From Station: 0030 To Station: 0023

Distance Travelled (m): 18695.079

Current Coords : 44°13'06.65432" N 121°13'48.38667" W 932.797

Baseline 4

File Name: 23223321.FIX

From Station: 0023 To Station: 0022

Distance Travelled (m): 26951.655

Current Coords : 44°17'28.64701" N 121°12'33.56516" W 879.024

Baseline 5

File Name: 22211463.FIX

From Station: 0022 To Station: 0021

Distance Travelled (m): 34180.717

Current Coords : 44°21'01.22991" N 121°10'16.76328" W 854.043

Baseline 6

File Name: 33211462.FIX

From Station: 0021 To Station: 0033

Distance Travelled (m): 45173.722

Current Coords : 44°23'31.36413" N 121°17'46.93482" W 871.296

End Traverse at Station: 0033

Distance Travelled (m): 45173.722 Precision (ppm): 1.34

dx: -0.021 dy: -0.054 dz: -0.016 dh: 0.030

Ending Coords : 44°23'31.36413" N 121°17'46.93482" W 871.296

Reference Coords: 44°23'31.36580" N 121°17'46.93527" W 871.266

COORDINATA

ADJUSTMENT

SUMMARY

COORDINATE ADJUSTMENT SUMMARY

NETWORK = DC-88-90
TIME = Fri Jul 10 08:30:19 1992

Datum = NAD-83
Coordinate System = 1983 State Plane Lambert
Zone = Oregon South

Network Adjustment Constraints:
6 fixed coordinates in y
6 fixed coordinates in x
6 fixed coordinates in H
35 fixed coordinates in h

POINT	NAME	OLD COORDS	ADJUST	NEW COORDS	1.00_
1	GIS 13				
	Y=	264457.7975	-0.0000	264457.7975	0.001990m
	X=	1433989.7005	-0.0000	1433989.7005	0.001913m
	ELL HT=	1095.9659	+0.0000	1095.9659	0.004069m
	ORTHO HT=	1115.5452	+0.0000	1115.5452	0.011354m
	GEOID HT=	-19.5793	+0.0000	-19.5793	0.011372m
2	GIS 14				
	Y=	283908.8309	+0.0000	283908.8309	0.003729m
	X=	1422241.4967	-0.0000	1422241.4967	0.003196m
	ELL HT=	975.7927	+0.0000	975.7927	0.008205m
	ORTHO HT=	995.7580	+0.0000	995.7580	0.018811m
	GEOID HT=	-19.9653	-0.0000	-19.9653	0.017988m
3	GIS 15				
	Y=	292108.3455	+0.0000	292108.3455	0.003417m
	X=	1414873.0208	-0.0000	1414873.0208	0.003121m
	ELL HT=	954.3790	+0.0000	954.3790	0.005931m
	ORTHO HT=	974.4300	+0.0000	974.4300	FIXED
	GEOID HT=	-20.0510	+0.0000	-20.0510	0.005931m
4	GIS 16				
	Y=	277479.1057	-0.0000	277479.1057	0.003216m
	X=	1427710.3347	-0.0000	1427710.3347	0.003061m
	ELL HT=	1022.7533	+0.0000	1022.7533	0.006694m
	ORTHO HT=	1042.6244	+0.0000	1042.6244	0.019838m
	GEOID HT=	-19.8710	-0.0000	-19.8710	0.019394m
5	GIS 17				
	Y=	291992.4664	+0.0000	291992.4664	0.003696m
	X=	1423911.7154	-0.0000	1423911.7154	0.003513m
	ELL HT=	920.9417	+0.0000	920.9417	0.007516m
	ORTHO HT=	941.0810	+0.0000	941.0810	FIXED
	GEOID HT=	-20.1393	+0.0000	-20.1393	0.007516m
6	GIS 18				
	Y=	292030.9242	+0.0000	292030.9242	0.004374m
	X=	1433646.5607	-0.0000	1433646.5607	0.004050m
	ELL HT=	907.2810	+0.0000	907.2810	0.008064m
	ORTHO HT=	927.3820	+0.0000	927.3820	FIXED
	GEOID HT=	-20.1010	+0.0000	-20.1010	0.008064m
7	GIS 19 14120604				
	Y=	301584.6830	+0.0000	301584.6830	0.002723m
	X=	1432899.1758	-0.0000	1432899.1758	0.002893m
	ELL HT=	823.3876	-0.0000	823.3876	0.005546m
	ORTHO HT=	843.5971	-0.0000	843.5971	0.023495m
	GEOID HT=	-20.2095	+0.0000	-20.2095	0.023282m

8 GIS 20 14120188			
Y=	303127.7212	+0.0000	303127.7212 0.003007m
X=	1441886.6324	+0.0000	1441886.6324 0.003873m
ELL HT=	822.9352	-0.0000	822.9352 0.006616m
ORTHO HT=	842.9546	-0.0000	842.9546 0.025348m
GEOID HT=	-20.0194	+0.0000	-20.0194 0.024846m
9 GIS 21			
Y=	298348.7067	+0.0000	298348.7067 0.003573m
X=	1446468.3620	+0.0000	1446468.3620 0.003789m
ELL HT=	854.0173	-0.0000	854.0173 0.007887m
ORTHO HT=	873.9038	-0.0000	873.9038 0.017555m
GEOID HT=	-19.8865	+0.0000	-19.8865 0.018308m
10 GIS 22			
Y=	291811.6359	+0.0000	291811.6359 0.003446m
X=	1443382.6711	+0.0000	1443382.6711 0.003481m
ELL HT=	878.9978	-0.0000	878.9978 0.007498m
ORTHO HT=	898.9608	-0.0000	898.9608 0.015909m
GEOID HT=	-19.9630	+0.0000	-19.9630 0.016441m
11 GIS 23			
Y=	283738.9415	+0.0000	283738.9415 0.003127m
X=	1441653.2760	+0.0000	1441653.2760 0.003105m
ELL HT=	932.7804	+0.0000	932.7804 0.007004m
ORTHO HT=	952.6818	+0.0000	952.6818 0.016022m
GEOID HT=	-19.9013	+0.0000	-19.9013 0.016299m
12 GIS 24			
Y=	273178.6434	+0.0000	273178.6434 0.004538m
X=	1457807.1731	+0.0000	1457807.1731 0.004091m
ELL HT=	997.9895	+0.0000	997.9895 0.010006m
ORTHO HT=	1017.4201	-0.0000	1017.4201 0.021557m
GEOID HT=	-19.4305	+0.0000	-19.4305 0.020985m
13 GIS 25			
Y=	257086.1043	-0.0000	257086.1043 0.003021m
X=	1441865.6064	+0.0000	1441865.6064 0.002698m
ELL HT=	1184.7360	+0.0000	1184.7360 0.006120m
ORTHO HT=	1204.1110	-0.0000	1204.1110 0.016089m
GEOID HT=	-19.3750	+0.0000	-19.3750 0.016090m
14 GIS 26 17142600			
Y=	266358.0016	+0.0000	266358.0016 0.004548m
X=	1457773.3711	+0.0000	1457773.3711 0.003977m
ELL HT=	1010.7264	+0.0000	1010.7264 0.010363m
ORTHO HT=	1030.1623	+0.0000	1030.1623 0.021750m
GEOID HT=	-19.4359	+0.0000	-19.4359 0.021033m
15 GIS 27 15131400			
Y=	288523.1491	+0.0000	288523.1491 0.003690m
X=	1448205.4924	+0.0000	1448205.4924 0.003744m
ELL HT=	909.7948	+0.0000	909.7948 0.007818m
ORTHO HT=	929.6230	+0.0000	929.6230 FIXED
GEOID HT=	-19.8282	+0.0000	-19.8282 0.007818m
16 GIS 28 14132500			
Y=	294951.9580	+0.0000	294951.9580 0.003819m
X=	1449863.8646	+0.0000	1449863.8646 0.003835m
ELL HT=	881.1301	+0.0000	881.1301 0.008159m
ORTHO HT=	900.9300	+0.0000	900.9300 FIXED
GEOID HT=	-19.7999	+0.0000	-19.7999 0.008159m
17 GIS 29 16120840			
Y=	282119.2178	+0.0000	282119.2178 0.003414m
X=	1434148.5136	+0.0000	1434148.5136 0.003291m
ELL HT=	950.1022	+0.0000	950.1022 0.007539m
ORTHO HT=	970.0638	+0.0000	970.0638 0.017846m
GEOID HT=	-19.9616	+0.0000	-19.9616 0.017396m

18 GIS 30 E-30 RESET 69			
Y=	277502.6172	+0.0000	277502.6172 0.003009m
X=	1439883.8455	+0.0000	1439883.8455 0.002899m
ELL HT=	979.1476	+0.0000	979.1476 0.006268m
ORTHO HT=	998.9700	+0.0000	998.9700 FIXED
GEOID HT=	-19.8224	+0.0000	-19.8224 0.006268m
19 GIS 31 PILOT BUTTE			
Y=	266223.9389	+0.0000	266223.9389 FIXED
X=	1437243.4813	+0.0000	1437243.4813 FIXED
ELL HT=	1241.7470	+0.0000	1241.7470 FIXED
ORTHO HT=	1261.3638	-0.0000	1261.3638 0.010083m
GEOID HT=	-19.6168	+0.0000	-19.6168 0.010083m
20 GIS 32 CLINE 1971			
Y=	287644.5472	+0.0000	287644.5472 0.003348m
X=	1435871.4305	+0.0000	1435871.4305 0.003317m
ELL HT=	1228.7047	+0.0000	1228.7047 0.007131m
ORTHO HT=	1248.7076	+0.0000	1248.7076 0.015972m
GEOID HT=	-20.0028	+0.0000	-20.0028 0.016142m
21 GIS 33 BIG FALLS			
Y=	303070.5369	+0.0000	303070.5369 FIXED
X=	1436541.3455	+0.0000	1436541.3455 FIXED
ELL HT=	871.2660	+0.0000	871.2660 FIXED
ORTHO HT=	891.4306	-0.0000	891.4306 0.024948m
GEOID HT=	-20.1646	+0.0000	-20.1646 0.024948m
22 GIS 34 C-30 1921			
Y=	272280.1856	+0.0000	272280.1856 0.002493m
X=	1436684.9621	+0.0000	1436684.9621 0.002422m
ELL HT=	1028.2614	+0.0000	1028.2614 0.005123m
ORTHO HT=	1048.0130	+0.0000	1048.0130 FIXED
GEOID HT=	-19.7516	+0.0000	-19.7516 0.005123m
23 GIS 35			
Y=	258523.3985	+0.0000	258523.3985 0.003187m
X=	1433268.5001	-0.0000	1433268.5001 0.002936m
ELL HT=	1176.0313	+0.0000	1176.0313 0.006102m
ORTHO HT=	1195.4800	+0.0000	1195.4800 FIXED
GEOID HT=	-19.4487	+0.0000	-19.4487 0.006102m
24 GIS 36			
Y=	261804.2786	-0.0000	261804.2786 0.002835m
X=	1430290.5145	-0.0000	1430290.5145 0.002638m
ELL HT=	1163.3296	-0.0000	1163.3296 0.005466m
ORTHO HT=	1182.8300	+0.0000	1182.8300 FIXED
GEOID HT=	-19.5004	-0.0000	-19.5004 0.005466m
25 GIS 37			
Y=	257758.4059	-0.0000	257758.4059 0.005021m
X=	1419396.4947	+0.0000	1419396.4947 0.004900m
ELL HT=	1561.5925	-0.0000	1561.5925 0.009851m
ORTHO HT=	1580.7560	+0.0000	1580.7560 FIXED
GEOID HT=	-19.1635	-0.0000	-19.1635 0.009851m
26 GIS 38			
Y=	229303.2352	-0.0000	229303.2352 0.006440m
X=	1425601.9892	-0.0000	1425601.9892 0.005760m
ELL HT=	1286.0365	-0.0000	1286.0365 0.012252m
ORTHO HT=	1305.3660	+0.0000	1305.3660 FIXED
GEOID HT=	-19.3295	-0.0000	-19.3295 0.012252m
27 GIS 39			
Y=	231028.1988	-0.0000	231028.1988 0.005123m
X=	1410857.4913	-0.0000	1410857.4913 0.004899m
ELL HT=	1276.9045	-0.0000	1276.9045 0.008888m
ORTHO HT=	1296.5230	+0.0000	1296.5230 FIXED
GEOID HT=	-19.6185	-0.0000	-19.6185 0.008888m

28 GIS 40				
Y=	259292.1617	-0.0000	259292.1617	0.004004m
X=	1450577.1987	+0.0000	1450577.1987	0.003317m
ELL HT=	1075.7336	+0.0000	1075.7336	0.008042m
ORTHO HT=	1095.1450	+0.0000	1095.1450	FIXED
GEOID HT=	-19.4114	+0.0000	-19.4114	0.008042m
29 GIS 41				
Y=	244416.5573	-0.0000	244416.5573	0.004962m
X=	1420652.8605	-0.0000	1420652.8605	0.004872m
ELL HT=	1282.6929	-0.0000	1282.6929	0.009070m
ORTHO HT=	1302.0639	+0.0000	1302.0639	0.017606m
GEOID HT=	-19.3711	-0.0000	-19.3711	0.018196m
30 GIS 42				
Y=	241814.7774	+0.0000	241814.7774	0.007337m
X=	1404476.2267	-0.0000	1404476.2267	0.005225m
ELL HT=	1432.8555	-0.0000	1432.8555	0.014308m
ORTHO HT=	1452.3721	-0.0000	1452.3721	0.025957m
GEOID HT=	-19.5166	-0.0000	-19.5166	0.023475m
31 GIS 43				
Y=	263549.5328	-0.0000	263549.5328	0.003033m
X=	1447647.1369	+0.0000	1447647.1370	0.002603m
ELL HT=	1062.6658	+0.0000	1062.6658	0.006685m
ORTHO HT=	1082.1588	-0.0000	1082.1588	0.014536m
GEOID HT=	-19.4930	+0.0000	-19.4930	0.014732m
32 GIS 44				
Y=	265905.6644	-0.0000	265905.6644	0.003107m
X=	1442142.8825	-0.0000	1442142.8825	0.002800m
ELL HT=	1072.5135	+0.0000	1072.5135	0.006531m
ORTHO HT=	1092.0840	+0.0000	1092.0840	FIXED
GEOID HT=	-19.5705	+0.0000	-19.5705	0.006531m
33 GIS 45				
Y=	261914.4190	-0.0000	261914.4190	0.001993m
X=	1439041.2695	+0.0000	1439041.2695	0.001837m
ELL HT=	1114.4076	+0.0000	1114.4076	0.004027m
ORTHO HT=	1133.9210	+0.0000	1133.9210	FIXED
GEOID HT=	-19.5134	+0.0000	-19.5134	0.004027m
34 GIS 46 BEND AIRPORT				
Y=	269855.0125	-0.0000	269855.0125	0.002871m
X=	1443676.8154	+0.0000	1443676.8154	0.002596m
ELL HT=	1025.7599	+0.0000	1025.7599	0.006056m
ORTHO HT=	1045.4110	+0.0000	1045.4110	FIXED
GEOID HT=	-19.6511	+0.0000	-19.6511	0.006056m
35 GIS 47 T 463				
Y=	278437.2484	-0.0000	278437.2484	0.004218m
X=	1451827.6203	+0.0000	1451827.6203	0.004046m
ELL HT=	968.6324	+0.0000	968.6324	0.008886m
ORTHO HT=	988.2310	+0.0000	988.2310	FIXED
GEOID HT=	-19.5986	+0.0000	-19.5986	0.008886m
36 GIS 48				
Y=	226796.6163	+0.0000	226796.6163	0.004642m
X=	1415206.4648	-0.0000	1415206.4648	0.004414m
ELL HT=	1278.9902	-0.0000	1278.9902	0.008448m
ORTHO HT=	1298.5950	+0.0000	1298.5950	FIXED
GEOID HT=	-19.6048	-0.0000	-19.6048	0.008448m
37 GIS 49 V 370				
Y=	226717.4114	-0.0000	226717.4114	0.005659m
X=	1421249.9436	-0.0000	1421249.9436	0.004969m
ELL HT=	1266.4425	-0.0000	1266.4425	0.010789m
ORTHO HT=	1285.9470	+0.0000	1285.9470	FIXED
GEOID HT=	-19.5045	-0.0000	-19.5045	0.010789m

38 GIS 50 BEAL RM-1				
Y=	217103.5838	+0.0000	217103.5838	0.006852m
X=	1415446.5035	-0.0000	1415446.5035	0.005144m
ELL HT=	1280.9843	+0.0000	1280.9843	0.012662m
ORTHO HT=	1300.6380	+0.0000	1300.6380	FIXED
GEOID HT=	-19.6537	+0.0000	-19.6537	0.012662m
39 GIS 51 WICKIUP				
Y=	224594.4026	+0.0000	224594.4026	FIXED
X=	1404245.0808	+0.0000	1404245.0808	FIXED
ELL HT=	1307.4090	+0.0000	1307.4090	FIXED
ORTHO HT=	1327.0990	+0.0000	1327.0990	FIXED
GEOID HT=	-19.6900	+0.0000	-19.6900	FIXED
40 GIS 52 CARY				
Y=	232196.6901	-0.0000	232196.6901	0.004966m
X=	1422589.7635	-0.0000	1422589.7635	0.004496m
ELL HT=	1261.6470	-0.0000	1261.6470	0.009364m
ORTHO HT=	1281.0720	+0.0000	1281.0720	FIXED
GEOID HT=	-19.4250	-0.0000	-19.4250	0.009364m
41 GIS 53 PAULINA PEAK				
Y=	224945.9751	-0.0000	224945.9751	0.008269m
X=	1439142.7767	-0.0000	1439142.7767	0.007009m
ELL HT=	2414.6329	-0.0000	2414.6329	0.017960m
ORTHO HT=	2433.2288	-0.0000	2433.2288	0.026911m
GEOID HT=	-18.5959	-0.0000	-18.5959	0.025216m
42 GIS 54				
Y=	241544.2934	-0.0000	241544.2934	0.005482m
X=	1425752.9639	-0.0000	1425752.9639	0.005460m
ELL HT=	1263.2174	-0.0000	1263.2174	0.009696m
ORTHO HT=	1282.5300	+0.0000	1282.5300	FIXED
GEOID HT=	-19.3126	-0.0000	-19.3126	0.009696m
43 GIS 55 LAVA BUTTE				
Y=	250428.2103	+0.0000	250428.2103	0.004429m
X=	1431248.8089	-0.0000	1431248.8088	0.005846m
ELL HT=	1510.6660	-0.0000	1510.6660	0.010219m
ORTHO HT=	1529.9370	-0.0000	1529.9370	0.019742m
GEOID HT=	-19.2710	-0.0000	-19.2710	0.018500m
44 GIS 56 PINE				
Y=	239529.8753	-0.0000	239529.8753	0.006784m
X=	1465358.3176	-0.0000	1465358.3176	0.005385m
ELL HT=	1933.6267	+0.0000	1933.6267	0.013556m
ORTHO HT=	1952.4274	+0.0000	1952.4274	0.019453m
GEOID HT=	-18.8007	+0.0000	-18.8007	0.020535m
45 GIS 57 W-22 1920				
Y=	245416.4368	-0.0000	245416.4368	0.005617m
X=	1456008.4375	-0.0000	1456008.4375	0.005237m
ELL HT=	1303.2117	+0.0000	1303.2117	0.010919m
ORTHO HT=	1322.2850	+0.0000	1322.2850	FIXED
GEOID HT=	-19.0733	+0.0000	-19.0733	0.010919m
46 GIS 58 J-372 1943				
Y=	245333.6800	+0.0000	245333.6800	0.006304m
X=	1461056.9664	-0.0000	1461056.9664	0.005666m
ELL HT=	1269.2863	+0.0000	1269.2863	0.011973m
ORTHO HT=	1288.3260	+0.0000	1288.3260	FIXED
GEOID HT=	-19.0397	+0.0000	-19.0397	0.011973m
47 GIS 59 P-372 1943				
Y=	244941.5295	+0.0000	244941.5296	0.007479m
X=	1472089.8658	-0.0000	1472089.8658	0.005308m
ELL HT=	1298.4557	-0.0000	1298.4557	0.014070m
ORTHO HT=	1317.2910	+0.0000	1317.2910	FIXED
GEOID HT=	-18.8353	-0.0000	-18.8353	0.014070m

48 GIS 60 BROTHERS				
Y=	238523.6485	+0.0000	238523.6485	FIXED
X=	1491932.3221	+0.0000	1491932.3221	FIXED
ELL HT=	1394.2220	+0.0000	1394.2220	FIXED
ORTHO HT=	1412.7400	+0.0000	1412.7400	FIXED
GEOID HT=	-18.5180	+0.0000	-18.5180	FIXED
49 GIS 61				
Y=	253138.4242	-0.0000	253138.4242	0.004576m
X=	1457523.3193	+0.0000	1457523.3193	0.003967m
ELL HT=	1086.0903	+0.0000	1086.0903	0.009491m
ORTHO HT=	1105.3400	+0.0000	1105.3400	FIXED
GEOID HT=	-19.2497	+0.0000	-19.2497	0.009491m
50 GIS 62 P-35 RESET87				
Y=	259129.9909	-0.0000	259129.9909	0.006654m
X=	1407033.3677	+0.0000	1407033.3677	0.006366m
ELL HT=	1931.5264	-0.0000	1931.5264	0.013296m
ORTHO HT=	1950.4360	+0.0000	1950.4360	FIXED
GEOID HT=	-18.9096	-0.0000	-18.9096	0.013296m
51 GIS 63 FIRST				
Y=	264219.3630	+0.0000	264219.3630	0.004770m
X=	1422608.7729	+0.0000	1422608.7729	0.004324m
ELL HT=	1389.3318	-0.0000	1389.3318	0.010046m
ORTHO HT=	1408.6915	+0.0000	1408.6915	0.018698m
GEOID HT=	-19.3598	-0.0000	-19.3598	0.017535m
52 GIS 64 DES016				
Y=	272921.2505	-0.0000	272921.2505	0.007394m
X=	1409641.5913	+0.0000	1409641.5913	0.007229m
ELL HT=	1913.6479	-0.0000	1913.6479	0.014676m
ORTHO HT=	1932.6160	+0.0000	1932.6160	FIXED
GEOID HT=	-18.9681	-0.0000	-18.9681	0.014676m
53 GIS 65 X-359 1942				
Y=	284875.2528	-0.0000	284875.2528	0.004521m
X=	1414256.1286	-0.0000	1414256.1286	0.003528m
ELL HT=	1145.3945	-0.0000	1145.3945	0.009869m
ORTHO HT=	1165.2020	+0.0000	1165.2020	FIXED
GEOID HT=	-19.8075	-0.0000	-19.8075	0.009869m
54 GIS 66 SISTERS				
Y=	293701.8637	+0.0000	293701.8637	FIXED
X=	1415741.1811	+0.0000	1415741.1811	FIXED
ELL HT=	947.3490	+0.0000	947.3490	FIXED
ORTHO HT=	967.4530	+0.0000	967.4530	FIXED
GEOID HT=	-20.1040	+0.0000	-20.1040	FIXED
55 GIS 67 PRINEVILLE				
Y=	292744.1189	+0.0000	292744.1189	FIXED
X=	1470869.4513	+0.0000	1470869.4513	FIXED
ELL HT=	952.5400	+0.0000	952.5400	FIXED
ORTHO HT=	971.8376	-0.0000	971.8376	0.035206m
GEOID HT=	-19.2976	+0.0000	-19.2976	0.035206m
56 GIS 68				
Y=	272095.8515	-0.0000	272095.8515	0.003778m
X=	1430960.6222	+0.0000	1430960.6222	0.003703m
ELL HT=	1052.3616	+0.0000	1052.3616	0.006807m
ORTHO HT=	1072.1208	+0.0000	1072.1208	0.017063m
GEOID HT=	-19.7592	-0.0000	-19.7592	0.016258m
57 GIS 69				
Y=	237837.8722	+0.0000	237837.8722	0.004751m
X=	1416725.2373	-0.0000	1416725.2373	0.004427m
ELL HT=	1268.3653	-0.0000	1268.3653	0.008752m
ORTHO HT=	1287.8686	+0.0000	1287.8686	0.017919m
GEOID HT=	-19.5033	-0.0000	-19.5033	0.018355m

58 GIS 70				
Y=	211232.9795	-0.0000	211232.9795	0.009622m
X=	1445364.6104	-0.0000	1445364.6104	0.007888m
ELL HT=	1573.2945	+0.0000	1573.2945	0.020140m
ORTHO HT=	1592.3080	+0.0000	1592.3080	0.033437m
GEOID HT=	-19.0136	+0.0000	-19.0136	0.032807m
59 GIS 71 6-DPB-1978				
Y=	226839.4926	-0.0000	226839.4926	0.011097m
X=	1472052.0995	+0.0000	1472052.0995	0.008466m
ELL HT=	1485.9078	+0.0000	1485.9078	0.022543m
ORTHO HT=	1504.7491	+0.0000	1504.7491	0.032479m
GEOID HT=	-18.8414	+0.0000	-18.8414	0.027705m
60 GIS 72				
Y=	225552.9794	-0.0000	225552.9794	0.009442m
X=	1454343.5149	-0.0000	1454343.5149	0.007913m
ELL HT=	1607.3322	+0.0000	1607.3322	0.017430m
ORTHO HT=	1626.1210	+0.0000	1626.1210	FIXED
GEOID HT=	-18.7888	+0.0000	-18.7888	0.017430m
61 ODOT-B004 1990				
Y=	266832.3189	-0.0000	266832.3189	0.003569m
X=	1435386.0501	-0.0000	1435386.0501	0.003371m
ELL HT=	1087.5355	-0.0000	1087.5355	0.006115m
ORTHO HT=	1107.1730	+0.0000	1107.1730	FIXED
GEOID HT=	-19.6375	-0.0000	-19.6375	0.006115m
62 STEVENS				
Y=	263579.7130	-0.0000	263579.7130	0.003431m
X=	1439279.1263	+0.0000	1439279.1263	0.003259m
ELL HT=	1109.2740	+0.0000	1109.2740	0.005997m
ORTHO HT=	1128.8160	+0.0000	1128.8160	FIXED
GEOID HT=	-19.5420	+0.0000	-19.5420	0.005997m

SUMMARY
OF
COVARIANCES

SUMMARY OF COVARIANCES

NETWORK = DC-88-90
 TIME = Fri Jul 10 08:33:25 1992

FROM/ TO	AZIMUTH/ DELTA H	1.00σ 1.00σ	DISTANCE/ DELTA h	1.00σ 1.00σ	HOR PREC
GIS 13 GIS 31 PILOT BUTTE	61°30'25" +145.7811m	0.11" 0.0041m	3702.208m +145.8186m	0.0019m 0.0139m	1: 1950502
GIS 13 GIS 34 C-30 1921	19°00'42" -67.7045m	0.07" 0.0058m	8273.705m -67.5322m	0.0027m 0.0114m	1: 3028155
GIS 13 GIS 35	186°55'45" +80.0654m	0.10" 0.0059m	5978.062m +79.9348m	0.0031m 0.0114m	1: 1934552
GIS 13 GIS 36	234°20'50" +67.3637m	0.11" 0.0049m	4552.487m +67.2848m	0.0025m 0.0114m	1: 1813285
GIS 13 GIS 45	116°43'28" +18.4417m	0.09" 0.0047m	5655.716m +18.3758m	0.0022m 0.0114m	1: 2526712
GIS 13 GIS 63 FIRST	268°47'59" +293.3659m	0.08" 0.0099m	11383.425m +293.1463m	0.0043m 0.0215m	1: 2668157
GIS 13 GIS 68	338°22'04" -43.6043m	0.10" 0.0070m	8216.762m -43.4244m	0.0037m 0.0197m	1: 2250262
GIS 13 ODOT-B004 1990	30°27'28" -8.4304m	0.25" 0.0063m	2754.659m -8.3722m	0.0036m 0.0114m	1: 764472
GIS 14 GIS 15	318°03'20" -21.4137m	0.07" 0.0087m	11023.905m -21.3280m	0.0036m 0.0188m	1: 3038060
GIS 14 GIS 16	139°37'01" +46.9607m	0.09" 0.0090m	8440.945m +46.8664m	0.0043m 0.0214m	1: 1976307
GIS 14 GIS 17	11°40'26" -54.8510m	0.09" 0.0087m	8254.380m -54.6770m	0.0041m 0.0188m	1: 2035856
GIS 14 GIS 18	54°32'37" -68.5117m	0.07" 0.0104m	14001.567m -68.3760m	0.0050m 0.0188m	1: 2796424
GIS 14 GIS 65 X-359 1942	276°54'02" +169.6018m	0.13" 0.0113m	8043.636m +169.4440m	0.0038m 0.0188m	1: 2095924
GIS 14 GIS 66 SISTERS	326°25'30" -28.4437m	0.06" 0.0082m	11754.046m -28.3050m	0.0036m 0.0188m	1: 3290063
GIS 15 GIS 17	90°44'04" -33.4373m	0.09" 0.0083m	9039.437m -***-	0.0041m -***-	1: 2218034
GIS 15 GIS 65 X-359 1942	184°52'29" +191.0155m	0.10" 0.0097m	7259.352m -***-	0.0046m -***-	1: 1592864
GIS 15 GIS 66 SISTERS	28°34'55" -7.0300m	0.36" 0.0059m	1814.663m -***-	0.0034m -***-	1: 534213
GIS 16 GIS 18	22°11'33" -115.4724m	0.06" 0.0089m	15716.049m -115.2424m	0.0048m 0.0198m	1: 3290403
GIS 16 GIS 29 16120840	54°13'08" -72.6511m	0.09" 0.0077m	7936.044m -72.5606m	0.0035m 0.0213m	1: 2290071
GIS 16 GIS 30 E-30 RESET 69	89°53'22" -43.6058m	0.06" 0.0075m	12173.533m -43.6544m	0.0035m 0.0198m	1: 3513039

GIS 16	139°44'07"	0.04"	14749.904m	0.0032m	1: 4618391
GIS 31 PILOT BUTTE	+218.9937m	0.0067m	+218.7394m	0.0224m	
GIS 16	38°45'30"	0.05"	13036.092m	0.0037m	1: 3509475
GIS 32 CLINE 1971	+205.9514m	0.0076m	+206.0832m	0.0234m	
GIS 16	120°05'00"	0.06"	10371.726m	0.0033m	1: 3139901
GIS 34 C-30 1921	+5.5081m	0.0068m	+5.3886m	0.0198m	
GIS 16	170°39'09"	0.05"	15885.765m	0.0038m	1: 4140730
GIS 36	+140.5762m	0.0077m	+140.2056m	0.0198m	
GIS 16	201°02'38"	0.06"	14207.277m	0.0052m	1: 2730416
GIS 63 FIRST	+366.5784m	0.0107m	+366.0672m	0.0248m	
GIS 16	255°50'33"	0.08"	18634.740m	0.0074m	1: 2513824
GIS 64 DES016	+890.8945m	0.0150m	+889.9916m	0.0198m	
GIS 16	298°47'56"	0.07"	15353.132m	0.0045m	1: 3382019
GIS 65 X-359 1942	+122.6411m	0.0110m	+122.5776m	0.0198m	
GIS 16	148°52'39"	0.14"	6288.386m	0.0040m	1: 1558769
GIS 68	+29.6083m	0.0075m	+29.4964m	0.0195m	
GIS 17	89°46'25"	0.11"	9734.921m	0.0046m	1: 2117017
GIS 18	-13.6607m	0.0095m	-***	-***	
GIS 17	43°08'09"	0.05"	13144.773m	0.0043m	1: 3073020
GIS 19 14120604	-97.5541m	0.0080m	-97.4839m	0.0235m	
GIS 17	281°49'00"	0.09"	8347.435m	0.0034m	1: 2469401
GIS 66 SISTERS	+26.4073m	0.0075m	-***	-***	
GIS 18	355°31'37"	0.10"	9582.948m	0.0045m	1: 2109483
GIS 19 14120604	-83.8934m	0.0085m	-83.7849m	0.0235m	
GIS 18	63°46'08"	0.06"	14293.809m	0.0049m	1: 2940108
GIS 21	-53.2637m	0.0090m	-53.4782m	0.0176m	
GIS 18	91°17'25"	0.09"	9738.580m	0.0042m	1: 2320186
GIS 22	-28.2832m	0.0079m	-28.4212m	0.0159m	
GIS 18	153°06'17"	0.18"	4918.369m	0.0039m	1: 1259953
GIS 32 CLINE 1971	+321.4237m	0.0073m	+321.3256m	0.0160m	
GIS 19 14120604	80°15'29"	0.07"	9118.955m	0.0046m	1: 1988531
GIS 20 14120188	-0.4524m	0.0077m	-0.6425m	0.0232m	
GIS 19 14120604	103°24'48"	0.06"	13949.708m	0.0041m	1: 3362882
GIS 21	+30.6297m	0.0087m	+30.3067m	0.0246m	
GIS 19 14120604	67°48'24"	0.13"	3933.594m	0.0031m	1: 1277660
GIS 33 BIG FALLS	+47.8784m	0.0055m	+47.8335m	0.0167m	
GIS 19 14120604	245°19'29"	0.03"	18882.151m	0.0031m	1: 6108878
GIS 66 SISTERS	+123.9614m	0.0055m	+123.8559m	0.0235m	
GIS 20 14120188	136°12'27"	0.16"	6620.516m	0.0038m	1: 1726025
GIS 21	+31.0821m	0.0090m	+30.9492m	0.0217m	
GIS 20 14120188	269°23'13"	0.12"	5345.593m	0.0039m	1: 1376537
GIS 33 BIG FALLS	+48.3308m	0.0066m	+48.4760m	0.0190m	
GIS 21	205°16'07"	0.09"	7228.747m	0.0029m	1: 2466831
GIS 22	+24.9805m	0.0069m	+25.0570m	0.0204m	
GIS 21	169°58'26"	0.06"	9977.936m	0.0033m	1: 3028232
GIS 27 15131400	+55.7775m	0.0071m	+55.7192m	0.0176m	
GIS 21	135°00'38"	0.11"	4802.847m	0.0027m	1: 1778433

GIS 28 14132500	+27.1128m	0.0056m	+27.0262m	0.0176m	
GIS 21	295°26'18"	0.07"	10992.786m	0.0036m	1: 3075807
GIS 33 BIG FALLS	+17.2487m	0.0079m	+17.5268m	0.0240m	
GIS 22	192°05'30"	0.07"	8255.859m	0.0026m	1: 3128312
GIS 23	+53.7826m	0.0061m	+53.7209m	0.0199m	
GIS 22	124°17'19"	0.10"	5837.272m	0.0028m	1: 2109720
GIS 27 15131400	+30.7970m	0.0061m	+30.6622m	0.0159m	
GIS 22	64°08'55"	0.09"	7201.909m	0.0028m	1: 2560535
GIS 28 14132500	+2.1323m	0.0068m	+1.9692m	0.0159m	
GIS 22	223°36'47"	0.05"	13387.032m	0.0035m	1: 3848162
GIS 29 16120840	+71.1044m	0.0080m	+71.1030m	0.0230m	
GIS 22	240°58'46"	0.07"	8589.724m	0.0031m	1: 2786408
GIS 32 CLINE 1971	+349.7069m	0.0063m	+349.7467m	0.0199m	
GIS 23	123°10'26"	0.05"	19299.438m	0.0043m	1: 4511199
GIS 24	+65.2091m	0.0105m	+64.7383m	0.0272m	
GIS 23	179°32'37"	0.03"	26653.683m	0.0041m	1: 6502887
GIS 25	+251.9556m	0.0089m	+251.4292m	0.0227m	
GIS 23	53°51'52"	0.07"	8112.964m	0.0031m	1: 2592146
GIS 27 15131400	-22.9856m	0.0066m	-23.0588m	0.0160m	
GIS 23	36°12'47"	0.05"	13897.680m	0.0033m	1: 4160080
GIS 28 14132500	-51.6503m	0.0076m	-51.7518m	0.0160m	
GIS 23	257°49'15"	0.08"	7677.562m	0.0030m	1: 2531361
GIS 29 16120840	+17.3218m	0.0074m	+17.3820m	0.0208m	
GIS 23	195°50'25"	0.08"	6482.486m	0.0025m	1: 2547687
GIS 30 E-30 RESET 69	+46.3671m	0.0059m	+46.2882m	0.0160m	
GIS 23	304°02'20"	0.08"	6977.356m	0.0026m	1: 2694794
GIS 32 CLINE 1971	+295.9243m	0.0062m	+296.0258m	0.0184m	
GIS 23	171°42'28"	0.05"	14030.616m	0.0033m	1: 4260302
GIS 46 BEND AIRPORT	+92.9795m	0.0075m	+92.7292m	0.0160m	
GIS 23	117°31'24"	0.07"	11472.804m	0.0039m	1: 2948101
GIS 47 T 463	+35.8519m	0.0088m	+35.5492m	0.0160m	
GIS 24	224°43'48"	0.04"	22651.785m	0.0048m	1: 4704262
GIS 25	+186.7465m	0.0104m	+186.6909m	0.0272m	
GIS 24	180°17'02"	0.11"	6820.725m	0.0037m	1: 1856593
GIS 26 17142600	+12.7368m	0.0085m	+12.7422m	0.0205m	
GIS 24	327°57'51"	0.06"	18100.998m	0.0046m	1: 3928202
GIS 27 15131400	-88.1947m	0.0104m	-87.7971m	0.0216m	
GIS 24	339°57'26"	0.04"	23177.001m	0.0049m	1: 4724695
GIS 28 14132500	-116.8594m	0.0108m	-116.4901m	0.0216m	
GIS 24	226°32'13"	0.06"	13998.075m	0.0043m	1: 3235966
GIS 43	+64.6762m	0.0098m	+64.7387m	0.0247m	
GIS 24	256°45'50"	0.06"	14515.975m	0.0041m	1: 3515165
GIS 46 BEND AIRPORT	+27.7704m	0.0099m	+27.9909m	0.0216m	
GIS 24	311°19'46"	0.13"	7962.913m	0.0045m	1: 1775705
GIS 47 T 463	-29.3572m	0.0100m	-29.1891m	0.0216m	
GIS 24	33°43'40"	0.04"	23525.113m	0.0046m	1: 5160010
GIS 67 PRINEVILLE	-45.4495m	0.0100m	-45.5825m	0.0371m	

GIS 25	333°10'07"	0.06"	10240.315m	0.0029m	1: 3537666
GIS 31 PILOT BUTTE	+57.0110m	0.0061m	+57.2528m	0.0193m	
GIS 25	279°29'28"	0.09"	8716.424m	0.0035m	1: 2504856
GIS 35	-8.7047m	0.0071m	-8.6310m	0.0161m	
GIS 25	75°47'22"	0.08"	8986.575m	0.0031m	1: 2856865
GIS 40	-109.0024m	0.0072m	-108.9660m	0.0161m	
GIS 25	41°48'45"	0.07"	8671.909m	0.0031m	1: 2818658
GIS 43	-122.0703m	0.0067m	-121.9522m	0.0205m	
GIS 25	329°40'28"	0.09"	5593.702m	0.0026m	1: 2130493
GIS 45	-70.3284m	0.0053m	-70.1900m	0.0161m	
GIS 25	226°01'59"	0.05"	22386.718m	0.0065m	1: 3423926
GIS 54	+78.4814m	0.0103m	+78.4190m	0.0161m	
GIS 25	237°54'28"	0.08"	12531.717m	0.0058m	1: 2166242
GIS 55 LAVA BUTTE	+325.9299m	0.0105m	+325.8260m	0.0236m	
GIS 25	129°31'37"	0.07"	18335.780m	0.0049m	1: 3774012
GIS 57 W-22 1920	+118.4757m	0.0101m	+118.1740m	0.0161m	
GIS 25	104°09'03"	0.06"	16147.698m	0.0038m	1: 4206129
GIS 61	-98.6457m	0.0086m	-98.7710m	0.0161m	
GIS 26 17142600	225°31'25"	0.09"	10085.187m	0.0045m	1: 2237618
GIS 40	+65.0072m	0.0099m	+64.9827m	0.0217m	
GIS 26 17142600	254°29'56"	0.08"	10508.478m	0.0038m	1: 2795043
GIS 43	+51.9394m	0.0097m	+51.9964m	0.0243m	
GIS 26 17142600	283°55'57"	0.07"	14523.841m	0.0039m	1: 3681144
GIS 46 BEND AIRPORT	+15.0335m	0.0103m	+15.2487m	0.0217m	
GIS 26 17142600	146°14'17"	0.05"	25760.965m	0.0069m	1: 3732106
GIS 59 P-372 1943	+287.7293m	0.0148m	+287.1287m	0.0217m	
GIS 26 17142600	129°10'29"	0.02"	44063.422m	0.0041m	1:10689042
GIS 60 BROTHERS	+383.4956m	0.0104m	+382.5777m	0.0217m	
GIS 26 17142600	181°05'01"	0.06"	13221.942m	0.0047m	1: 2835830
GIS 61	+75.3639m	0.0101m	+75.1777m	0.0217m	
GIS 27 15131400	14°27'53"	0.09"	6639.261m	0.0030m	1: 2180847
GIS 28 14132500	-28.6647m	0.0064m	***-	***-	
GIS 27 15131400	160°14'43"	0.08"	10716.585m	0.0043m	1: 2521376
GIS 47 T 463	+58.8376m	0.0087m	***-	***-	
GIS 27 15131400	79°27'00"	0.03"	23053.668m	0.0038m	1: 6081961
GIS 67 PRINEVILLE	+42.7452m	0.0078m	+42.2146m	0.0352m	
GIS 28 14132500	173°13'08"	0.05"	16631.054m	0.0045m	1: 3672481
GIS 47 T 463	+87.5022m	0.0094m	***-	***-	
GIS 28 14132500	96°00'01"	0.04"	21121.298m	0.0038m	1: 5542404
GIS 67 PRINEVILLE	+71.4099m	0.0082m	+70.9076m	0.0352m	
GIS 29 16120840	128°49'55"	0.08"	7362.543m	0.0029m	1: 2515138
GIS 30 E-30 RESET 69	+29.0454m	0.0068m	+28.9062m	0.0178m	
GIS 29 16120840	17°19'07"	0.10"	5787.720m	0.0030m	1: 1900194
GIS 32 CLINE 1971	+278.6025m	0.0068m	+278.6438m	0.0182m	
GIS 29 16120840	165°32'39"	0.06"	10160.715m	0.0032m	1: 3126660
GIS 34 C-30 1921	+78.1592m	0.0071m	+77.9492m	0.0178m	
GIS 30 E-30 RESET 69	338°24'54"	0.06"	10906.797m	0.0029m	1: 3796249
GIS 32 CLINE 1971	+249.5572m	0.0065m	+249.7376m	0.0160m	

GIS 30 E-30 RESET 69	211°29'19"	0.09"	6124.267m	0.0030m	1: 2073248
GIS 34 C-30 1921	+49.1139m	0.0057m	***	***	
GIS 30 E-30 RESET 69	153°37'12"	0.07"	8536.538m	0.0030m	1: 2884497
GIS 46 BEND AIRPORT	+46.6124m	0.0065m	***	***	
GIS 30 E-30 RESET 69	85°31'32"	0.07"	11980.288m	0.0037m	1: 3196791
GIS 47 T 463	-10.5152m	0.0086m	***	***	
GIS 31 PILOT BUTTE	354°43'51"	0.08"	6081.946m	0.0025m	1: 2422512
GIS 34 C-30 1921	-213.4856m	0.0051m	-213.3508m	0.0101m	
GIS 31 PILOT BUTTE	207°18'09"	0.07"	8665.956m	0.0031m	1: 2796500
GIS 35	-65.7157m	0.0061m	-65.8838m	0.0101m	
GIS 31 PILOT BUTTE	104°25'00"	0.06"	10741.904m	0.0026m	1: 4144373
GIS 43	-179.0812m	0.0067m	-179.2050m	0.0179m	
GIS 31 PILOT BUTTE	93°43'01"	0.13"	4909.728m	0.0028m	1: 1755470
GIS 44	-169.2335m	0.0065m	-169.2798m	0.0101m	
GIS 31 PILOT BUTTE	157°21'21"	0.08"	4669.476m	0.0019m	1: 2395534
GIS 45	-127.3394m	0.0040m	-127.4428m	0.0101m	
GIS 31 PILOT BUTTE	60°33'32"	0.08"	7387.319m	0.0027m	1: 2730470
GIS 46 BEND AIRPORT	-215.9871m	0.0061m	-215.9528m	0.0101m	
GIS 31 PILOT BUTTE	313°03'49"	0.09"	8599.632m	0.0035m	1: 2439041
GIS 68	-189.3854m	0.0068m	-189.2430m	0.0198m	
GIS 31 PILOT BUTTE	288°08'08"	0.38"	1954.527m	0.0034m	1: 583414
ODOT-B004 1990	-154.2115m	0.0061m	-154.1908m	0.0101m	
GIS 31 PILOT BUTTE	142°24'33"	0.20"	3337.032m	0.0034m	1: 981912
STEVENS	-132.4730m	0.0060m	-132.5478m	0.0101m	
GIS 34 C-30 1921	128°32'06"	0.05"	14014.049m	0.0032m	1: 4330475
GIS 43	+34.4043m	0.0074m	+34.1458m	0.0145m	
GIS 34 C-30 1921	109°07'46"	0.09"	7400.505m	0.0028m	1: 2615888
GIS 46 BEND AIRPORT	-2.5015m	0.0061m	***	***	
GIS 34 C-30 1921	268°09'20"	0.14"	5727.307m	0.0039m	1: 1471986
GIS 68	+24.1002m	0.0072m	+24.1078m	0.0171m	
GIS 35	317°46'14"	0.14"	4430.866m	0.0029m	1: 1523185
GIS 36	-12.7017m	0.0053m	***	***	
GIS 35	59°34'10"	0.10"	6695.064m	0.0031m	1: 2188604
GIS 45	-61.6236m	0.0059m	***	***	
GIS 35	194°00'32"	0.14"	8343.334m	0.0046m	1: 1830655
GIS 55 LAVA BUTTE	+334.6347m	0.0100m	+334.4570m	0.0197m	
GIS 36	249°37'33"	0.09"	11621.048m	0.0047m	1: 2488825
GIS 37	+398.2629m	0.0096m	***	***	
GIS 36	89°16'44"	0.07"	8751.448m	0.0028m	1: 3126793
GIS 45	-48.9219m	0.0056m	***	***	
GIS 36	175°11'06"	0.11"	11416.359m	0.0044m	1: 2604072
GIS 55 LAVA BUTTE	+347.3364m	0.0100m	+347.1070m	0.0197m	
GIS 36	287°27'10"	0.12"	8052.440m	0.0041m	1: 1980068
GIS 63 FIRST	+226.0022m	0.0099m	+225.8615m	0.0187m	
GIS 36	3°43'31"	0.08"	10313.366m	0.0042m	1: 2459485
GIS 68	-110.9680m	0.0076m	-110.7092m	0.0171m	

GIS 37	174°37'14"	0.08"	13400.872m	0.0053m	1: 2531835
GIS 41	-278.8996m	0.0100m	-278.6921m	0.0176m	
GIS 37	121°44'07"	0.08"	13935.893m	0.0065m	1: 2138352
GIS 55 LAVA BUTTE	-50.9265m	0.0116m	-50.8190m	0.0197m	
GIS 37	276°19'50"	0.10"	12438.977m	0.0060m	1: 2089922
GIS 62 P-35 RESET87	+369.9339m	0.0127m	***	***	
GIS 37	26°26'09"	0.15"	7215.449m	0.0051m	1: 1412472
GIS 63 FIRST	-172.2607m	0.0110m	-172.0645m	0.0187m	
GIS 38	239°16'58"	0.19"	5062.291m	0.0038m	1: 1323700
GIS 49 V 370	-19.5940m	0.0090m	***	***	
GIS 38	313°50'52"	0.19"	4176.791m	0.0043m	1: 972355
GIS 52 CARY	-24.3895m	0.0082m	***	***	
GIS 39	329°23'30"	0.10"	12532.790m	0.0069m	1: 1811938
GIS 42	+155.9510m	0.0144m	+155.8491m	0.0260m	
GIS 39	134°12'58"	0.16"	6067.937m	0.0046m	1: 1323754
GIS 48	+2.0857m	0.0081m	***	***	
GIS 39	225°47'04"	0.11"	9225.926m	0.0052m	1: 1789461
GIS 51 WICKIUP	+30.5045m	0.0089m	***	***	
GIS 39	40°45'03"	0.10"	8988.999m	0.0045m	1: 1976642
GIS 69	-8.5392m	0.0085m	-8.6544m	0.0179m	
GIS 40	325°27'47"	0.12"	5168.217m	0.0031m	1: 1680039
GIS 43	-13.0678m	0.0067m	-12.9862m	0.0145m	
GIS 40	282°48'23"	0.07"	11830.211m	0.0031m	1: 3768792
GIS 45	+38.6741m	0.0076m	***	***	
GIS 40	131°32'19"	0.09"	9279.929m	0.0039m	1: 2391666
GIS 61	+10.3567m	0.0079m	***	***	
GIS 41	260°51'47"	0.09"	16384.527m	0.0061m	1: 2678998
GIS 42	+150.1626m	0.0147m	+150.3082m	0.0291m	
GIS 41	170°59'36"	0.08"	12372.419m	0.0045m	1: 2744114
GIS 52 CARY	-21.0459m	0.0085m	-20.9919m	0.0176m	
GIS 41	119°23'14"	0.18"	5853.286m	0.0036m	1: 1615578
GIS 54	-19.4754m	0.0075m	-19.5339m	0.0176m	
GIS 41	60°25'53"	0.09"	12182.532m	0.0064m	1: 1909287
GIS 55 LAVA BUTTE	+227.9731m	0.0113m	+227.8731m	0.0252m	
GIS 41	317°12'40"	0.07"	20049.332m	0.0063m	1: 3175566
GIS 62 P-35 RESET87	+648.8335m	0.0135m	+648.3721m	0.0176m	
GIS 41	210°50'17"	0.10"	7661.940m	0.0052m	1: 1475676
GIS 69	-14.3276m	0.0081m	-14.1954m	0.0203m	
GIS 42	180°46'08"	0.06"	17221.926m	0.0073m	1: 2346184
GIS 51 WICKIUP	-125.4465m	0.0143m	-125.2731m	0.0260m	
GIS 42	8°24'03"	0.08"	17503.017m	0.0084m	1: 2086520
GIS 62 P-35 RESET87	+498.6709m	0.0161m	+498.0639m	0.0260m	
GIS 42	107°59'14"	0.12"	12878.433m	0.0052m	1: 2462105
GIS 69	-164.4902m	0.0145m	-164.5035m	0.0283m	
GIS 43	293°10'25"	0.12"	5987.334m	0.0030m	1: 1965372
GIS 44	+9.8478m	0.0074m	+9.9252m	0.0145m	

GIS 43	259°14'31"	0.07"	8759.826m	0.0025m	1: 3456874
GIS 45	+51.7419m	0.0064m	+51.7622m	0.0145m	
GIS 43	327°48'11"	0.08"	7451.344m	0.0029m	1: 2546365
GIS 46 BEND AIRPORT	-36.9058m	0.0066m	-36.7478m	0.0145m	
GIS 43	136°30'37"	0.06"	14350.267m	0.0038m	1: 3739467
GIS 61	+23.4246m	0.0087m	+23.1812m	0.0145m	
GIS 44	217°51'03"	0.12"	5054.705m	0.0030m	1: 1678075
GIS 45	+41.8941m	0.0064m	---	---	
GIS 44	21°13'34"	0.15"	4236.780m	0.0034m	1: 1263202
GIS 46 BEND AIRPORT	-46.7536m	0.0068m	---	---	
GIS 45	321°33'44"	0.07"	12998.401m	0.0037m	1: 3474400
GIS 68	-62.0460m	0.0075m	-61.8002m	0.0171m	
GIS 45	8°07'43"	0.40"	1682.195m	0.0034m	1: 499850
STEVENS	-5.1336m	0.0055m	---	---	
GIS 46 BEND AIRPORT	43°31'23"	0.07"	11835.979m	0.0039m	1: 3072640
GIS 47 T 463	-57.1276m	0.0086m	---	---	
GIS 47 T 463	53°04'52"	0.04"	23817.596m	0.0041m	1: 5864114
GIS 67 PRINEVILLE	-16.0924m	0.0089m	-16.3934m	0.0352m	
GIS 48	90°45'03"	0.17"	6043.998m	0.0038m	1: 1583523
GIS 49 V 370	-12.5477m	0.0089m	---	---	
GIS 48	178°34'53"	0.09"	9696.004m	0.0062m	1: 1563926
GIS 50 BEAL RM-1	+1.9941m	0.0113m	---	---	
GIS 48	258°38'24"	0.08"	11180.415m	0.0046m	1: 2445867
GIS 51 WICKIUP	+28.4188m	0.0084m	---	---	
GIS 48	53°49'07"	0.09"	9147.344m	0.0040m	1: 2287763
GIS 52 CARY	-17.3432m	0.0080m	---	---	
GIS 48	7°49'56"	0.07"	11145.223m	0.0044m	1: 2539900
GIS 69	-10.6249m	0.0080m	-10.7264m	0.0179m	
GIS 49 V 370	211°07'03"	0.09"	11229.675m	0.0059m	1: 1902013
GIS 50 BEAL RM-1	+14.5418m	0.0117m	---	---	
GIS 49 V 370	13°44'26"	0.11"	5640.710m	0.0033m	1: 1695885
GIS 52 CARY	-4.7955m	0.0068m	---	---	
GIS 50 BEAL RM-1	303°46'20"	0.10"	13475.320m	0.0057m	1: 2374982
GIS 51 WICKIUP	+26.4247m	0.0127m	---	---	
GIS 50 BEAL RM-1	25°19'38"	0.06"	16698.144m	0.0059m	1: 2815268
GIS 52 CARY	-19.3373m	0.0117m	---	---	
GIS 50 BEAL RM-1	71°41'16"	0.07"	24960.298m	0.0068m	1: 3676154
GIS 53 PAULINA PEAK	+1133.6486m	0.0182m	+1132.5908m	0.0269m	
GIS 50 BEAL RM-1	101°06'06"	0.07"	30488.639m	0.0077m	1: 3959264
GIS 70	+292.3102m	0.0199m	+291.6700m	0.0334m	
GIS 51 WICKIUP	43°18'01"	0.05"	18197.357m	0.0049m	1: 3703563
GIS 69	-39.0437m	0.0088m	-39.2304m	0.0179m	
GIS 52 CARY	113°39'17"	0.08"	18071.389m	0.0065m	1: 2767741
GIS 53 PAULINA PEAK	+1152.9859m	0.0167m	+1152.1568m	0.0269m	
GIS 52 CARY	18°41'44"	0.09"	9868.309m	0.0057m	1: 1737157
GIS 54	+1.5704m	0.0086m	---	---	

GIS 52 CARY GIS 69	313°53'17" +6.7183m	0.09" 0.0075m	8137.297m +6.7966m	0.0035m 1: 2344575 0.0179m
GIS 52 CARY GIS 70	132°37'44" +311.6475m	0.05" 0.0189m	30954.334m +311.2360m	0.0082m 1: 3769511 0.0334m
GIS 53 PAULINA PEAK GIS 70	155°35'43" -841.3385m	0.08" 0.0147m	15058.468m -840.9208m	0.0067m 1: 2250127 0.0336m
GIS 53 PAULINA PEAK GIS 72	87°42'48" -807.3008m	0.12" 0.0174m	15212.853m -807.1078m	0.0069m 1: 2219180 0.0269m
GIS 54 GIS 55 LAVA BUTTE	31°44'32" +247.4485m	0.12" 0.0115m	10446.449m +247.4070m	0.0063m 1: 1658402 0.0197m
GIS 54 GIS 69	247°40'44" +5.1479m	0.09" 0.0088m	9758.965m +5.3386m	0.0057m 1: 1713711 0.0179m
GIS 55 LAVA BUTTE GIS 57 W-22 1920	101°26'35" -207.4543m	0.05" 0.0134m	25261.771m -207.6520m	0.0072m 1: 3484539 0.0197m
GIS 56 PINE USGS GIS 57 W-22 1920	302°11'38" -630.4150m	0.11" 0.0108m	11048.614m -630.1424m	0.0054m 1: 2039700 0.0195m
GIS 56 PINE USGS GIS 58 J-372 1943	323°27'25" -664.3404m	0.14" 0.0097m	7223.972m -664.1014m	0.0052m 1: 1383021 0.0195m
GIS 56 PINE USGS GIS 59 P-372 1943	51°12'12" -635.1710m	0.14" 0.0126m	8637.114m -635.1364m	0.0057m 1: 1510726 0.0195m
GIS 56 PINE USGS GIS 60 BROTHERS	92°10'07" -539.4047m	0.05" 0.0136m	26593.048m -539.6874m	0.0054m 1: 4949041 0.0195m
GIS 56 PINE USGS GIS 71 6-DPB-1978	152°11'23" -447.7189m	0.12" 0.0202m	14347.562m -447.6783m	0.0098m 1: 1471307 0.0332m
GIS 56 PINE USGS GIS 72	218°14'26" -326.2945m	0.10" 0.0167m	17795.491m -326.3064m	0.0087m 1: 2047188 0.0195m
GIS 57 W-22 1920 GIS 58 J-372 1943	90°56'21" -33.9254m	0.20" 0.0080m	5049.207m -***-	0.0048m 1: 1043694 -***-
GIS 57 W-22 1920 GIS 61	11°05'57" -217.1214m	0.11" 0.0076m	7869.178m -***-	0.0046m 1: 1709599 -***-
GIS 57 W-22 1920 GIS 72	184°47'28" +304.1205m	0.08" 0.0161m	19933.111m -***-	0.0092m 1: 2174030 -***-
GIS 58 J-372 1943 GIS 59 P-372 1943	92°02'08" +29.1694m	0.12" 0.0115m	11039.866m -***-	0.0055m 1: 1994177 -***-
GIS 58 J-372 1943 GIS 61	335°38'28" -183.1960m	0.13" 0.0089m	8567.420m -***-	0.0051m 1: 1671182 -***-
GIS 59 P-372 1943 GIS 60 BROTHERS	107°55'24" +95.7663m	0.07" 0.0141m	20854.550m -***-	0.0054m 1: 3858984 -***-
GIS 59 P-372 1943 GIS 61	299°22'02" -212.3654m	0.08" 0.0123m	16714.466m -***-	0.0055m 1: 3045268 -***-
GIS 60 BROTHERS GIS 61	293°00'46" -308.1317m	0.03" 0.0095m	37384.103m -***-	0.0040m 1: 9437814 -***-
GIS 60 BROTHERS GIS 71 6-DPB-1978	239°33'22" +91.6858m	0.09" 0.0225m	23059.548m +92.0091m	0.0092m 1: 2502017 0.0325m
GIS 62 P-35 RESET87 GIS 63 FIRST	71°54'17" -542.1946m	0.09" 0.0141m	16385.816m -541.7445m	0.0066m 1: 2467348 0.0187m

GIS 62 P-35 RESET87	10°42'34"	0.11"	14035.728m	0.0081m 1: 1735812
GIS 64 DES016	-17.8785m	0.0148m	-***-	-***-
GIS 63 FIRST	303°51'52"	0.10"	15616.358m	0.0074m 1: 2109660
GIS 64 DES016	+524.3161m	0.0154m	+523.9245m	0.0187m
GIS 63 FIRST	46°40'40"	0.09"	11480.090m	0.0055m 1: 2083272
GIS 68	-336.9702m	0.0107m	-336.5708m	0.0228m
GIS 64 DES016	21°06'28"	0.12"	12813.747m	0.0074m 1: 1720736
GIS 65 X-359 1942	-768.2534m	0.0147m	-***-	-***-
GIS 65 X-359 1942	9°33'01"	0.08"	8950.667m	0.0045m 1: 1989542
GIS 66 SISTERS	-198.0455m	0.0099m	-***-	-***-
GIS 70	59°40'53"	0.08"	30915.778m	0.0104m 1: 2981240
GIS 71 6-DPB-1978	-87.3867m	0.0244m	-87.5589m	0.0431m
GIS 70	32°05'18"	0.09"	16902.163m	0.0081m 1: 2082566
GIS 72	+34.0377m	0.0168m	+33.8130m	0.0334m
GIS 71 6-DPB-1978	265°50'41"	0.13"	17755.255m	0.0095m 1: 1864291
GIS 72	+121.4244m	0.0220m	+121.3719m	0.0325m

N.G.S.

OREGON

HIGH

PRECISION

CONTROL

POINTS

DEPARTMENT OF COMMERCE
NOAA - NOS - C&GS
NATIONAL GEODETIC SURVEY

PUBLICATION DATE: JUNE 17, 1991
USGS QUAD SHEET: STEELHEAD FALLS

BIG FALLS

PID: QD1711

HORIZONTAL DATUM: NAD 83 (1991)
VERTICAL DATUM: NGVD 29

STATE: OREGON
COUNTY: DESCHUTES

LATITUDE:	44° 23' 31.36580" N
LONGITUDE:	121° 17' 46.93527" W

ORTHOMETRIC HEIGHT: {	891.5	METERS
	2925.	FEET

GEOID HEIGHT:	-20.023	METERS
ELLIPSOIDAL HEIGHT:	871.266	METERS
X:	653240.611	METERS
Y:	1937239.273	METERS
Z:	-6022291.207	METERS

HORIZONTAL NETWORK ORDER: A
ELLIPSOIDAL HEIGHT ORDER: SECOND CLASS III

THE HORIZONTAL COORDINATES WERE ESTABLISHED BY GPS OBSERVATIONS AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN FEBRUARY 1991. THE ORTHOMETRIC HEIGHT WAS DETERMINED BY GPS OBSERVATIONS. THE GEOID HEIGHT WAS DETERMINED BY GEOID90. THE ELLIPSOIDAL HEIGHT WAS DETERMINED BY GPS OBSERVATIONS.

HORIZONTAL DATUM SHIFT-----LATITUDE-----LONGITUDE
NAD83 minus NAD27 -00.58220" +04.14527" (Based on Adjusted Positions)

PLANE COORDINATES

GRID	ZONE	NORTHING METERS	EASTING METERS	POINT SCALE FACTOR	CONVERGENCE DEG MIN SEC	*GRID AZIMUTH TO BIG FALLS AZ MK 2 DEG MIN SEC	
SPC	OR S	303,070.5	1,436,541.3	1.00012336	- 0 32 41.4	246 03	00.8
SPC	OR N	80,919.5	2,436,550.1	0.99998573	- 0 33 53.2	246 04	12.6
UTM	10	4,916,829.4	635,684.8	0.99982641	+ 1 11 31.1	244 18	48.3

(*ARC-TO-CHORD CORRECTION NOT APPLIED)

STATION MARKS AND REFERENCE OBJECTS

PID	REFERENCE OBJECT	DISTANCE	GEODETTIC AZIMUTH
QD1884	BIG FALLS RM 1	3.523 METERS	117 35
QD1724	TERREBONNE DICALITE CARBON TK	APPROX. 4.1 KM	178 24 59.1
	BIG FALLS AZ MK		187 35 38.1
	BIG FALLS AZ MK 2		245 30 19.4
QD1885	BIG FALLS RM 2	6.499 METERS	257 07
QD1714	BIG FALLS RM A	26.405 METERS	288 30

(Continued on Next Page)

BIG FALLS

PID: QD1711

STATION MARK IS A HORIZONTAL CONTROL DISK
WITH SETTING DRILL HOLE IN ROCK OUTCROP
THE MARK IS STAMPED ... BIG FALLS 1945

STATION MARK HISTORY

<u>YEAR MONUMENTED OR RECOVERED</u>	<u>CONDITION OF MARK</u>	<u>RECOVERED OR DESCRIBED BY</u>
1945	STATION MONUMENTED	COAST AND GEODETIC SURVEY
1971		NATIONAL GEODETIC SURVEY (LDF)
1974		NATIONAL GEODETIC SURVEY (JDS)
1976		NATIONAL GEODETIC SURVEY (CLN)
1989	GOOD	LOCAL SURVEYOR (INDIVIDUAL OR FIRM)

STATION DESCRIPTION

DESCRIBED BY COAST AND GEODETIC SURVEY 1945

THE STATION IS LOCATED ON THE SUMMIT OF A BARE HILL ABOUT 2 MILES NORTH OF THE BIG FALLS AND 2.5 MILES NORTH OF THE DICOLITE MINES AT LOWER FALLS. IT IS SET IN A ROCK OUTCROPPING WITH AN EXPOSED SURFACE OF ABOUT 6 BY 7 FEET AND IS FLUSH WITH THE GROUND SURFACE. IT IS STAMPED BIG FALLS 1945.

REFERENCE MARK NO. 1 IS SET IN A LARGE BOULDER THAT PROJECTS ABOUT 2.5 FEET AND IS ABOUT 1 FOOT ABOVE STATION ELEVATION. IT IS STAMPED BIG FALLS NO 1 1945.

REFERENCE MARK NO. 2 IS SET IN A LARGE BOULDER THAT PROJECTS ABOUT 3 FEET AND IS ABOUT 2.5 FEET ABOVE STATION ELEVATION. IT IS STAMPED BIG FALLS NO 2 1945.

AZIMUTH MARK IS 23 FEET EAST OF AN INTERSECTION OF TWO TRACK ROADS AND 3.5 FEET EAST OF A 4 BY 4 INCH WHITE WITNESS POST. IT IS A STANDARD DISK BRAZED TO THE TOP OF A 2 INCH CAST IRON SOIL PIPE THAT PROJECTS 8 INCHES. IT IS STAMPED BIG FALLS 1945.

TO REACH THE STATION FROM THE POST OFFICE IN TERREBONE, GO NORTH ON U.S. HIGHWAY NO. 97 FOR 0.6 MILE TO A PAVED ROAD LEFT, WEST, GO WEST ON PAVED ROAD FOR 6.3 MILES TO THE SOUTH END OF A BRIDGE ACROSS THE DESCHUTES RIVER. TURN RIGHT AFTER CROSSING BRIDGE AND FOLLOW THE MAIN TRAVELED ROAD DOWN THE WEST SIDE OF THE RIVER FOR 1.6 MILES TO TOP OF A GRADE AND A WIRE GATE ON THE RIGHT, TURN RIGHT THROUGH WIRE GATE, BY AN OLD BUILDING WITH A FALSE FRONT, AND GO 0.15 MILE, PASS THROUGH GATE AT HAYSTACK AND TURN LEFT, NORTH, AND GO 1.35 MILES TO A FORK, * SEE BELOW, TAKE LEFT FORK AND GO 0.5 MILE TO A FENCE CORNER AND A SALT LICK. TURN LEFT THROUGH GATE AND CONTINUE, NORTH, CROSSCOUNTRY FOR 0.35 MILE TO FOOT OF HILL AND THE END OF TRUCK TRAVEL, PACK NORTHERLY UP HILL TO THE SUMMIT AND THE STATION AS DESCRIBED.

*THE AZIMUTH MARK IS SET AT THIS JUNCTION AS DESCRIBED IN DESCRIPTION.

BIG FALLS

PID: QD1711

STATION RECOVERY (1971)

RECOVERED BY NATIONAL GEODETIC SURVEY 1971 (LDF)
STATION MARK, REFERENCE MARKS 1 AND 2 WERE RECOVERED AND FOUND IN GOOD CONDITION. THE AZIMUTH MARK WAS SEARCHED FOR BUT WAS NOT FOUND. A NEW AZIMUTH MARK WAS ESTABLISHED AT THIS TIME. A LONGER DISTANCE WAS NOTED TO BOTH REFERENCE MARKS AND WAS CHECKED IN THE FIELD.

STATION IS LOCATED ABOUT 14-1/2 MILES NORTHEAST OF SISTERS, 10 MILES NORTHWEST OF REDMOND AND 6-1/2 MILES NORTHWEST OF TERREBONNE AND IS ON PROPERTY OF MR. DONALD WILLIAMS WHO LIVED IN THE FARM HOUSE MENTIONED IN THE TO REACH.

TO REACH FROM THE POST OFFICE IN TERREBONNE, GO NORTH ON U.S. HIGHWAY 97 FOR 0.5 MILE TO A PAVED ROAD ON THE LEFT. TURN LEFT AND GO WEST ON LOWER BRIDGE WAY FOR 6.3 MILES TO A BRIDGE OVER THE DESCHUTES RIVER. CONTINUE WEST ON THE PAVED ROAD FOR 4.6 MILES TO WHERE THE PAVED ROAD TURNS SHARP TO THE LEFT. KEEP RIGHT AND CONTINUE NORTH ON A GRAVEL ROAD FOR 0.4 MILE TO A SIDE ROAD RIGHT WHICH LEADS TO A FARM HOUSE. TURN RIGHT AND GO EAST ON THE ROAD FOR 0.2 MILE TO A WIRE GATE JUST EAST OF THE FARM HOUSE. (MR. DONALD WILLIAMS WHO OWNS THE PROPERTY WHERE THE STATION IS LOCATED, LIVES IN THE FARM HOUSE.) PASS THROUGH THE GATE AND GO EAST ON TRACK ROAD THROUGH FIELD FOR 0.5 MILE TO A FORK. KEEP THE RIGHT FORK AND CONTINUE EAST ON A TRACK ROAD FOR 0.7 MILE TO SOME OLD BUILDINGS AND A TRACK ROAD RIGHT. TURN RIGHT AND GO SOUTH ON A TRACK ROAD FOR 0.1 MILE TO A WIRE GATE. PASS THROUGH THE GATE AND GO ABOUT 100 FEET TO A TRACK ROAD ON THE LEFT. BEAR LEFT AND FOLLOW TRACK ROAD, UPHILL, FOR 0.3 MILE TO THE TOP OF A RIDGE. CONTINUE EAST ON A TRACK ROAD FOR 0.5 MILE TO A SADDLE. (TO REACH THE AZIMUTH MARK, BEAR RIGHT AND GO SOUTH, ACROSS COUNTRY FOR 0.1 MILE TO THE TOP OF A RIDGE AND THE MARK.) CONTINUE EAST ON THE TRACK ROAD FOR 0.5 MILE TO WHERE THE TRACK ROAD BEARS TO THE RIGHT. TURN RIGHT AND FOLLOW THE TRACK ROAD SOUTH, UPHILL, FOR 0.05 MILE TO THE TOP OF A RIDGE AND THE STATION.

STATION MARK IS A STANDARD DISK, STAMPED BIG FALLS 1945, CEMENTED IN A DRILL HOLE IN AN OUTCROP WHICH IS FLUSH WITH THE GROUND SURFACE. IT IS 120 FEET SOUTH OF A LONE TREE AND ON THE HIGHEST PART OF THE HILL.

REFERENCE MARK 1 IS A STANDARD DISK, STAMPED BIG FALLS NO 1 1945, CEMENTED IN A DRILL HOLE IN THE TOP OF A BOULDER WHICH PROJECTS ABOUT 18 INCHES ABOVE THE GROUND SURFACE. IT IS 122 FEET SOUTH OF THE TREE AND ABOUT 1 FOOT HIGHER THAN THE STATION.

REFERENCE MARK 2 IS A STANDARD DISK, STAMPED BIG FALLS NO 2 1945, CEMENTED IN A DRILL HOLE IN A BOULDER WHICH PROJECTS ABOUT 2 FEET. IT IS 133 FEET SOUTHWEST OF THE LONE TREE AND ABOUT 2 FEET HIGHER THAN THE STATION.

(Continued on Next Page)

BIG FALLS

PID: QD1711

RM A IS A STANDARD DISK, STAMPED BIG FALLS 1945 RM A 1971, CEMENTED IN A DRILL HOLE IN AN OUTCROP WHICH PROJECTS ABOUT 2 INCHES ABOVE THE GROUND SURFACE. IT IS ON THE HIGHEST PART OF THE HILL AND ABOUT 149 FEET SOUTHWEST OF THE TREE AND ABOUT 2 FEET LOWER THAN THE STATION.

AZIMUTH MARK IS A STANDARD DISK, STAMPED BIG FALLS 1945 1971, CEMENTED IN A DRILL HOLE IN AN OUTCROP WHICH PROJECTS ABOUT 6 INCHES ABOVE THE GROUND SURFACE ON THE NORTH AND IS FLUSH ON THE SOUTH. IT IS ON THE EAST END OF THE RIDGE AND 16.6 FEET NORTH OF A METAL WITNESS POST.

THE DISTANCE BETWEEN REFERENCE MARK 1 AND 2 IS 31.05 FEET OR 9.465 M.

THE STATION IS IN THE NORTHEAST 1/4 OF SECTION 4, T 14 S, R 12 E.

HEIGHT OF LIGHT ABOVE STATION MARK 33 FEET.

AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
6-1/2 MILES NORTHWEST OF TERREBONNE.

STATION RECOVERY (1974)

RECOVERED BY NATIONAL GEODETIC SURVEY 1974 (JDS)
THE STATION MARK, REFERENCE MARKS 1, 2, BIG FALLS 1945 RM A 1971 AND THE AZIMUTH MARK WERE RECOVERED IN GOOD CONDITION AS DESCRIBED IN 1971 BY L. D. FAIR. THE TO REACH IS ADEQUATE AND THE PROPERTY OWNER IS THE SAME, MR. DONALD WILLIAMS WHO LIVES ENROUTE TO THE STATION.

THE DIRECTIONS TO ALL MARKS CHECKED THE 1971 DATA WITH THE EXCEPTION OF REFERENCE MARK 1 WHICH WAS LOCATED TOO CLOSE TO STATION TO FOCUS ON CLEARLY WITH THE INSTRUMENT. THE DISTANCE TO REFERENCE MARK 1 AND REFERENCE MARK A CHECKED THE 1971 DATA. THE DISTANCE TO REFERENCE MARK 2 WAS SHORTER BY 0.05 FOOT OR 0.014 METERS ALTHOUGH THIS DISTANCE CHECKS THE 1945 DATA.

THIS STATION WAS USED AS GEOCEIVER STATION 51066, FOR SATELLITE OBSERVATION.

HEIGHT OF LIGHT ABOVE STATION MARK 4.27 FEET.

AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
6.5 MILES NORTHWEST OF TERREBONNE.

STATION RECOVERY (1976)

RECOVERED BY NATIONAL GEODETIC SURVEY 1976 (CLN)
THE STATION MARK, BOTH REFERENCE MARKS, AND THE AZIMUTH MARK ESTABLISHED IN 1971 WERE RECOVERED IN GOOD CONDITION. THE RECOVERY NOTE SUBMITTED BY L.D.F. IS CORRECT, AND ADEQUATE.

(Continued on Next Page)

DEPARTMENT OF COMMERCE
NOAA - NOS - C&GS
NATIONAL GEODETIC SURVEY

PUBLICATION DATE: JUNE 17, 1991
USGS QUAD SHEET: STEELHEAD FALLS

BIG FALLS

PID: QD1711

AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
6-1/2 MILES NORTHWEST OF TERREBONNE.

THE STATION MARK, REFERENCE MARKS 1, 2, BIG FALLS 1945 RM A 1971 AND THE AZIMUTH MARK WERE RECOVERED IN GOOD CONDITION AS DESCRIBED BY L.D. FAIR IN 1971 AND J.D. SWINNEY IN 1974. THE TO REACH IS ADEQUATE AND THE PROPERTY OWNER, MR. DONALD WILLIAMS, IS THE SAME AND LIVES ENROUTE TO THE STATION.

THE DISTANCES AND DIRECTIONS TO ALL MARKS CHECKED WITH THE 1974 DATA.

RM 1 IS TOO CLOSE TO THE STATION TO FOCUS CLEARLY.

THIS STATION WAS USED AS GEOCEIVER STATION 52066, FOR SATELLITE OBSERVATION.

AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
6.5 MILES NW OF TERREBONNE.

STATION RECOVERY (1989)

RECOVERED BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1989
RECOVERED IN GOOD CONDITION. A NEW TO REACH DESCRIPTION FOLLOWS.
TO REACH FROM TERREBONE, TRAVEL NORTH ON HIGHWAY 97 FOR 0.96 KM
(0.60 MI), TURN WEST ONTO LOWER BRIDGE ROAD AND FOLLOW IT WEST
ACROSS THE DESCHUTES RIVER AND NORTHERLY 17.8 KM (11.1 MI) TO A FARM
LANE, FOLLOW FARM LANE NORTHEAST 0.32 KM (0.20 MI) TO THE FARM HOME
OF DONALD WILLIAMS. OBTAIN PERMISSION HERE OR THE DWELLING 1000 FEET
SOUTH. FOLLOW FARM LANE NE PASSING THRU N-S FENCE AT 0.8 KM
(0.5 MI). TURN RIGHT AT Y 0.16 KM (0.10 MI), BEYOND THIS FENCE AND
GO DOWNHILL 0.32 KM (0.20 MI) TO A DITCH. FOLLOW THIS DITCH EASTERLY
0.64 KM (0.40 MI) TO AN OLD HOMESTEAD, TURN RIGHT AT HOMESTEAD FOR
0.16 KM (0.10 MI) TO A N-S FENCE. THIS TRACK ROAD YS 100 FEET
BEYOND THE FENCE, TAKE THE LEFT FORK, WHICH IS DIFFICULT TO SEE, AND
FOLLOW IT 2.4 KM (1.5 MI) TO THE STATION.
DESCRIBED BY DAVID BATEMAN OF DAVID EVANS AND ASSOCIATES.

DEPARTMENT OF COMMERCE
 NOAA - NOS - C&GS
 NATIONAL GEODETIC SURVEY

PUBLICATION DATE: APRIL 26, 1991
 USGS QUAD SHEET: BROTHERS

BROTHERS
 PID: PB0791

HORIZONTAL DATUM: NAD 83 (1991)
 VERTICAL DATUM: NGVD 29

STATE: OREGON
 COUNTY: DESCHUTES

LATITUDE:	43° 48' 49.79156"	N	±0.00010	SECONDS
LONGITUDE:	120° 36' 01.00060"	W	±0.00010	SECONDS
ORTHOMETRIC HEIGHT:	1412.74			METERS
	4635.0			FEET

GEOID HEIGHT:	-18.332			METERS
ELLIPSOIDAL HEIGHT:	1394.222	±0.030		METERS
X:	4768562.584			METERS
Y:	-2776310.160			METERS
Z:	-3191074.265			METERS

HORIZONTAL NETWORK ORDER: B
 VERTICAL NETWORK ORDER: THIRD
 ELLIPSOIDAL HEIGHT ORDER: SECOND CLASS III

THE HORIZONTAL COORDINATES WERE ESTABLISHED BY GPS OBSERVATIONS AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN FEBRUARY 1991. THE ORTHOMETRIC HEIGHT WAS DETERMINED BY DIFFERENTIAL LEVELING. THE GEOID HEIGHT WAS DETERMINED BY GEOID90. THE ELLIPSOIDAL HEIGHT WAS DETERMINED BY GPS OBSERVATIONS.

HORIZONTAL DATUM SHIFT ----- LATITUDE ----- LONGITUDE
 NAD83 minus NAD27 -00.5 +04.0 (Based on Nadcon Interpolation)

PLANE COORDINATES

GRID	ZONE	NORTHING METERS	EASTING METERS	POINT	CONVERGENCE DEG MIN SEC
				SCALE FACTOR	
SPC	OR S	238,523.649	1,491,932.322	0.99995802	0 04 7.0
UTM	10	4,853,994.766	692,998.579	1.00005816	+ 1 39 42.8

STATION MARK IS A SURVEY DISK
 WITH SETTING TOP OF CONCRETE MONUMENT (ROUND)
 THE MARK IS STAMPED BROTHERS 1989

STATION MARK HISTORY

YEAR MONUMENTED OR RECOVERED	CONDITION OF MARK	RECOVERED OR DESCRIBED BY
1989	STATION MONUMENTED	DESCHUTES COUNTY OREGON

(Continued on Next Page)

DEPARTMENT OF COMMERCE
NOAA - NOS - C&GS
NATIONAL GEODETIC SURVEY

PUBLICATION DATE: APRIL 26, 1991
USGS QUAD SHEET: BROTHERS

BROTHERS

PID: PB0791

STATION DESCRIPTION

DESCRIBED 1989

THE STATION IS LOCATED ON EAST SIDE OF BROTHERS, OREGON.
TO REACH FROM BROTHERS START AT THE INTERSECTION OF US HIGHWAY 20 AND
CAMP CREEK ROAD (COUNTY ROAD NUMBER 5114) GO NORTH ON CAMP CREEK
ROAD ABOUT .10 KM (0.06 MI) AND THE STATION ON THE RIGHT.
THE STATION IS 10.7 M (35.1 FT) SOUTHEAST OF THE CENTER OF CAMP CREEK
ROAD, 1 M (3.3 FT) SOUTHEAST OF A FENCE AND IN THE NORTHEAST CORNER
OF THE BROTHERS OASIS REST AREA.
DESCRIBED BY WILLIAM C. KAUFFMAN OF DESCHUTES COUNTY.

DEPARTMENT OF COMMERCE
 NOAA - NOS - C&GS
 NATIONAL GEODETIC SURVEY

PUBLICATION DATE: APRIL 26, 1991
 USGS QUAD SHEET: BEND

PILOT BUTTE
 PID: QD1681

HORIZONTAL DATUM: NAD 83 (1991)
 VERTICAL DATUM: NGVD 29

STATE: OREGON
 COUNTY: DESCHUTES

LATITUDE:	44° 03' 37.94301" N	±0.00010 SECONDS
LONGITUDE:	121° 16' 59.64811" W	±0.00020 SECONDS

ORTHOMETRIC HEIGHT: {	1261.4	METERS
	4138.	FEET

GEOID HEIGHT:	-19.433	METERS
ELLIPSOIDAL HEIGHT:	1241.747 ±0.034	METERS
X:	1801468.589	METERS
Y:	2876581.605	METERS
Z:	5383440.509	METERS

HORIZONTAL NETWORK ORDER: B
 ELLIPSOIDAL HEIGHT ORDER: SECOND CLASS III

THE HORIZONTAL COORDINATES WERE ESTABLISHED BY GPS OBSERVATIONS AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN FEBRUARY 1991. THE ORTHOMETRIC HEIGHT WAS DETERMINED BY VERTICAL ANGLE OBSERVATIONS. THE GEOID HEIGHT WAS DETERMINED BY GEOID90. THE ELLIPSOIDAL HEIGHT WAS DETERMINED BY GPS OBSERVATIONS.

HORIZONTAL DATUM SHIFT-----LATITUDE-----LONGITUDE
 NAD83 minus NAD27 -00.58599" +04.10711" (Based on Adjusted Positions)

PLANE COORDINATES

GRID	ZONE	NORTHING METERS	EASTING METERS	POINT SCALE FACTOR	CONVERGENCE DEG MIN SEC	*GRID AZIMUTH TO PILOT BUTTE AZ MK DEG MIN SEC
SPC	OR S	266,223.939	1,437,243.481	1.00001595	- 0 32 9.1	267 51 56.9
SPC	OR N	44,073.993	2,437,239.542	1.00007981	- 0 33 19.7	267 52 56.9
UTM	10	4,880,029.657	637,500.737	0.99983253	+ 1 11 38.6	266 08 09.2

(*ARC-TO-CHORD CORRECTION NOT APPLIED)

(Continued on Next Page)

PILOT BUTTE

PID: QD1681

STATION MARKS AND REFERENCE OBJECTS

PID	REFERENCE OBJECT	DISTANCE	GEODETIC AZIMUTH
QD1680	PILOT BUTTE USGS 1932	10.270 METERS	030 17
	PILOT BUTTE RM 1	184.670 METERS	151 40
QD1679	SCENIC PIER ARROW PIVOT S 1945	7.814 METERS	158 27
QD1678	BEND WATER TANK	APPROX. 4.0 KM	188 02 02.9
	PILOT BUTTE RM 2	127.580 METERS	247 32
QD1683	BEND BROOKS SCANLON INC TANK	APPROX. 3.5 KM	247 41 28.4
	PILOT BUTTE AZ MK		267 19 47.8
QD1687	BEND PACIFIC GAS MICROWAVE	APPROX. 4.3 KM	295 30 55.1
QD1688	BEND BONNIVILLE POW ADM RD MST	APPROX. 4.3 KM	295 50 23.0
QD1685	BEND RAD STA KBND NW MAST	APPROX. 1.9 KM	329 34 53.6
QD1686	BEND RAD STA KBND SE MAST	APPROX. 1.9 KM	331 20 53.0
QD1682	SCENIC PIER ARROW PIVOT N 1945	6.209 METERS	338 44
QD1689	BEND RAD STA KGRL MAST	APPROX. 2.1 KM	358 24 40.9

STATION MARK IS A HORIZONTAL CONTROL DISK
WITH SETTING TOP OF CONCRETE MONUMENT (ROUND)
THE MARK IS STAMPED . . . PILOT BUTTE 1932

STATION MARK HISTORY

<u>YEAR MONUMENTED OR RECOVERED</u>	<u>CONDITION OF MARK</u>	<u>RECOVERED OR DESCRIBED BY</u>
1932	STATION MONUMENTED	COAST AND GEODETIC SURVEY
1945		COAST AND GEODETIC SURVEY (CAG)
1958	GOOD	US GEOLOGICAL SURVEY
1959		BONNEVILLE POWER ADMINISTRATION
1966	GOOD	US GEOLOGICAL SURVEY
1971		NATIONAL GEODETIC SURVEY (LDF)
1987	GOOD	NATIONAL GEODETIC SURVEY (LLR)
1989	GOOD	LOCAL SURVEYOR (INDIVIDUAL OR FIRM)

STATION DESCRIPTION

DESCRIBED BY COAST AND GEODETIC SURVEY 1932

STATION IS LOCATED ABOUT 1.0 MILE E OF BEND ON THE TOP OF PILOT BUTTE.

STATION MARK IS A STANDARD BRONZE DISK SET IN CONCRETE AS DESCRIBED IN NOTE 1A. REFERENCE MARKS ARE STANDARD BRONZE DISKS IN OUTCROPPING BEDROCK AS DESCRIBED IN NOTE 12A.

U.S.G.S., PILOT BUTTE IS A U.S.G.S. STANDARD DISK IN OUTCROPPING BEDROCK NNE OF STATION.

REFERENCE MARK NO.1 IS WNW OF STATION.

SCENIC PIERS ARE NW AND SE OF STATION.

WATER TANK, (AZIMUTH MARK) IS S OF STATION.

(Continued on Next Page)

PILOT BUTTE

PID: QD1681

REFERENCE MARK NO.2 IS WSW OF STATION.

STATION IS REACHED FROM BEND BY GOING E ON THE GREENWOOD AVENUE OR BURNS HIGHWAY FOR ABOUT 3/4 MILE TO THE JUNCTION WITH THE PILOT BUTTE ROAD. TAKE THE PILOT BUTTE ROAD AND FOLLOW THE CORKSCREW ROAD TO THE TOP OF THE BUTTE AND THE STATION.

HEIGHT OF SIGNAL ABOVE STATION MARK - 1-1/2 METERS.

STATION RECOVERY (1945)

RECOVERED BY COAST AND GEODETIC SURVEY 1945 (CAG)
THE STATION AND ALL MARKS WERE RECOVERED AS DESCRIBED AND FOUND IN GOOD CONDITION WITH THE EXCEPTION OF REFERENCE MARK NO. 1 WHICH COULD NOT BE RECOVERED AND IS BELIEVED TO HAVE BEEN DESTROYED BY ROAD CONSTRUCTION. AN AZIMUTH MARK WAS ESTABLISHED.

A COMPLETE NEW DESCRIPTION FOLLOWS.

THE STATION IS LOCATED ABOUT 1 MILE EAST OF BEND ON THE HIGHEST PART OF PILOT BUTTE AND IS IN THE CENTER OF A TRAFFIC CIRCLE. IT IS DESCRIBED BY NOTE 1A AND IS FLUSH WITH THE SURFACE OF THE GROUND. IT IS STAMPED PILOT BUTTE 1932.

U.S.G.S. MARK IS A STANDARD DISK B.M. TABLET SET IN A SMALL LAVA BOULDER THAT IS FLUSH WITH THE GROUND SURFACE. IT IS STAMPED PILOT BUTTE 4136 1916.

REFERENCE MARK NO. 2 IS SET IN A LARGE BOULDER THAT PROJECTS ABOUT 3 FEET. IT IS ABOUT 5 FEET BELOW STATION ELEVATION. IT IS DESCRIBED BY NOTE 12C AND IS STAMPED PILOT BUTTE NO 2 1932.

SCENIC PIER, ARROW PIVOT, NORTH. IT IS A SMALL TOWER 3.5 FEET HIGH AND 2X2 FEET SQUARE. IT IS CONSTRUCTED OF ROCK AND HAS A FLAT TOP WITH A POINT IN THE CENTER FOR A ARROW PIVOT TO BE PLACED.

SCENIC PIER, ARROW PIVOT, SOUTH. IT IS A SMALL TOWER 3.5 FEET HIGH AND 2X2 FEET SQUARE. IT IS CONSTRUCTED OF ROCK AND HAS A FLAT TOP WITH A POINT IN THE CENTER FOR A ARROW PIVOT TO BE PLACED.

AZIMUTH MARK IS ABOUT 0.8 MILE WEST OF THE STATION. IT IS A STANDARD DISK CEMENTED INTO A DRILL HOLE IN A CONCRETE CURB. IT IS 141 FEET WEST OF THE CENTER OF THE INTERSECTION OF THIRD ST. AND U.S. HIGHWAY NO. 20, 125 FEET EAST OF THE NORTHEAST CORNER OF THE MISSIONARY BAPTIST CHURCH AND 28 FEET SOUTH OF THE CENTERLINE OF U.S. HIGHWAY NO. 20. IT IS STAMPED PILOT BUTTE 1945. TO REACH FROM THE JUNCTION OF U.S. HIGHWAY NO. 97 AND U.S. HIGHWAY NO. 20. GO EAST ON U.S. HIGHWAY NO. 20, TOWARDS BURNS, FOR 0.45 MILE TO THE AZIMUTH MARK ON THE RIGHT AS DESCRIBED.

TO REACH FROM THE JUNCTION OF U.S. HIGHWAY NO. 97 AND U.S. HIGHWAY NO. 20 IN BEND, GO EAST, TOWARDS BURNS, ON U.S. HIGHWAY NO. 20 FOR 1.7 MILES TO A ROAD FORKS. TURN LEFT ON TO PILOT BUTTE ROAD AND CONTINUE 1.1 MILES TO TOP OF BUTTE AND THE STATION AS DESCRIBED.

(Continued on Next Page)

PILOT BUTTE

PID: QD1681

STATION RECOVERY (1958)

RECOVERED BY US GEOLOGICAL SURVEY 1958
RECOVERED AS DESCRIBED BY NGS. RMS NOT OBSERVED.

STATION RECOVERY (1959)

RECOVERED BY BONNEVILLE POWER ADMINISTRATION 1959
STATION RECOVERED AS DESCRIBED. THE HIGHWAY IS NOW UNITED STATES
HIGHWAY NO. 20.

STATION RECOVERY (1966)

RECOVERED BY US GEOLOGICAL SURVEY 1966
RECOVERED AS DESCRIBED BY NGS. RMS NOT OBSERVED.

STATION RECOVERY (1971)

RECOVERED BY NATIONAL GEODETIC SURVEY 1971 (LDF)
STATION MARK, REFERENCE MARKS 1,2 AND THE AZIMUTH MARK WERE
RECOVERED AND FOUND IN GOOD CONDITION. SCENIC PIER ARROW PIVOT
NORTH WAS RECOVERED IN GOOD CONDITION BUT SCENIC PIER ARROW PIVOT
SOUTH HAD BEEN REMOVED. A SLIGHT DIFFERENCE WAS NOTED IN THE
DISTANCE AND DIRECTION TO BOTH REFERENCE MARKS AND A NOTICEABLE
DIFFERENCE WAS NOTED IN THE DIRECTION TO THE AZIMUTH MARK AND
WAS CHECKED IN THE FIELD.

FOLLOWING IS A NEW AND COMPLETE DESCRIPTION--

STATION IS LOCATED ABOUT 1 MILE EAST OF BEND AND IS ON THE HIGHEST
POINT OF WHAT IS LOCALLY KNOWN AS PILOT BUTTE.

TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAYS 97 AND 20
IN BEND, (THE AZIMUTH MARK IS LOCATED AT THIS JUNCTION) GO EAST ON
U.S. HIGHWAY 20 FOR 0.75 MILE TO A FORK AND SIGN PILOT BUTTE STATE
PARK. TAKE THE LEFT FORK AND GO EAST UP WINDING PAVED ROAD FOR
1.0 MILE TO THE HIGHEST POINT AND THE STATION.

STATION MARK IS A STANDARD DISK, STAMPED PILOT BUTTE 1932, SET IN
THE TOP OF A 12-INCH SQUARE CONCRETE MONUMENT WHICH PROJECTS ABOUT
2 INCHES ABOVE THE SURFACE OF THE GROUND. IT IS IN THE CENTER OF
A TRAFFIC CIRCLE AND IS 59 FEET NORTH OF A SET OF ROCK STEPS
LEADING TO THE TOP OF THE HILL, 24.5 FEET NORTHWEST OF A ROCK
MONUMENT AND 19 FEET EAST-SOUTHEAST OF A ROCK MONUMENT.

REFERENCE MARK 1 IS A STANDARD DISK, STAMPED PILOT BUTTE NO 1
1932, CEMENTED IN A DRILL HOLE IN THE TOP OF A 1 X 2 FOOT OUTCROP
WHICH PROJECTS ABOUT 2 INCHES ABOVE THE SURFACE OF THE GROUND. IT
IS 93 FEET EAST-SOUTHEAST OF THE APPROXIMATE CENTER OF THE CIRCLE
DRIVE ROAD AND 41 FEET WEST OF THE CENTER OF THE PAVED ROAD
LEADING UP THE HILL.

(Continued on Next Page)

PILOT BUTTE

PID: QD1681

REFERENCE MARK 2 IS A STANDARD DISK, STAMPED PILOT BUTTE NO 2 1932, CEMENTED IN A DRILL HOLE IN THE TOP OF A LARGE BOULDER WHICH PROJECTS ABOUT 2-1/2 FEET ABOVE THE SURFACE OF THE GROUND. IT IS 88 FEET SOUTHWEST OF THE ROCK STEPS AND 47 FEET SOUTHWEST OF THE APPROXIMATE CENTER OF THE ROAD CIRCLING THE TOP OF THE HILL.

SCENIC PIER ARROW PIVOT NORTH IS A PUNCH HOLE IN THE TOP OF A ROUND METAL PLATE FASTENED TO THE TOP OF A ROCK AND CONCRETE MONUMENT WHICH PROJECTS ABOUT 3-1/2 FEET. IT IS ON THE HIGHEST PART OF THE HILL.

AZIMUTH MARK IS A STANDARD DISK, STAMPED PILOT BUTTE 1945, CEMENTED IN A DRILL HOLE IN THE SOUTH CURB OF U.S. HIGHWAY 20 (BUSINESS). IT IS 145 FEET WEST OF THE CENTER OF THIRD STREET, 125 FEET EAST OF THE NORTHEAST CORNER OF A CHURCH AND 28 FEET SOUTH OF THE CENTER OF THE ROAD.

STATION IS IN THE NORTHWEST 1/4 OF SECTION 34, T 17 S, R 12 E.

HEIGHT OF LIGHT ABOVE STATION MARK 30 FEET.

AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
1 MILE EAST OF BEND.

STATION RECOVERY (1987)

RECOVERED BY NATIONAL GEODETIC SURVEY 1987 (LLR)
THE STATION WAS RECOVERED AT THIS DATE.
NONE OF THE OTHER MARKS WERE SEARCHED FOR AT THIS DATE. THE 1971 RECOVERY NOTE IS ADEQUATE FOR RECOVERY.

STATION RECOVERY (1989)

RECOVERED BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1989
TEXT WAS SUPERSEDED BY LATER RECOVERY.
STATION IS LOCATED ABOUT 3.2 KM (2.00 MI) EAST OF DOWNTOWN BEND ON THE TOP OF PILOT BUTTE. OWNERSHIP--PILOT BUTTE STATE PARK, DISTRICT MANAGER-STEVE WEINMEYER, 62796 O B RILEY RD, BEND OR 97701, PHONE 503-388-6055.
TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 20 AND U.S. HIGHWAY 97, IN BEND, GO EAST ON U.S. HIGHWAY 20 FOR 0.72 KM (0.45 MI) TO N.E. 8TH STREET. CONTINUE AHEAD, EAST, FOR 0.48 KM (0.30 MI) ON U.S. HIGHWAY 20 TO THE ENTRANCE OF PILOT BUTTE STATE PARK ON THE LEFT. TURN LEFT AND FOLLOW PARK ROAD PAST GATE (GATE MAYBE LOCKED BY HIGHWAY DEPARTMENT DURING WINTER MONTHS) GOING UPHILL, CIRCLING BUTTE FOR 1.8 KM (1.10 MI) TO TOP OF BUTTE AND STATION IN THE CENTER OF VIEWING AREA.
STATION IS LOCATED 11.9 M (39.0 FT) WEST OF STONE MONUMENT PROJECTING 1.3 M (4.3 FT) ABOVE GROUND WITH PLAQUE HONORING TERRANCE FOLEY, 8.2 M (26.9 FT) NORTHWEST OF STONE MONUMENT PROJECTING 1.1 M (3.6 FT) ABOVE GROUND AND 6.1 M (20.0 FT) SOUTHEAST OF STONE MONUMENT WITH PLAQUE IDENTIFYING LOCAL MOUNTAIN PEAKS.

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DEPARTMENT OF COMMERCE
NOAA - NOS - C&GS
NATIONAL GEODETIC SURVEY

PUBLICATION DATE: APRIL 26, 1991
USGS QUAD SHEET: PRINEVILLE

PRINEVILLE
PID: QD1782

HORIZONTAL DATUM: NAD 83 (1991)
VERTICAL DATUM: NGVD 29

STATE: OREGON
COUNTY: CROOK

LATITUDE:	44° 18' 04.56691" N	±0.00010 SECONDS
LONGITUDE:	120° 51' 54.05792" W	±0.00020 SECONDS

ORTHOMETRIC HEIGHT:	972.0	METERS
	3189.	FEET

GEOID HEIGHT:	-19.193	METERS
ELLIPSOIDAL HEIGHT:	952.540	±0.032 METERS
X:	57378.829	METERS
Y:	603285.617	METERS
Z:	6328970.746	METERS

HORIZONTAL NETWORK ORDER: B
ELLIPSOIDAL HEIGHT ORDER: SECOND CLASS III

THE HORIZONTAL COORDINATES WERE ESTABLISHED BY GPS OBSERVATIONS AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN FEBRUARY 1991. THE ORTHOMETRIC HEIGHT WAS DETERMINED BY VERTICAL ANGLE OBSERVATIONS. THE GEOID HEIGHT WAS DETERMINED BY GEOID90. THE ELLIPSOIDAL HEIGHT WAS DETERMINED BY GPS OBSERVATIONS.

HORIZONTAL DATUM SHIFT-----LATITUDE-----LONGITUDE
NAD83 minus NAD27 -00.56209" +04.09692" (Based on Adjusted Positions)

PLANE COORDINATES

GRID	ZONE	NORTHING METERS	EASTING METERS	POINT	CONVERGENCE DEG MIN SEC
				SCALE FACTOR	
SPC	OR S	292,744.119	1,470,869.451	1.00009057	- 0 14 59.0
SPC	OR N	70,585.485	2,470,871.856	1.00000823	- 0 15 31.9
UTM	10	4,907,551.579	670,302.948	0.99995670	+ 1 29 29.4

STATION MARK IS A SURVEY DISK
WITH SETTING DRILL HOLE IN ROCK OUTCROP
THE MARK IS STAMPED ... PRINEVILLE 1938

STATION MARK HISTORY

YEAR MONUMENTED OR RECOVERED	CONDITION OF MARK	RECOVERED OR DESCRIBED BY
1939	STATION MONUMENTED	OREGON DEPARTMENT OF TRANSPORTATION
1958	GOOD	US GEOLOGICAL SURVEY
1989	GOOD	NATIONAL GEODETIC SURVEY

(Continued on Next Page)

PRINEVILLE

PID: QD1782

STATION DESCRIPTION

DESCRIBED BY OREGON DEPARTMENT OF TRANSPORTATION 1939 (LAM)
STATION IS AT THE VERY EDGE OF THE PROMINENT HIGH RIMROCK W OF
PRINEVILLE, ABOUT 1000 FEET W OF CROOKED RIVER BRIDGE, AND ABOUT
500 FEET ABOVE THE RIVER. STATION MAY BE MOST EASILY REACHED
FROM SW AND W. STATION IS MARKED BY O.S.H.D. DISK, STAMPED
PRINEVILLE 1938, SET IN SOLID ROCK.

STATION RECOVERY (1958)

RECOVERED BY US GEOLOGICAL SURVEY 1958
RECOVERED AS DESCRIBED BY NGS. ALL MARKS IN GOOD CONDITION.

STATION RECOVERY (1989)

RECOVERED BY NATIONAL GEODETIC SURVEY 1989
AT A VIEWPOINT ON THE TOP OF A BLUFF OVERLOOKING PRINEVILLE,
TO REACH FROM THE COURTHOUSE IN PRINEVILLE GO WESTERLY ON E. THIRD ST.
TO JUNCTION WITH STATE HIGHWAY 126, TURN LEFT ONTO HIGHWAY 126 AND GO
1.6 KM (1.0 MI) TO A ROAD RIGHT LEADING TO OCHOCO WAYSIDE VIEW POINT,
TURN RIGHT AND GO TOWARD WAYSIDE FOR 0.48 KM (0.30 MI) TO NORTH END
OF A PARKING AREA. THE STATION IS ABOUT 41 METERS NORTH OF THIS
POINT.
THE STATION IS 40.7 M (133.5 FT) NNW OF NORTHERN MOST END OF A ROCK
GUARDRAIL FOR VIEWPOINT, 1.8 M (5.9 FT) WEST OF THE TOP EDGE OF BLUFF
AND 1.4 M (4.6 FT) ESE OF A WITNESS POST.
DESCRIBED BY L.L. RIGGERS.

SISTERS
PID: QD1879

HORIZONTAL DATUM: NAD 83 (1991)
VERTICAL DATUM: NGVD 29

STATE: OREGON
COUNTY: DESCHUTES

LATITUDE:	44° 18' 20.44212" N	±0.00010	SECONDS
LONGITUDE:	121° 33' 21.22157" W	±0.00020	SECONDS
ORTHOMETRIC HEIGHT:	967.45		METERS
	3174.0		FEET

GEOID HEIGHT:	-19.877		METERS
ELLIPSOIDAL HEIGHT:	947.349	±0.034	METERS
X:	210226.958		METERS
Y:	-1140713.029		METERS
Z:	6251734.512		METERS

HORIZONTAL NETWORK ORDER: B
VERTICAL NETWORK ORDER: THIRD
ELLIPSOIDAL HEIGHT ORDER: SECOND CLASS III

THE HORIZONTAL COORDINATES WERE ESTABLISHED BY GPS OBSERVATIONS AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN FEBRUARY 1991. THE ORTHOMETRIC HEIGHT WAS DETERMINED BY DIFFERENTIAL LEVELING. THE GEOID HEIGHT WAS DETERMINED BY GEOID90. THE ELLIPSOIDAL HEIGHT WAS DETERMINED BY GPS OBSERVATIONS.

HORIZONTAL DATUM SHIFT-----LATITUDE-----LONGITUDE
NAD83 minus NAD27 -00.6 +04.2 (Based on Nadcon Interpolation)

PLANE COORDINATES

GRID	ZONE	NORTHING METERS	EASTING METERS	POINT	CONVERGENCE DEG MIN SEC
				SCALE FACTOR	
SPC	OR S	293,701.864	1,415,741.181	1.00009210	- 0 43 20.6
SPC	OR N	71,560.264	2,415,748.511	1.00000708	- 0 44 55.8
UTM	10	4,906,838.788	615,184.075	0.99976317	+ 1 00 31.7

STATION MARK IS A SURVEY DISK
WITH SETTING TOP OF CONCRETE MONUMENT (ROUND)
THE MARK IS STAMPED ... SISTERS 1989

STATION MARK HISTORY

YEAR MONUMENTED OR RECOVERED	CONDITION OF MARK	RECOVERED OR DESCRIBED BY
1989	STATION MONUMENTED	DESCHUTES COUNTY OREGON

(Continued on Next Page)

SISTERS

PID: QD1879

STATION DESCRIPTION

DESCRIBED 1989

THE STATION IS LOCATED 1.6 KM (1.0 MI) NORTH OF SISTERS, ON USFS LAND. TO REACH THE STATION FROM THE INTERSECTION OF US HIGHWAY 20 AND PINE STREET IN SISTERS, GO NORTH ON PINE STREET 0.91 KM (0.57 MI) TO THE END OF PAVEMENT, PROCEED NORTHERLY ON GRAVEL ROAD, (USFS RD NUMBER 2058) FOR 0.53 KM (0.33 MI) TO ROAD FORK, TURN LEFT ON DIRT ROAD AND GO 0.13 KM (0.08 MI) TO THE STATION ON THE LEFT IN A LARGE CLEARING. THE STATION IS AN ORDOT PRIMARY GPS STATION DISK STAMPED---SISTERS 1989---, SET INTO THE TOP OF A 40 CM DIAMETER POST THAT IS FLUSH WITH THE GROUND. IT IS ABOUT 30 M (98.4 FT) WEST OF THE CENTERLINE OF THE DIRT ROAD, AND 1.0 M (3.3 FT) SOUTH OF A WITNESS POST. DESCRIBED BY WILLIAM KAUFFMAN, DESCHUTES COUNTY PUBLIC WORKS.

DEPARTMENT OF COMMERCE
NOAA - NOS - C&GS
NATIONAL GEODETIC SURVEY

PUBLICATION DATE: APRIL 26, 1991
USGS QUAD SHEET: WICKIUP DAM

WICKIUP
PID: PB0795

HORIZONTAL DATUM: NAD 83 (1991)
VERTICAL DATUM: NGVD 29

STATE: OREGON
COUNTY: DESCHUTES

LATITUDE:	43° 40' 56.59981" N	±0.00020 SECONDS
LONGITUDE:	121° 41' 15.57620" W	±0.00030 SECONDS

ORTHOMETRIC HEIGHT:	{	1327.1	METERS
		4354.	FEET

GEOID HEIGHT:	-19.437		METERS
ELLIPSOIDAL HEIGHT:	1307.409	±0.059	METERS
X:	343722.209		METERS
Y:	1442773.593		METERS
Z:	-6183862.513		METERS

HORIZONTAL NETWORK ORDER: B
ELLIPSOIDAL HEIGHT ORDER: SECOND CLASS III

THE HORIZONTAL COORDINATES WERE ESTABLISHED BY GPS OBSERVATIONS AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN FEBRUARY 1991. THE ORTHOMETRIC HEIGHT WAS DETERMINED BY GPS OBSERVATIONS. THE GEOID HEIGHT WAS DETERMINED BY GEOID90. THE ELLIPSOIDAL HEIGHT WAS DETERMINED BY GPS OBSERVATIONS.

HORIZONTAL DATUM SHIFT-----LATITUDE-----LONGITUDE
NAD83 minus NAD27 -00.6 +04.1 (Based on Nadcon Interpolation)

PLANE COORDINATES

GRID	ZONE	NORTHING METERS	EASTING METERS	POINT SCALE FACTOR	CONVERGENCE DEG MIN SEC
SPC	OR S	224,594.403	1,404,245.081	0.99993478	- 0 48 45.1
UTM	10	4,837,434.179	605,775.779	0.99973762	+ 0 54 23.3

STATION MARK IS A HORIZONTAL CONTROL DISK
WITH SETTING TOP OF CONCRETE MONUMENT (ROUND)
THE MARK IS STAMPED . . . WICKIUP 1990

STATION MARK HISTORY

YEAR MONUMENTED OR RECOVERED	CONDITION OF MARK	RECOVERED OR DESCRIBED BY
1990	STATION MONUMENTED	NATIONAL GEODETIC SURVEY

(Continued on Next Page)

WICKIUP
PID: PB0795

STATION DESCRIPTION

DESCRIBED 1990

THE STATION IS LOCATED ABOUT 9 MILES WEST OF LAPINE AT THE SOUTHEAST END OF WICKIUP DAM.

TO REACH FROM THE INTERSECTION OF HIGHWAY 97 AND BURGESS ROAD (THIS INTERSECTION IS ABOUT 3 MILES NORTH OF LAPINE) GO WEST ON BURGESS ROAD FOR 16.96 KM (10.54 MI) TO A ROAD FORK, TAKE LEFT FORK (ROAD 4380) AND GO 5.92 KM (3.68 MI) TO A T JUNCTION ON WICKIUP DAM, TURN LEFT AND GO 2.72 KM (1.69 MI) TO THE SE END OF THE DAM, CONTINUE ON 0.05 KM (0.03 MI) TO THE STATION ON THE LEFT.

THE STATION IS SET INTO A ROUND CONCRETE MONUMENT FLUSH WITH THE GROUND. IT IS 14.7 M (48.2 FT) WEST OF THE SE CORNER OF A FENCE AROUND A WEATHER STATION, 13.8 M (45.3 FT) EAST OF THE CENTERLINE OF THE DAM EXTENDED, 9.1 M (29.9 FT) SW OF THE WEST STEEL GATE POST, AND 0.8 M (2.6 FT) EAST OF A WITNESS POST.

THE DAM TENDER HOUSE IS ABOUT 100 METERS EAST OF THIS STATION.
DESCRIBED BY L.L. RIGGERS.

DESCHUTES

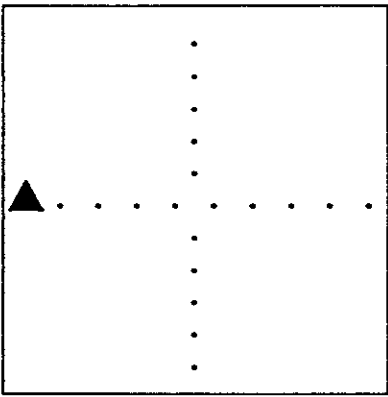
COUNTY

PRIME

CONTROL

NETWORK

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0013 GIS # 0013 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 18 S.- R. 12 E., SEC. 5</p>	----- LATITUDE: 44° 02' 39.71324" N LONGITUDE: 121° 19' 25.05079" W ----- EC CARTESIAN ----- X: -2387685.327 METERS Y: -3923407.174 METERS Z: +4412398.193 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1095.966 METERS NGVD 29 : 1115.545 METERS NAVD 88 : 1116.715 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 264457.798±.002 METERS EAST: 1433989.701±.002 METERS SCALE FACTOR: 1.000011578 CONVERGENCE: - 0° 33' 48.53 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
 MARK IS STAMPED - GIS 0013
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 1 MILE SOUTHWEST OF BEND.

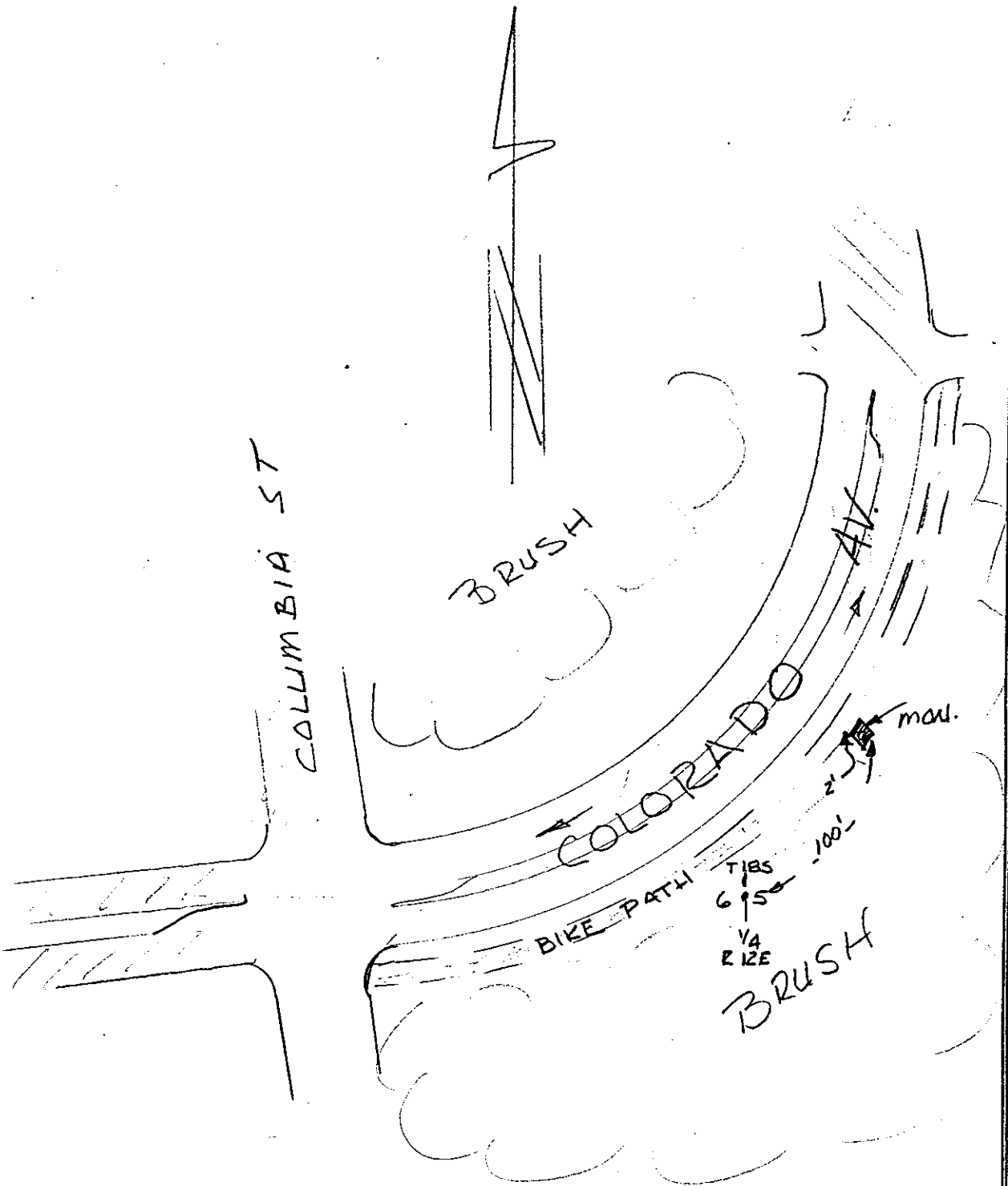
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED SOUTH ON HWY 97 0.3 MI., TURN RIGHT ON FRANKLIN AVE & PROCEED 0.6 MI., TURN LEFT ON BOND ST. & PROCEED SOUTH FOR 0.4 MI., TURN RIGHT ON COLORADO AVE. AND PROCEED WESTERLY FOR 0.75 MI. TO THE STATION ON LEFT.

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL, 2 FT. SOUTH OF BIKE PATH, N 60 E 110 FT. FROM A 1 FT. PINE TREE, ABOUT 450 FEET EASTERLY FO THE INTERSECTION TO COLORADO AVE. AND COLUMBIA STREET.

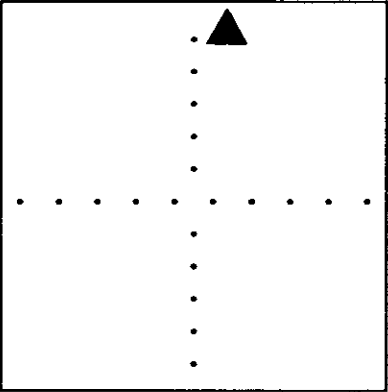
Location and reference sketch:

Name: GIS 0013

GIS #: 13



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0014 GIS # 0014 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 16 S.- R. 10 E., SEC. 1</p>	<p>LATITUDE: 44° 13' 05.76421" N LONGITUDE: 121° 28' 22.86345" W</p> <p>----- EC CARTESIAN ----- X: -2390836.142 METERS Y: -3905617.339 METERS Z: +4426185.915 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 975.793 METERS NGVD 29 : 995.758 METERS NAVD 88 : 996.918 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 283908.831±.005 METERS EAST: 1422241.497±.006 METERS</p> <p>SCALE FACTOR: 1.000062816 CONVERGENCE: - 0° 39' 56.47 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0014
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 6.8 MILES SOUTHEAST OF SISTERS

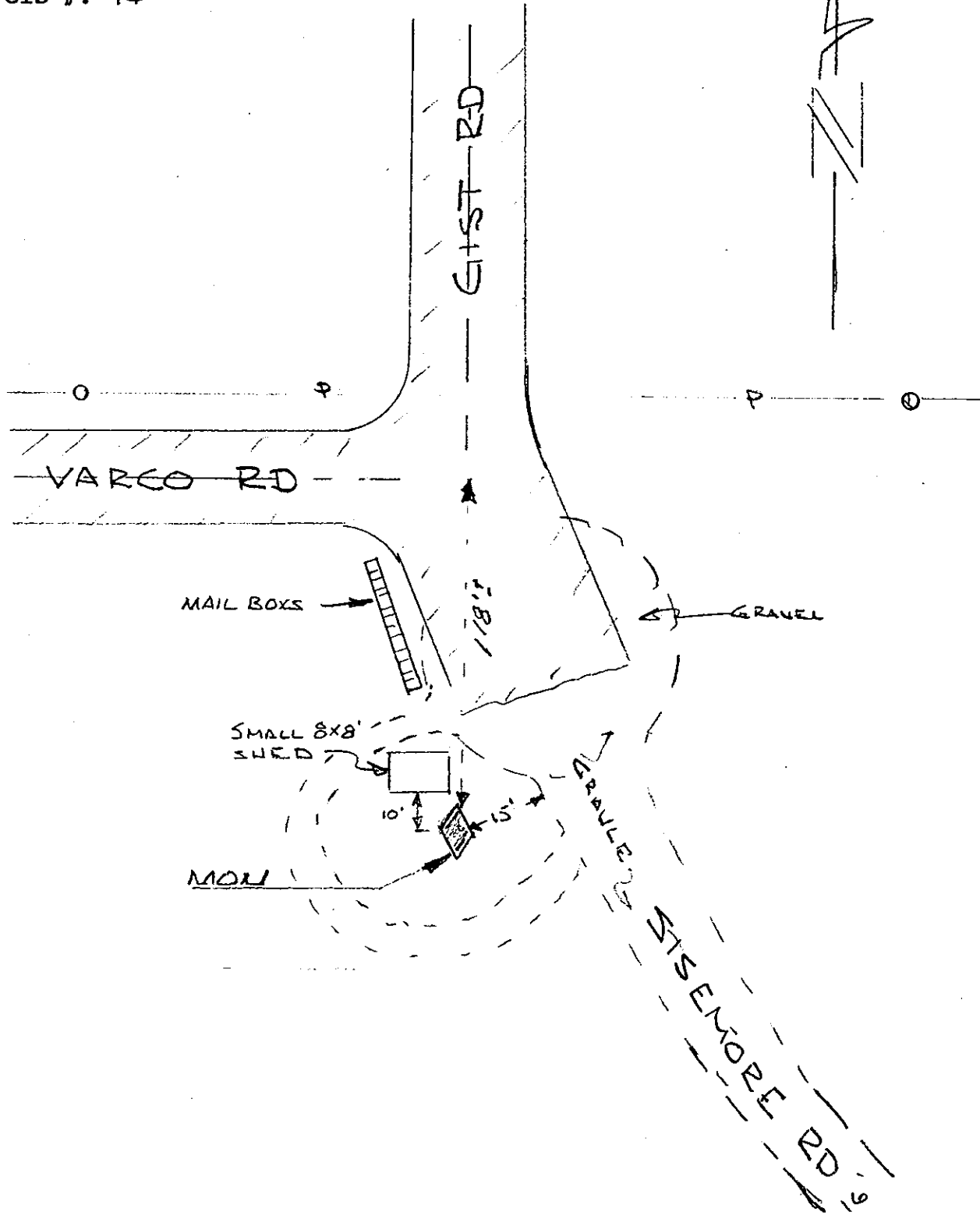
TO REACH THE STATION FROM SISTERS, START AT THE INTERSECTION OF FIR STREET AND US HWY 20, PROCEED EAST ON HWY 20 FOR 5.33 MILES, TURN RIGHT ON GIST COUNTY ROAD & PROCEED SOUTH FOR 1.5 MI. TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 125 FEET SOUTH OF THE INTERSECTION OF GIST AND VARCO ROAD. 15 FEET WESTERLY OF THE EDGE OF GIST ROAD.

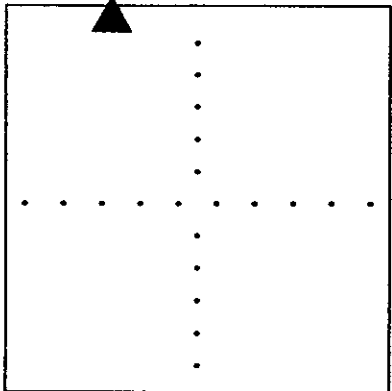
Location and reference sketch:

Name: GIS 0014

GIS #: 14



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0015 GIS # 0015 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 15 S.- R. 10 E., SEC. 8</p>	<p>LATITUDE: 44° 17' 28.46777" N LONGITUDE: 121° 33' 59.46777" W</p> <p>----- EC CARTESIAN ----- X: -2394235.874 METERS Y: -3896875.437 METERS Z: +4431979.574 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 954.379 METERS NGVD 29 : 974.430 METERS NAVD 88 : 975.585 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 292108.346±.003 METERS EAST: 1414873.021±.003 METERS</p> <p>SCALE FACTOR: 1.000087100 CONVERGENCE: - 0° 43' 46.76 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0015
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 0.6 MILES WEST OF SISTERS

TO REACH THE STATION FROM SISTERS, START AT THE INTERSECTION OF OREGON HWY 242 AND US HWY 20, PROCEED WEST ON HWY 242 FOR 0.6 MILES TO THE STATION ON THE LEFT.

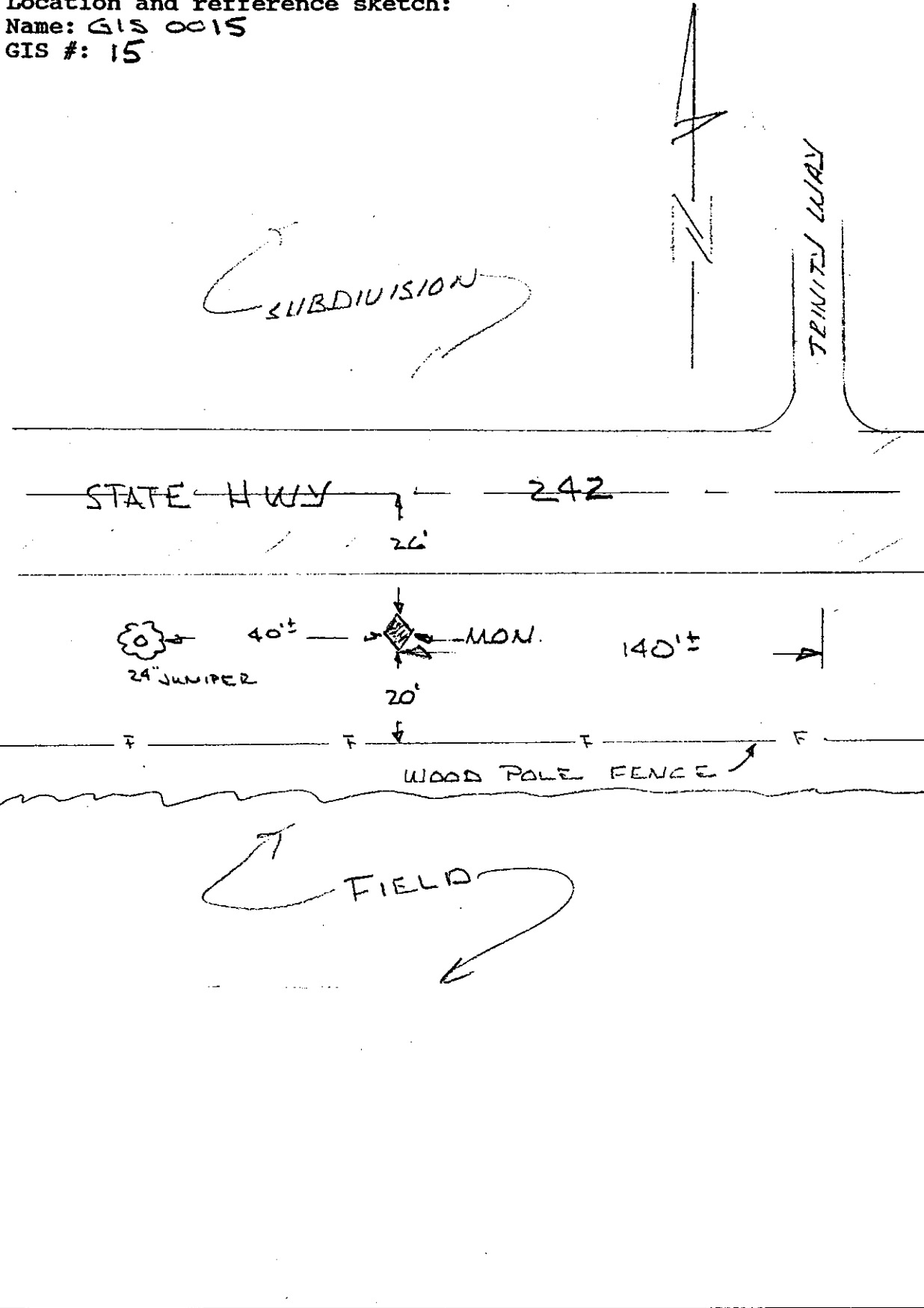
THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE AT GROUND LEVEL.
17 FEET SOUTH OF SOUTH EDGE OF PAVEMENT.
1 FOOT NORTH OF A WITNESS POST. .
22 FEET NORTH OF A WOOD POLE FENCE.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

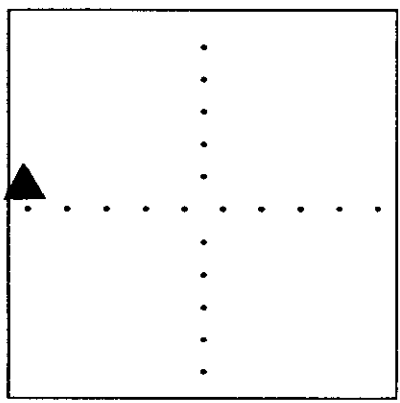
Location and reference sketch:

Name: GIS 0015

GIS #: 15



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0016 GIS # 0016 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 16 S.- R. 11 E., SEC.27</p>	<p>LATITUDE: 44° 09' 39.45957" N LONGITUDE: 121° 24' 13.39777" W</p> <p>----- EC CARTESIAN ----- X: -2388441.433 METERS Y: -3912323.745 METERS Z: +4421652.053 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1022.753 METERS NGVD 29 : 1042.624 METERS NAVD 88 : 1043.792 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 277479.106±.003 METERS EAST: 1427710.335±.003 METERS</p> <p>SCALE FACTOR: 1.000044900 CONVERGENCE: - 0° 37' 05.80 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0016
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 8.4 MILE NORTHWEST OF BEND.

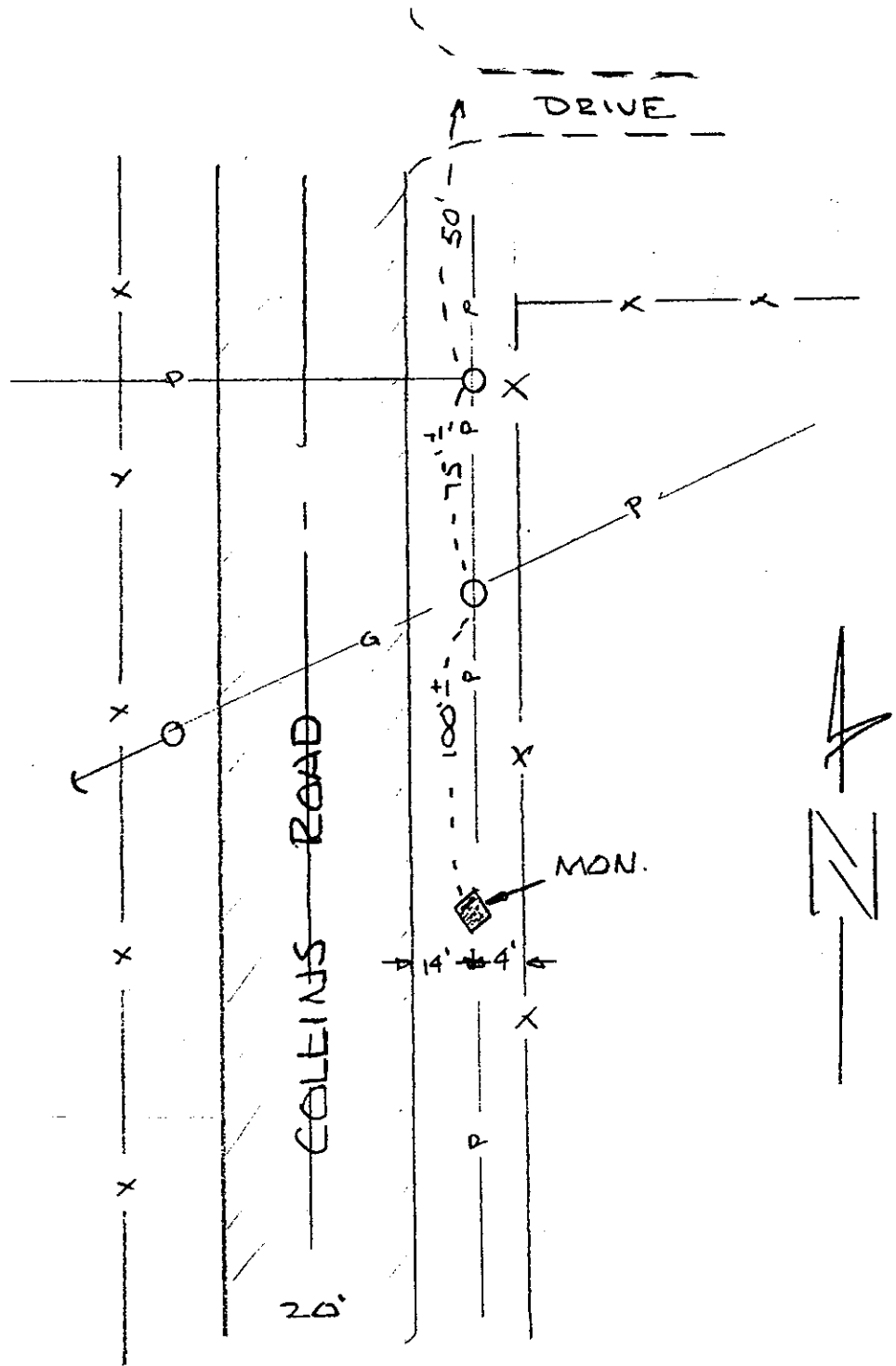
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED NORTH ON HWY 97 2.5 MI., TURN LEFT (TAKE HWY 20 OVERPASS) PROCEED 2.5 MI. ON HWY 20, TURN LEFT ON COUCH MARKET RD. PROCEED WEST 1.9 MI., TURN LEFT ON COLLINS RD. PROCEED SOUTH 0.44 MI. TO THE STATION ON THE LEFT

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK GROUTED IN A LARGE BOULDER. 17 FEET EAST OF THE EAST EDGE OF COLLINS ROAD. 4 FEET WEST OF A WIRE FENCE.

Location and reference sketch:

Name: GIS 2016

GIS #: 16



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0017 GIS # 0017 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p> <div style="border: 1px solid black; width: 150px; height: 150px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);"> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> <p style="text-align: center;">.</p> </div> <div style="position: absolute; top: 10%; right: 10%; font-size: 2em;">▲</div> </div> <p align="center">T. 15 S.- R. 11 E., SEC. 7</p>	<hr/> LATITUDE: 44° 17' 28.24496" N LONGITUDE: 121° 27' 11.77487" W <hr/> <p align="center">----- EC CARTESIAN -----</p> X: -2386518.847 METERS Y: -3901583.831 METERS Z: +4431951.301 METERS <hr/> <p align="center">----- HEIGHT -----</p> ELLIPSOIDAL: 920.942 METERS NGVD 29 : 941.081 METERS NAVD 88 : 942.202 METERS <hr/> <p align="center">---- SPC -- OREGON SOUTH ----</p> NORTH: 291992.466±.004 METERS EAST: 1423911.715±.004 METERS <hr/> SCALE FACTOR: 1.000087078 CONVERGENCE: - 0° 39' 07.84 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - GIS 0017
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 4.5 MILES EAST OF SISTERS

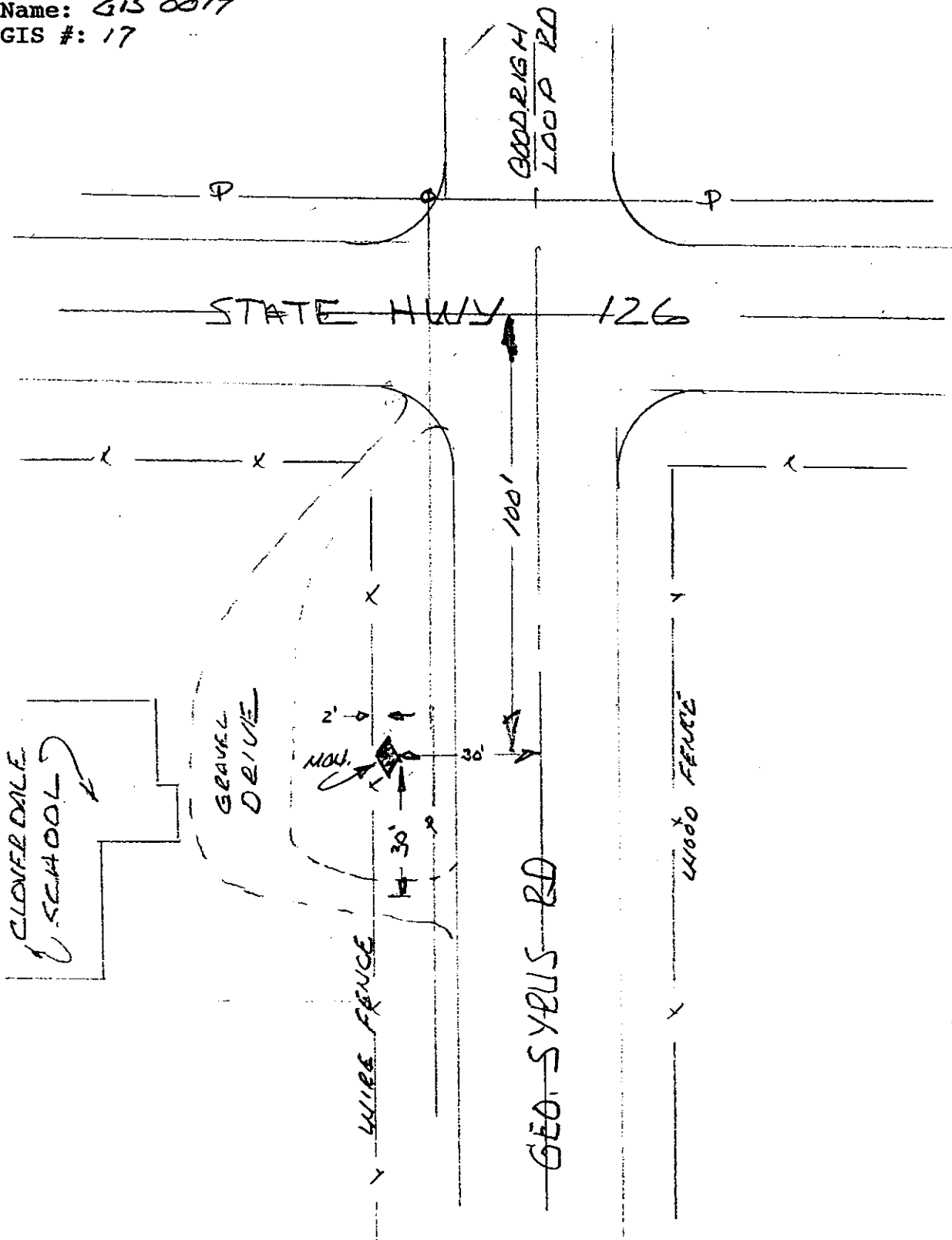
TO REACH THE STATION FROM SISTERS, START AT THE INTERSECTION OF FIR STREET AND US HWY 20, PROCEED EAST ON US HWY 20 FOR 0.5 MILES TO THE Y INTERSECTION WITH OREGON HWY 126, TURN LEFT ON HWY 126 AND PROCEED 4.35 MILES, TURN RIGHT ON GEO. CYRUS COUNTY ROAD AND PROCEED 85 FEET TO THE STATION ON THE RIGHT BEING EAST OF THE OLD CLOVERDALE SCHOOL.

THE STATION MARK IS A 3 1/2 IN. STANDATD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 85.3 FEET SOUTH OF PAVEMENT EDGE OF HWY 126. 18.8 FEET WEST OF THE PAVEMENT EDGE OF CYRUS ROAD. 1.8 FEET EAST OF A WIRE FENCE. 1 FOOT EASTERLY FROM A WITNESS POST.

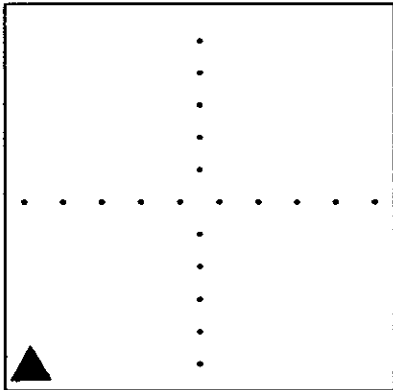
Location and reference sketch:

Name: GIS 0017

GIS #: 17



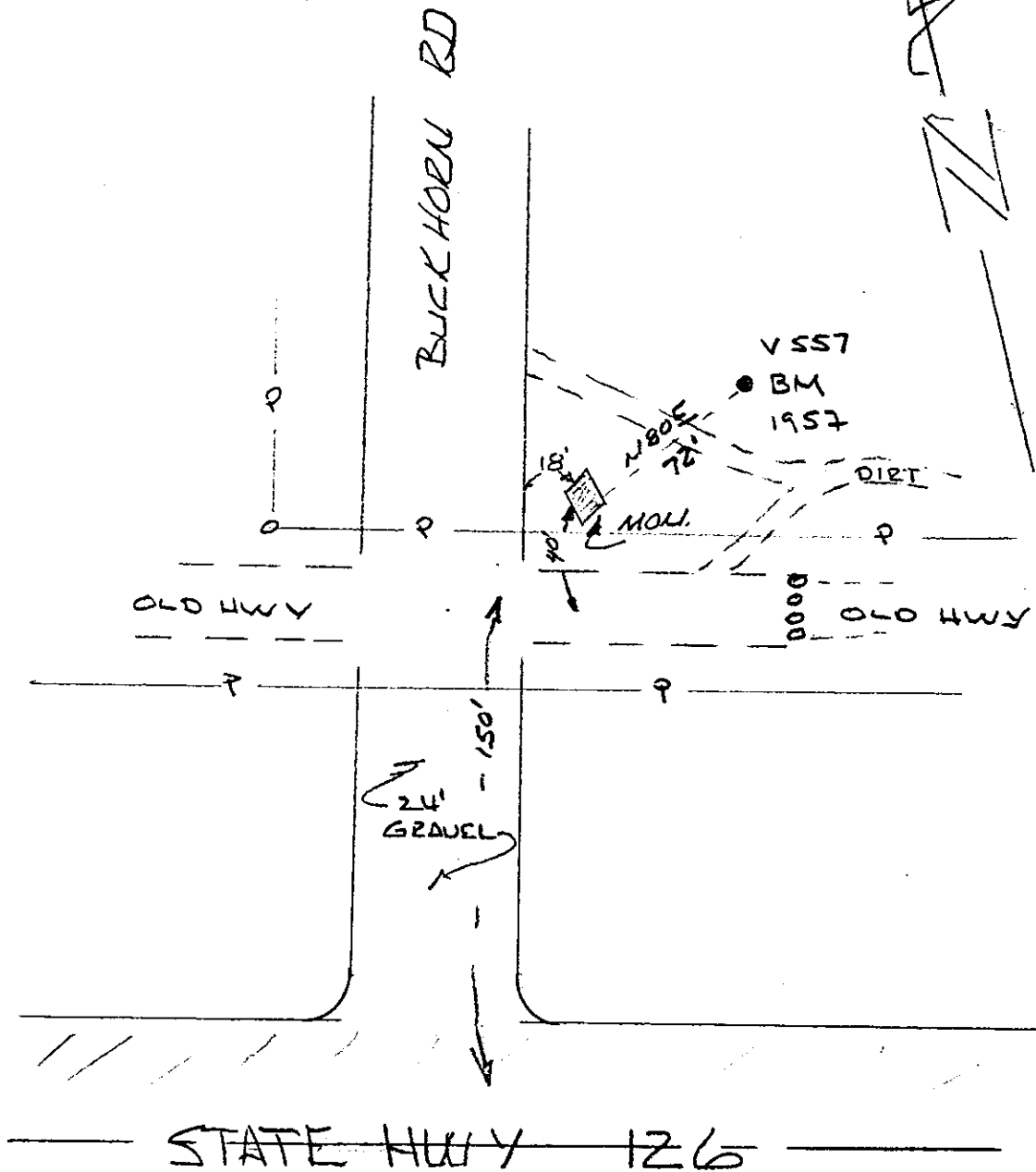
DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0018 GIS # 0018 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p style="text-align: center;">STATION LOCATION</p>  <p style="text-align: center;">T. 15 S.- R. 12 E., SEC. 5</p>	LATITUDE: 44° 17' 32.85073" N LONGITUDE: 121° 19' 52.75680" W ----- EC CARTESIAN ----- X: -2378152.527 METERS Y: -3906561.342 METERS Z: +4432043.535 METERS ----- HEIGHT ----- ELLIPSOIDAL: 907.281 METERS NGVD 29 : 927.382 METERS NAVD 88 : 928.486 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 292030.924±.004 METERS EAST: 1433646.561±.004 METERS SCALE FACTOR: 1.000087519 CONVERGENCE: - 0° 34' 07.49 "
<p>The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.</p>	
<p>SURFACE MARKER: MARK IS STAMPED - GIS 0018 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE THE STATION IS LOCATED ABOUT 11 MILES EAST OF SISTERS</p>	
<p>-----</p> <p>TO REACH THE STATION FROM SISTERS, START AT THE INTERSECTION OF FIR STREET AND US HWY 20, PROCEED EAST ON US HWY 20 FOR 0.5 MILES TO THE Y INTERSECTION WITH OREGON HWY 126, TURN LEFT ON HWY 126 AND PROCEED 10.6 MILES, TURN RIGHT ON BUCKHORN COUNTY ROAD AND PROCEED NORTH 264 FEET TO THE STATION ON THE RIGHT</p>	
<p>-----</p> <p>THE STATION MARK IS A 3 1/2 IN. STANDATD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 264 FEET NORTH OF PAVEMENT EDGE OF HWY 126, 20 FEET EAST OF EAST EDGE OF BUCKHORNE ROAD AND 33 FEET NORTH OF THE EDGE OF PAVEMENT OF THE OLD LOCATION OF HWY 126.</p>	

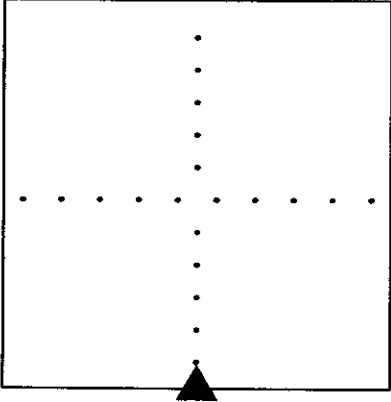
Location and reference sketch:

Name: G.I.S. 0018

GIS #: 18



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: 14120604 GIS # 0019 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
STATION LOCATION 	----- LATITUDE: 44° 22' 42.08203" N LONGITUDE: 121° 20' 30.79565" W ----- EC CARTESIAN ----- X: -2375371.634 METERS Y: -3900373.564 METERS Z: +4438812.881 METERS ----- HEIGHT ----- ELLIPSOIDAL: 823.388 METERS NGVD 29 : 843.597 METERS NAVD 88 : 844.695 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 301584.683±.003 METERS EAST: 1432899.176±.003 METERS ----- SCALE FACTOR: 1.000118249 CONVERGENCE: - 0° 34' 33.51 "
T. 14 S.- R. 12 E., SEC. 6	

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
 MARK IS STAMPED - T14S R12E 1/4 6/7 1988 LS1031
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 9.0 MILES NORTHWEST OF TERREBONNE

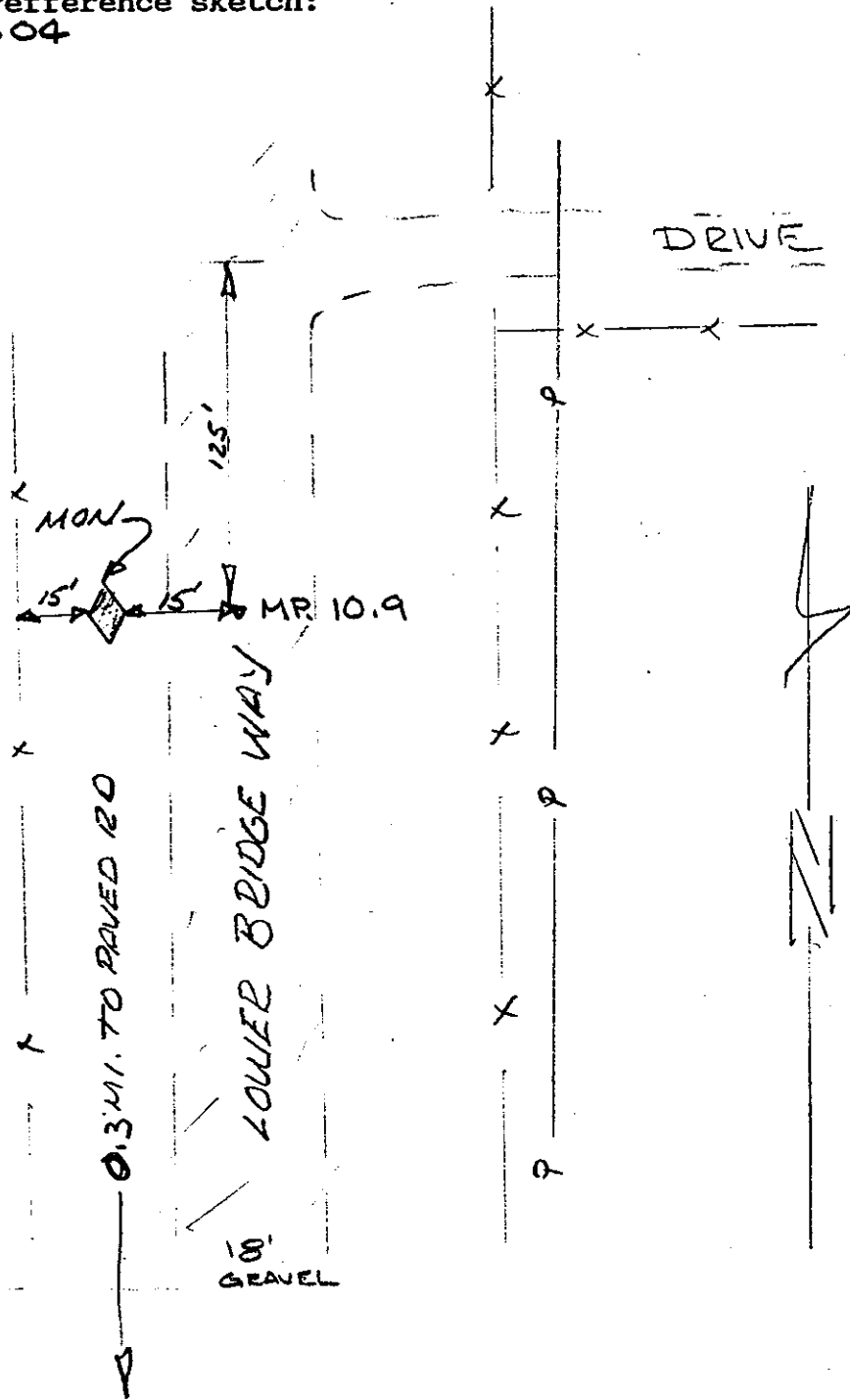
 TO REACH THE STATION FROM TERREBONNE, START AT THE INTERSECTION OF US HWY 97 AND SMITHROCK WAY IN TERREBONNE, PROCEED NORTH ON HWY 97 0.55 MI., TURN LEFT ON LOWER BRIDGE COUNTY ROAD AND PROCEED NORTHWESTERLY , (6.2 MILES BRIDGE OVER DESCHUTES RIVER), (10.7 HOMES RD. ON LEFT), 11.00 MILES TO THE STATION ON THE LEFT.

 THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE AT GROUND LEVEL.
 18 FEET EAST OF A WIRE FENCE RUNNING NORTH SOUTH.
 4 FEET WESTERLY OF THE EDGE OF LOWERBRIDGE ROAD.
 S 12 E 126 FEET FROM A 1 FOOT JUINPER.
 S 26 W 127 FEET FROM POWER POLE.

Location and reference sketch:

Name: 1412 06 04

GIS #: 19

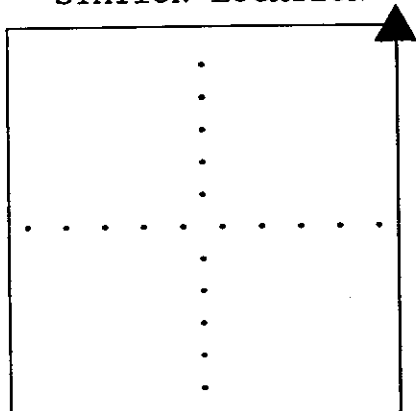


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: 14120188
GIS # 0020
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 14 S.- R. 12 E., SEC. 1

LATITUDE: 44° 23' 34.79529" N
LONGITUDE: 121° 13' 45.48115" W

----- EC CARTESIAN -----
X: -2367112.424 METERS
Y: -3904060.079 METERS
Z: +4439975.503 METERS

----- HEIGHT -----
ELLIPSOIDAL: 822.935 METERS
NGVD 29 : 842.955 METERS
NAVD 88 : 844.044 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 303127.721±.003 METERS
EAST: 1441886.632±.003 METERS

SCALE FACTOR: 1.000123715
CONVERGENCE: - 0° 29' 56.22 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

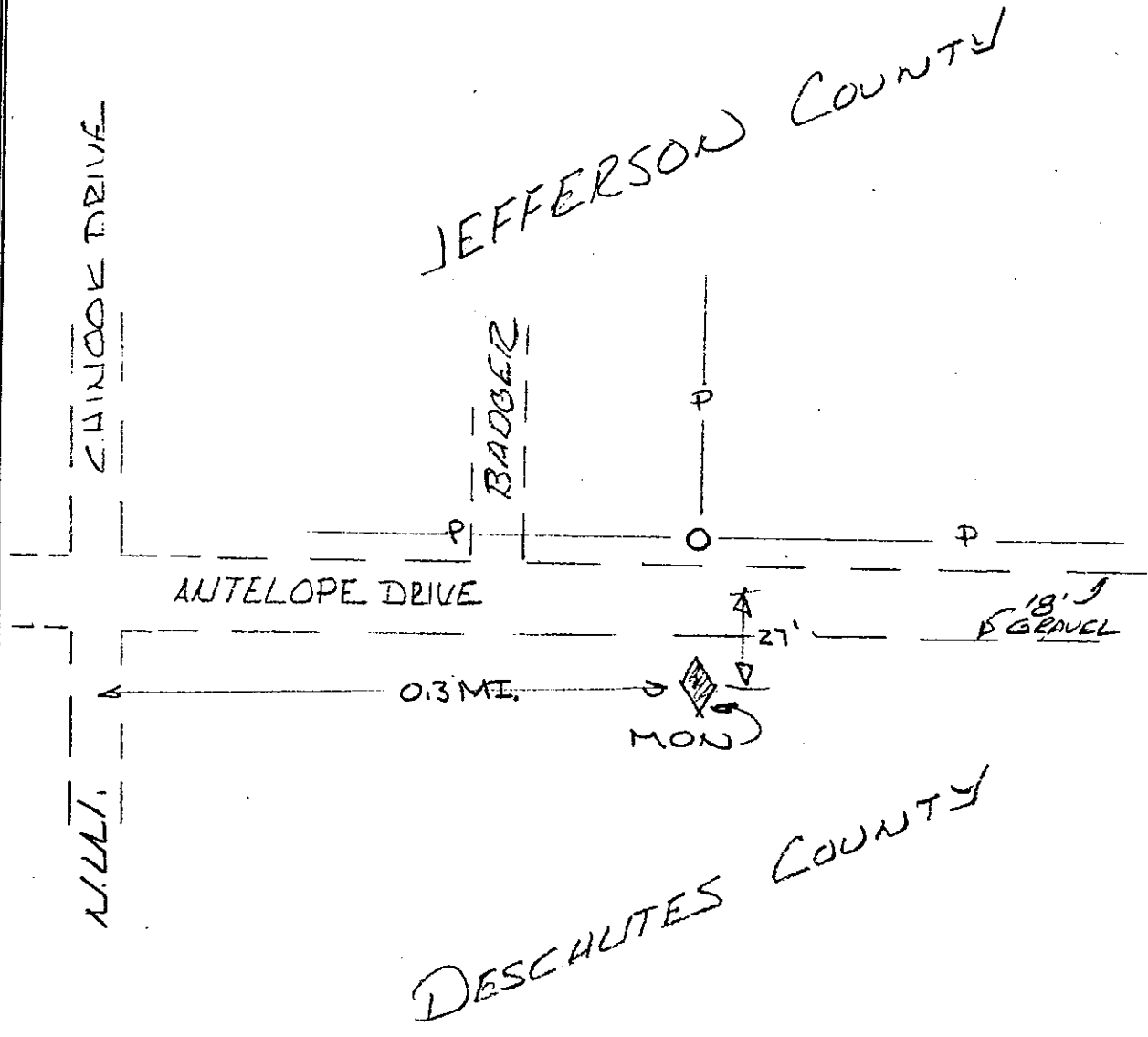
SURFACE MARKER:
MARK IS STAMPED - T13S R12E 36/1\31 ARK 5792 RFA
AGENCY INSCRIPTION - NONE
THE STATION IS LOCATED ABOUT 3.8 MILES NORTHWEST OF TERREBONNE

TO REACH THE STATION FROM TERREBONNE, START AT THE INTERSECTION OF US HWY 97 AND SMITHROCK WAY IN TERREBONNE, PROCEED NORTH ON HWY 97 0.55 MI., TURN LEFT ON LOWER BRIDGE COUNTY ROAD AND PROCEED NORTHWESTERLY 2.2 MI, TURN RIGHT ON N.W. 43 ST. AND PROCEED NOTRH 1.8 MI., TURN LEFT ON N.W. CHINOOK DR. AND PROCEED NORTHWESTERLY 0.9 MI., TURN RIGHT ON ANTELOPE DR. AND PROCEED EAST 0.25 MILES TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 2 1/2 IN. BRASS DISK SET IN A 4 IN.X 4 IN. X 20 IN. CONCREET POST FLUSH WITH GROUND LEVEL.
18 FEET SOUTH OF A SOUTH EDGE OF ANTELOPE DR.
54 FEET SOUTH OF PP&L POWER POLE #310140.
SET BY ARNOLD KEGEL IN 1973, SE COR. SEC 36 T13S R12E WM.

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Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:
Name: 14120188
GIS #: 20



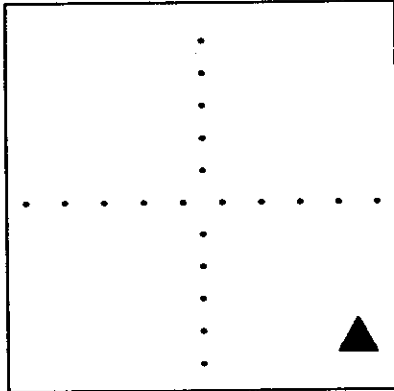
DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0021
GIS # 0021
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 14 S.- R. 13 E., SEC.16

LATITUDE: 44° 21' 01.23134" N
LONGITUDE: 121° 10' 16.76354" W

----- EC CARTESIAN -----
X: -2364888.148 METERS
Y: -3909308.876 METERS
Z: +4436608.563 METERS

----- HEIGHT -----
ELLIPSOIDAL: 854.017 METERS
NGVD 29 : 873.904 METERS
NAVD 88 : 874.999 METERS

---- SPC -- OREGON SOUTH ----
NORTH: 298348.707±.004 METERS
EAST: 1446468.362±.004 METERS

SCALE FACTOR: 1.000107975
CONVERGENCE: - 0° 27' 33.42 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0021
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 0.2 MILES EAST OF TERREBONNE

TO REACH THE STATION FROM TERREBONNE, START AT THE INTERSECTION OF US HWY 97 AND SMITH ROCK WAY, PROCEED EAST ON SMITH ROCK WAY FOR 0.38 MILES TO THE STATION ON THE LEFT.

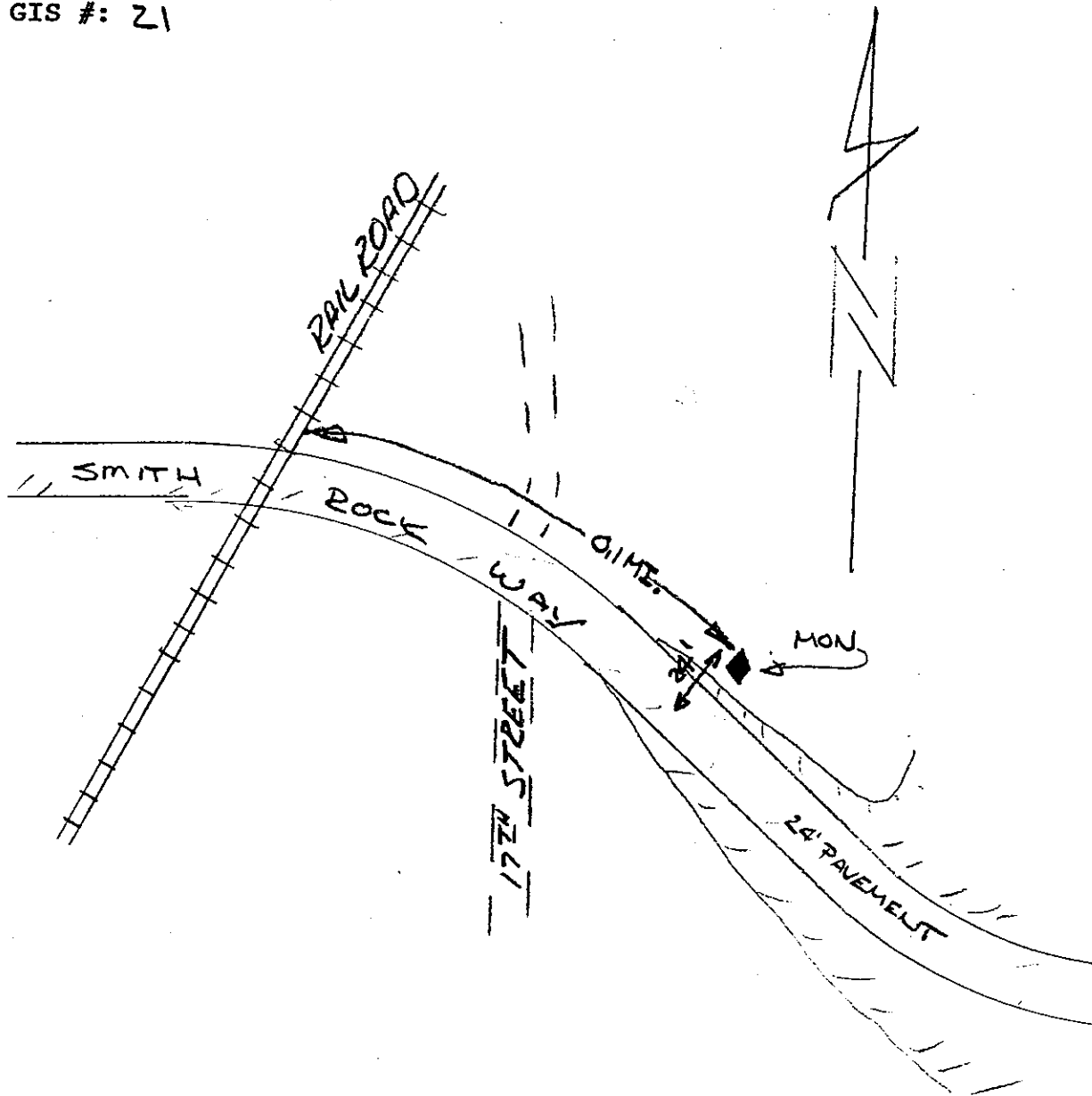
THE STATION MARK IS A 3 1/2 IN. STANDATD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE 0.4 FT. ABOVE GROUND LEVEL. 17 FEET NORTH OF THE NORTH EDGE OF SMITH ROCK WAY.

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Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

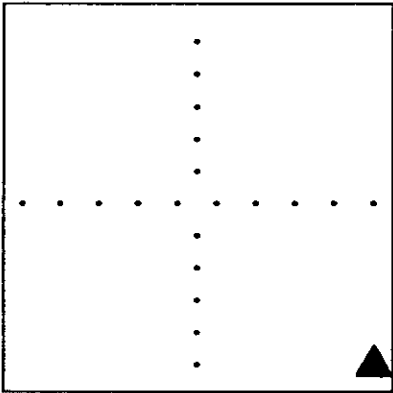
Name: GIS 0021

GIS #: 21



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Bend, Oregon. 97702
(503) 383-4395

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0022 GIS # 0022 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 15 S.- R. 13 E., SEC. 6</p>	----- EC CARTESIAN ----- LATITUDE: 44° 17' 28.64822" N LONGITUDE: 121° 12' 33.56546" W X: -2369865.511 METERS Y: -3911676.356 METERS Z: +4431930.922 METERS ----- HEIGHT ----- ELLIPSOIDAL: 878.998 METERS NGVD 29 : 898.961 METERS NAVD 88 : 900.063 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 291811.636±.003 METERS EAST: 1443382.671±.003 METERS SCALE FACTOR: 1.000087117 CONVERGENCE: - 0° 29' 07.02 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
 MARK IS STAMPED - GIS 0022
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 2.2 MILE NORTHWEST OF REDMOND.

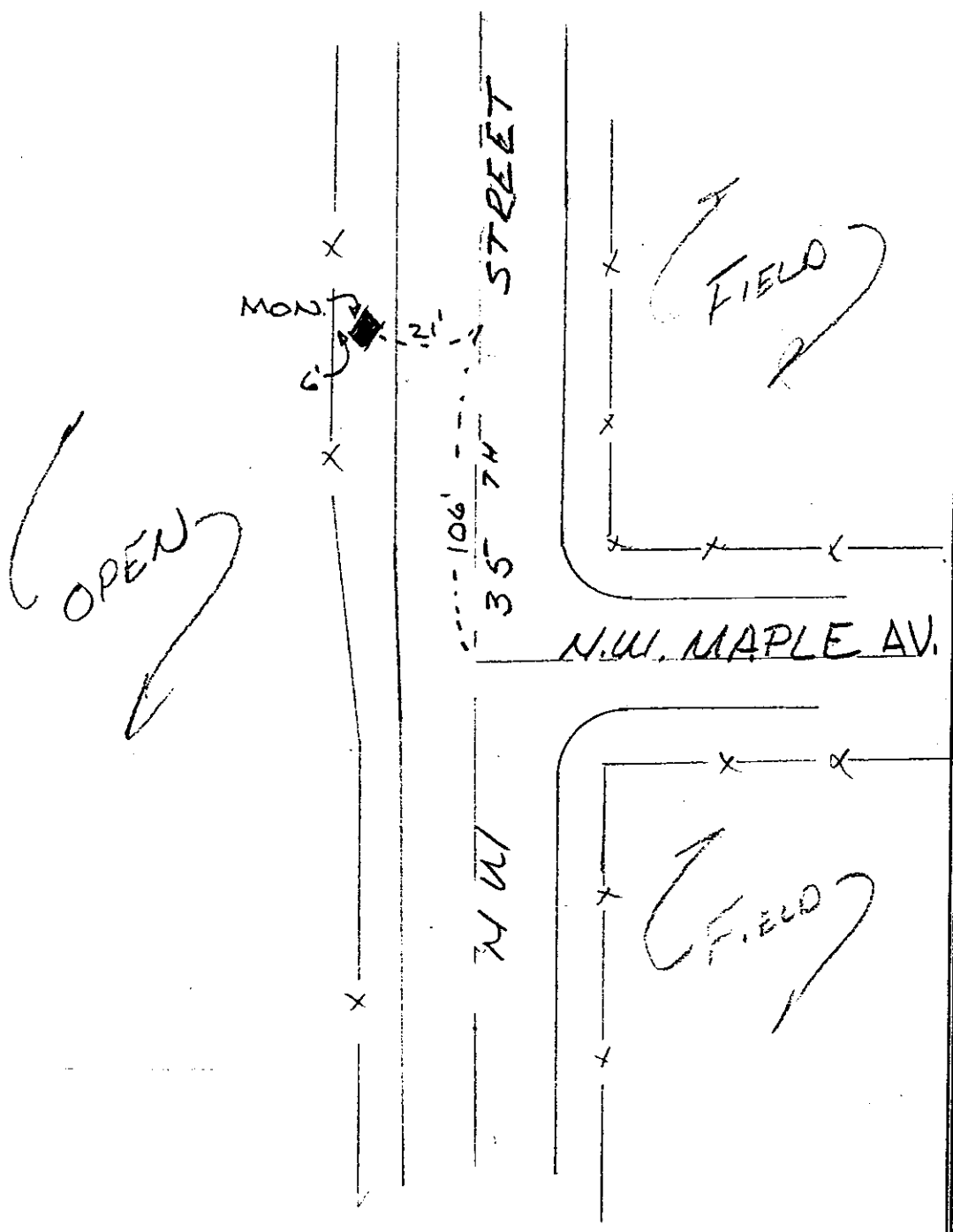
 TO REACH THE STATION FROM REDMOND, START AT THE INTERSECTION OF US HWY 97 (5th ST.) & OR.HWY 126, PROCEED WEST ON HWY 126 FOR 0.85 , , , , MI., TURN RIGHT ON RIM ROCK WAY & PROCEED NORTH FOR 0.55 MILES TURN LEFT ON WEST ANTLER AVE. & PROCEED WEST FOR 1.00 MILES, TURN RIGHT ON NW 35th ST. & PROCEED NORTH 1.00 MI. TO THE INTERSECTION WITH NW MAPLE AV., CONTINUE NORTH ON 35th ST. FOR 112 FEET TO THE STATION ON THE LEFT.

 THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 9.6 FEET WEST OF THE WEST EDGE OF 35th ST. 7.9 FEET EAST OF AN OLD BOARD FENCE

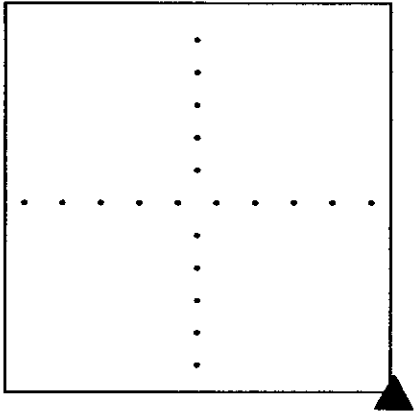
Location and reference sketch:

Name: GIS 0022

GIS #: 22



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0023 GIS # 0023 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 15 S.- R. 12 E., SEC.36</p>	<p>LATITUDE: 44° 13' 06.65507" N LONGITUDE: 121° 13' 48.38698" W</p> <p>----- EC CARTESIAN ----- X: -2374230.595 METERS Y: -3915675.594 METERS Z: +4426175.628 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 932.780 METERS NGVD 29 : 952.682 METERS NAVD 88 : 953.780 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 283738.942±.003 METERS EAST: 1441653.276±.003 METERS</p> <p>SCALE FACTOR: 1.000062896 CONVERGENCE: - 0° 29' 58.20 "</p>

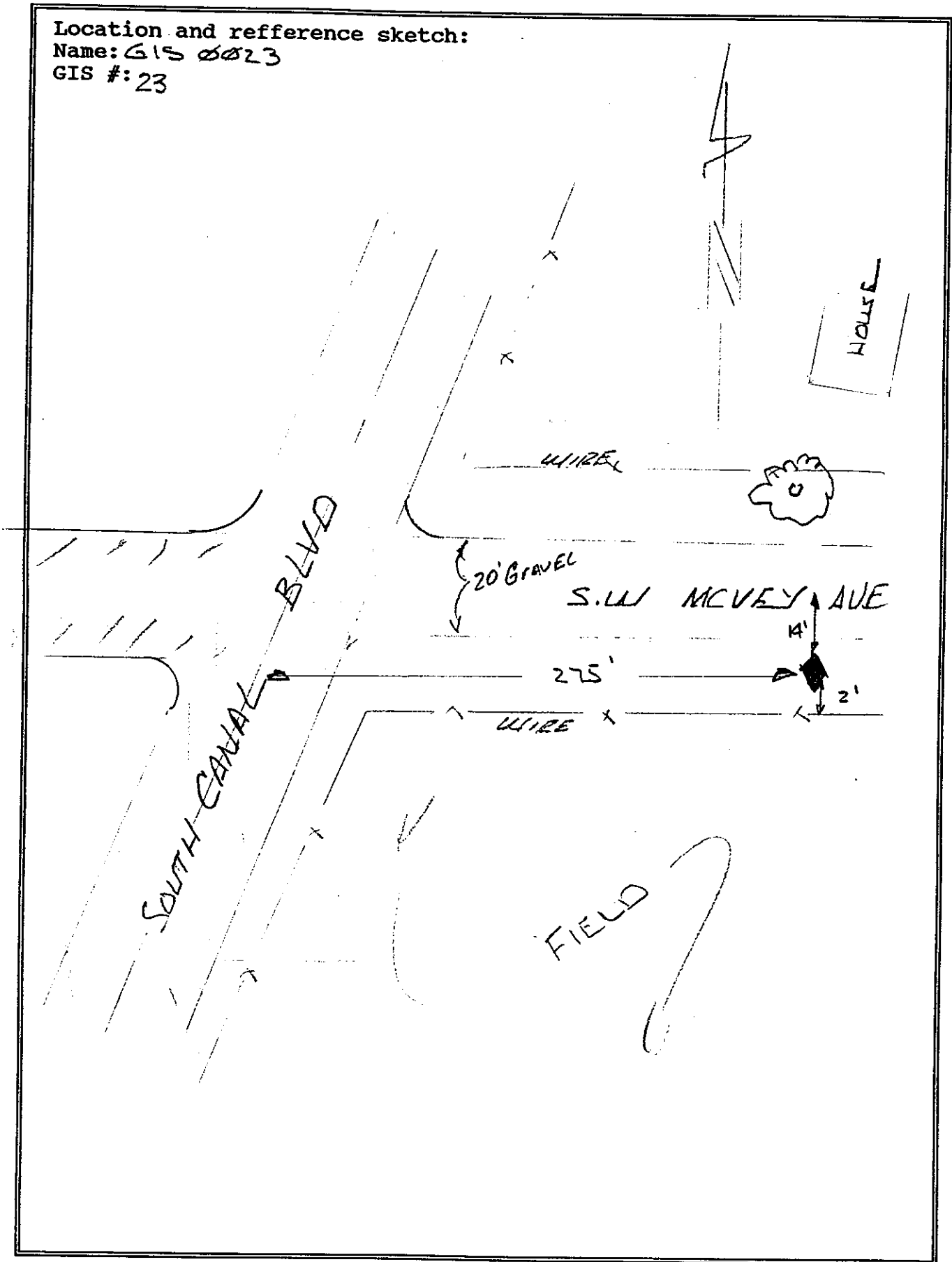
The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0023
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 4.4 MILE SOUTHWEST OF REDMOND.

TO REACH THE STATION FROM REDMOND, START AT THE INTERSECTION OF US HWY 97 (6th ST.) & OR.HWY 126, PROCEED SOUTH ON HWY 97 FOR 0.16 MI., TURN RIGHT SOUTH CANAL ACCESS RD. & PROCEED WESTERLY 0.08 MI., TURN LEFT ON SOUTH CANAL BLVD. & PROCEED SOUTH FOR 4.45 MI., TURN LEFT ON S.W. McVEY. & PROCEED EAST 300 FEET TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 6.0 FEET SOUTH OF THE SOUTH EDGE OF S.W.McVEY. 2.0 FEET NORTH OF A WIRE FENCE.

Location and reference sketch:
Name: GIS 0023
GIS #: 23

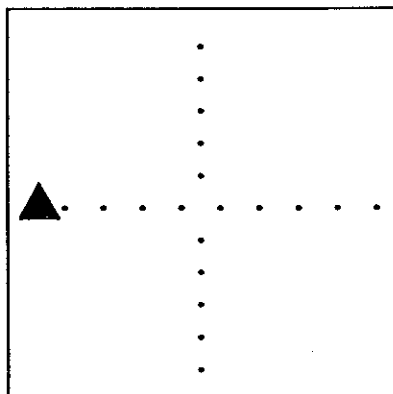


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(503) 383-4395

DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0024
GIS # 0024
ORDER C-1st. (GPS)

STATION LOCATION



T. 17 S.- R. 14 E., SEC. 2

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

LATITUDE: 44° 07' 28.46935" N
LONGITUDE: 121° 01' 37.71932" W

----- EC CARTESIAN -----
X: -2364118.671 METERS
Y: -3930335.256 METERS
Z: +4418733.026 METERS

----- HEIGHT -----
ELLIPSOIDAL: 997.990 METERS
NGVD 29 : 1017.420 METERS
NAVD 88 : 1018.553 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 273178.643±.005 METERS
EAST: 1457807.173±.004 METERS

SCALE FACTOR: 1.000034051
CONVERGENCE: - 0° 21' 38.32 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0024 1988 LS 1031
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 14.4 MILES EASTERLY OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 4.25 MI., TURN LEFT ON POWELL BUTTE HWY & PROCEED NORTEAST FOR 0.6 MI., TURN RIGHT ON ALFALFA MARKET RD. & PROCEED EASTERLY FOR 9.40 MILES, TURN RIGHT ON JOHNSON RANCH ROAD AND PROCEED NORTH FOR 3.23 MILES TO THE STATION ON THE RIGHT.

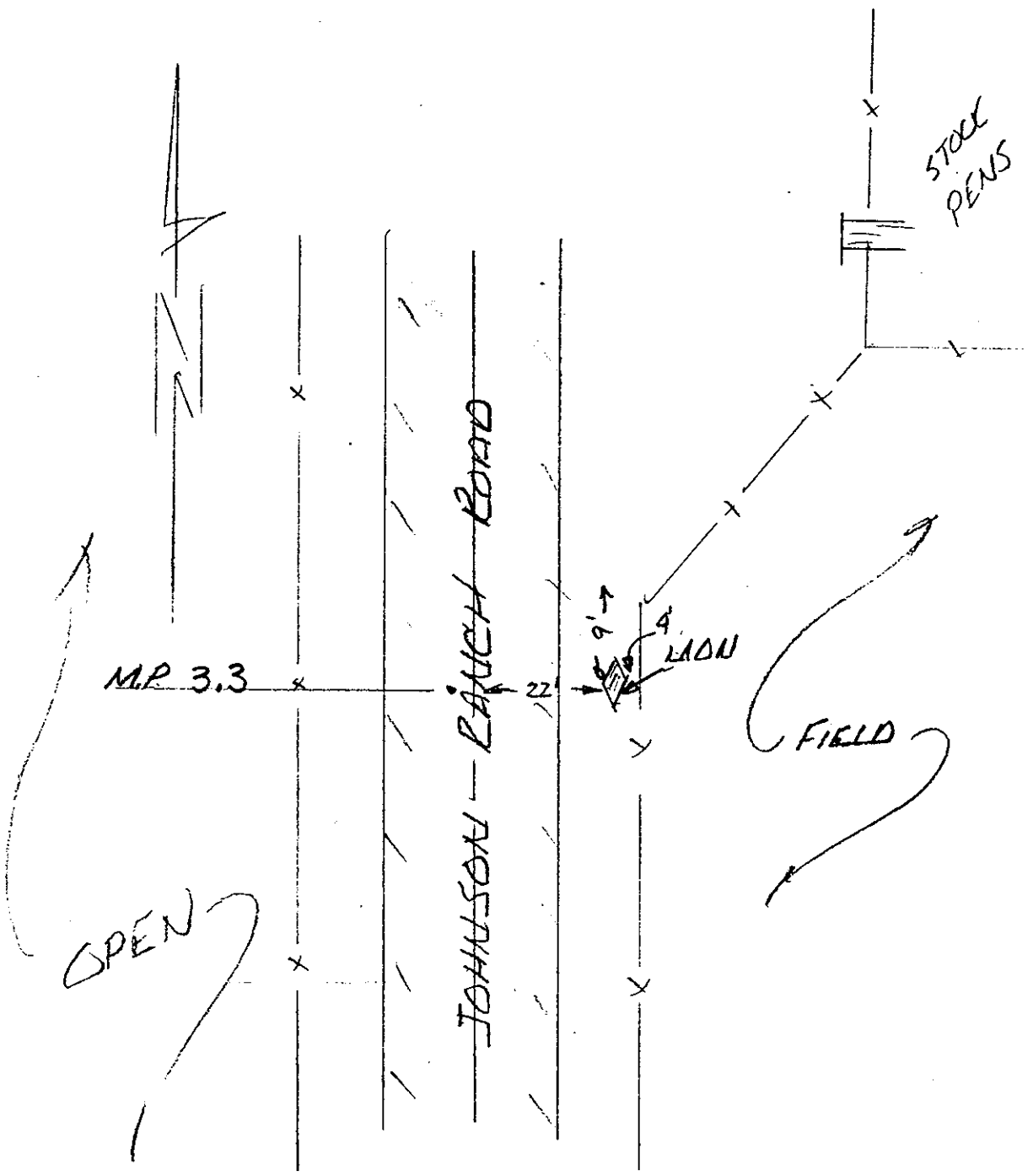
THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE 0.3 FEET ABOVE GROUND LEVEL. 3.7 FEET WEST OF A WIRE FENCE. 12 FEET EAST OF THE EAST EDGE OF JOHNSON RANCH ROAD.

DESCHUTES COUNTY SURVEYOR'S OFFICE
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Bend, Oregon. 97702
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Location and reference sketch:

Name: GIS 0024

GIS #: 24

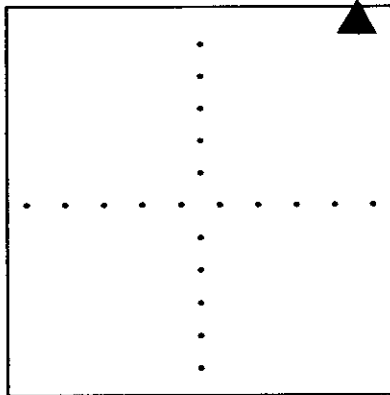


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0025
GIS # 0025
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 18 S.- R. 12 E., SEC.36

LATITUDE: 43° 58' 43.24277" N
LONGITUDE: 121° 13' 28.43499" W

----- EC CARTESIAN -----
X: -2383560.870 METERS
Y: -3931921.280 METERS
Z: +4407209.805 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1184.736 METERS
NGVD 29 : 1204.111 METERS
NAVD 88 : 1205.281 METERS
----- SPC -- OREGON SOUTH -----
NORTH: 257086.104±.003 METERS
EAST: 1441865.606±.003 METERS

SCALE FACTOR: 0.999994651
CONVERGENCE: - 0° 29' 44.55 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0024 1988 LS 1031
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 6.8 MILES SOUTHEAST OF BEND.

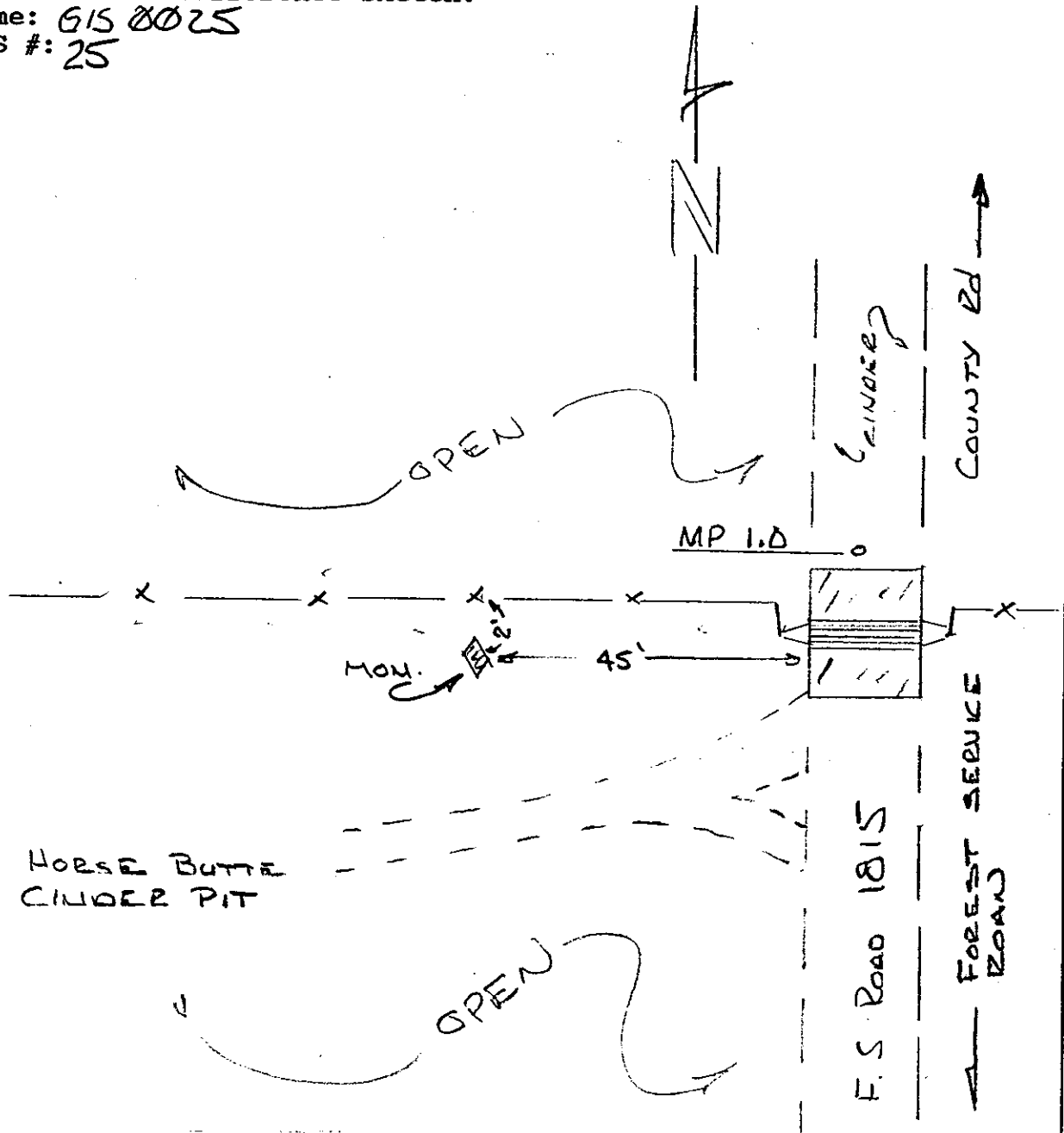
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 2.04 MI., TURN RIGHT ON SE 27th STREET & PROCEED SOUTH FOR 3.14 MI., TURN LEFT ON RICKARD ROAD & PROCEED EAST FOR 1.72 MI., TURN RIGHT ON BILLADEAU ROAD & PROCEED SOUTH FOR 1.0 MI, CONTINUE SOUTH ON (NOW HORSE BUTTE ROAD) FOR 1.0 MI. TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM IN A MASS OF CONCRETE 0.3 FEET ABOVE GROUND LEVEL. 2.0 FEET SOUTH OF A WIRE FENCE. 47 FEET WEST OF A END POST OF A CATTLE GUARD ACROSS HORSE BUTTE ROAD.

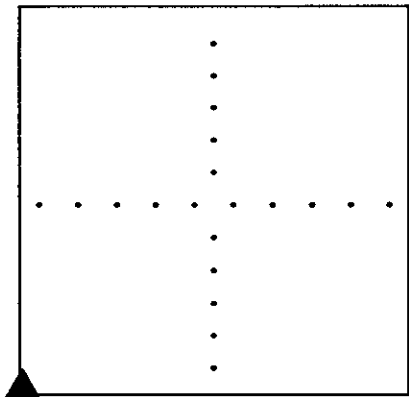
Location and reference sketch:

Name: GIS 8025

GIS #: 25



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: 17142600 GIS # 0026 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 17 S.- R. 14 E., SEC.26</p>	LATITUDE: 44° 03' 47.48952" N LONGITUDE: 121° 01' 37.30908" W ----- EC CARTESIAN ----- X: -2366562.236 METERS Y: -3934415.386 METERS Z: +4413842.595 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1010.726 METERS NGVD 29 : 1030.162 METERS NAVD 88 : 1031.309 METERS ----- SPC -- OREGON SOUTH ----- NORTH: 266358.002±.004 METERS EAST: 1457773.371±.004 METERS SCALE FACTOR: 1.000016675 CONVERGENCE: - 0° 21' 38.04 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
 MARK IS STAMPED - T 17 S R 14 S 27|26 34|35 1988 LS 1031
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 13.7 MILES EASTERLY OF BEND.

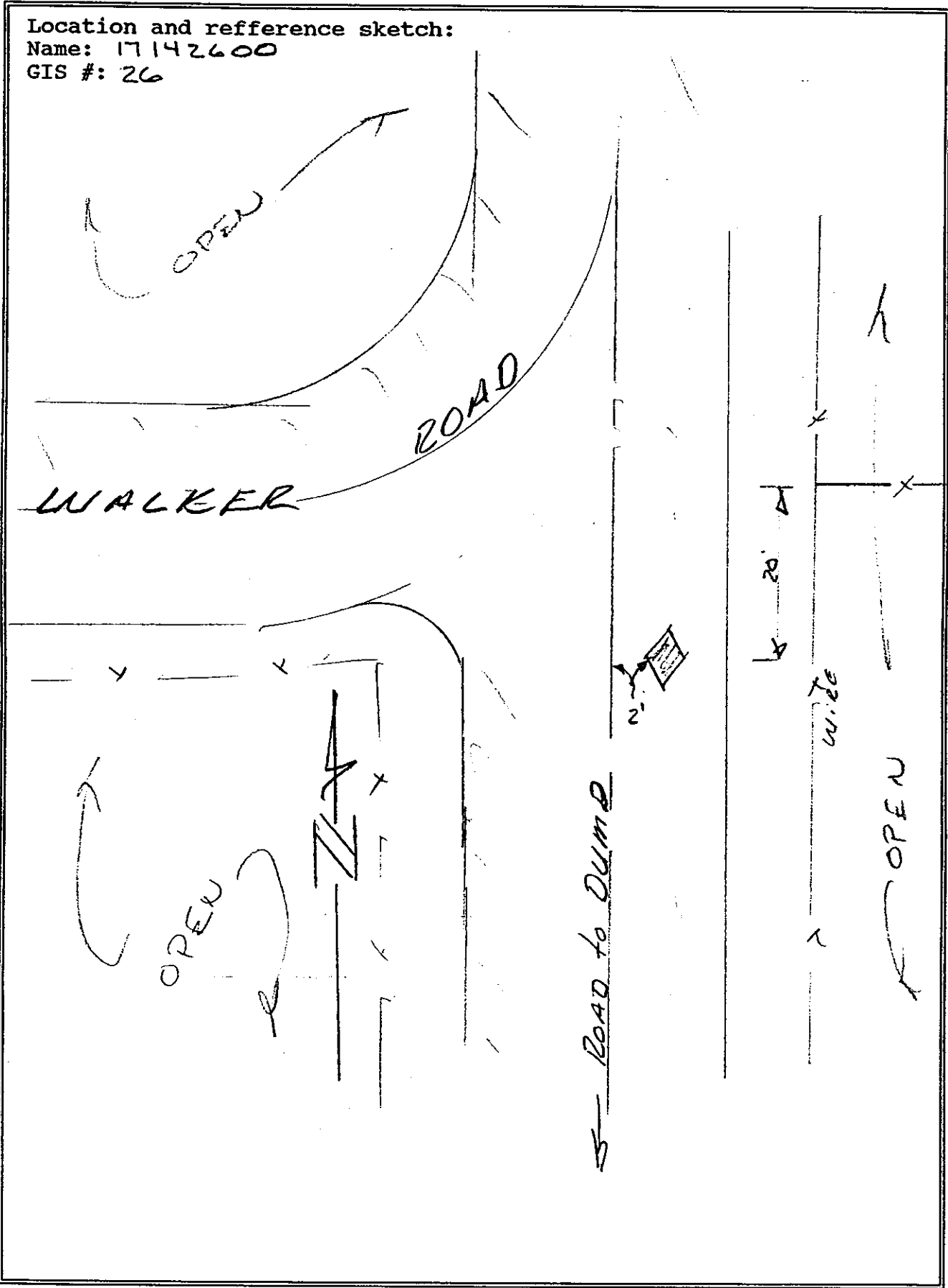
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 4.25 MI., TURN LEFT ON POWELL BUTTE HWY & PROCEED NORTEAST FOR 0.6 MI., TURN RIGHT ON ALFALFA MARKET RD. & PROCEED EASTERLY FOR 9.40 MILES, TURN RIGHT ON RIGHT ON WALKER ROAD AND PROCEED SOUTH FOR 1.0 MILES TO THE STATION IN A WATER VALVE BOX IN THE CENTER OF THE PAVED ROAD.

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK ON AN IRON PIPE IN A MASS OF CONCRETE 1.2 FEET BELOW ROAD SURFACE IN A WATER VALVE BOX. 9 FEET WEST OF THE EAST EDGE OF PAVEMENT.

Location and reference sketch:

Name: 17142600

GIS #: 26

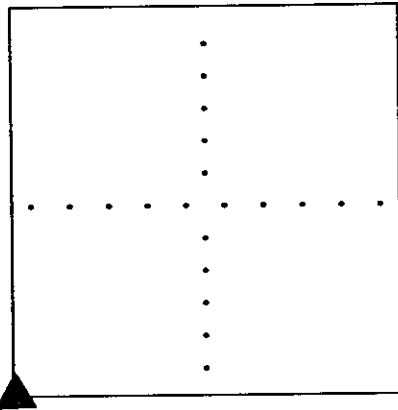


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: 15131400
GIS # 0027
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 15 S.- R. 13 E., SEC.14

LATITUDE: 44° 15' 43.38638" N
LONGITUDE: 121° 08' 54.90615" W

----- EC CARTESIAN -----
X: -2366902.275 METERS
Y: -3916146.775 METERS
Z: +4429625.877 METERS

----- HEIGHT -----
ELLIPSOIDAL: 909.795 METERS
NGVD 29 : 929.623 METERS
NAVD 88 : 930.725 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 288523.149±.004 METERS
EAST: 1448205.492±.004 METERS

SCALE FACTOR: 1.000077189
CONVERGENCE: - 0° 26' 37.42 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - T 15 S R 13 E 15|14 22|23 LS 1031 1988
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 1.4 MILE EASTERLY OF REDMOND.

TO REACH THE STATION FROM REDMOND, START AT THE INTERSECTION OF US HWY 97 (5th ST.) & OR.HWY 126 (EVERGREEN AV.), PROCEED EAST ON HWY 126 FOR 1.55 MI., TURN RIGHT AT THE ENTRANCE TO THE US FOREST REDMOND AIR CENTER & PROCEED SOUTH 85 FEET TO A 10 FOOT WIDE PATH ,,,,,, TURN RIGHT AND PROCEED WESTERLY FOR 115 FEET TO THE STATION FEET TO THE (NORTH) RIGHT.

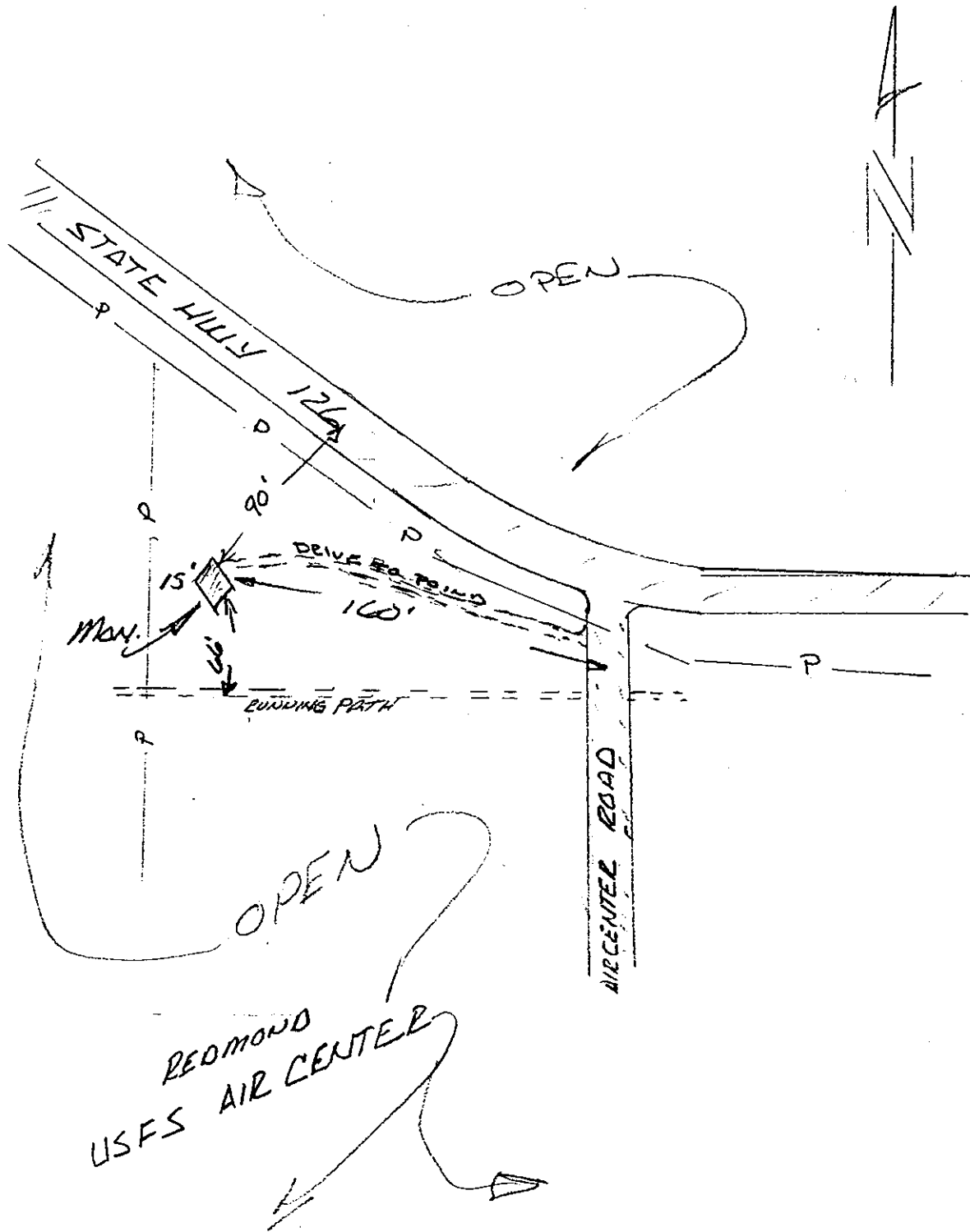
THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 70 FEET SOUTH OF THE SOUTH EDGE OF US HWY 126. 115 FEET WEST OF A ENTRANCE ROAD TO FOREST SERVICE AIR CENTER. 75 FEET NORTH OF 10 FOOT JOGGING PATH.

DESCHUTES COUNTY SURVEYOR'S OFFICE
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Bend, Oregon. 97702
(503) 383-4395

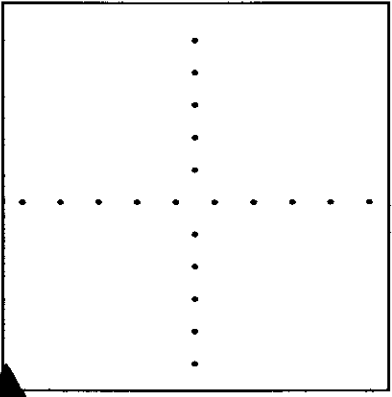
Location and reference sketch:

Name: 1513 1400

GIS #: 27



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: 14132500 GIS # 0028 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 14 S.- R. 13 E., SEC.25</p>	LATITUDE: 44° 19' 12.05242" N LONGITUDE: 121° 07' 42.32390" W ----- EC CARTESIAN ----- X: -2363188.095 METERS Y: -3913111.349 METERS Z: +4434216.778 METERS ----- HEIGHT ----- ELLIPSOIDAL: 881.130 METERS NGVD 29 : 900.930 METERS NAVD 88 : 902.032 METERS ----- SPC -- OREGON SOUTH ----- NORTH: 294951.958±.004 METERS EAST: 1449863.865±.004 METERS SCALE FACTOR: 1.000097128 CONVERGENCE: - 0° 25' 47.76 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - T 14 S R 13 E 26|25 35|36 LS 1031 1988
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 3.9 MILE NORTHEAST OF REDMOND.

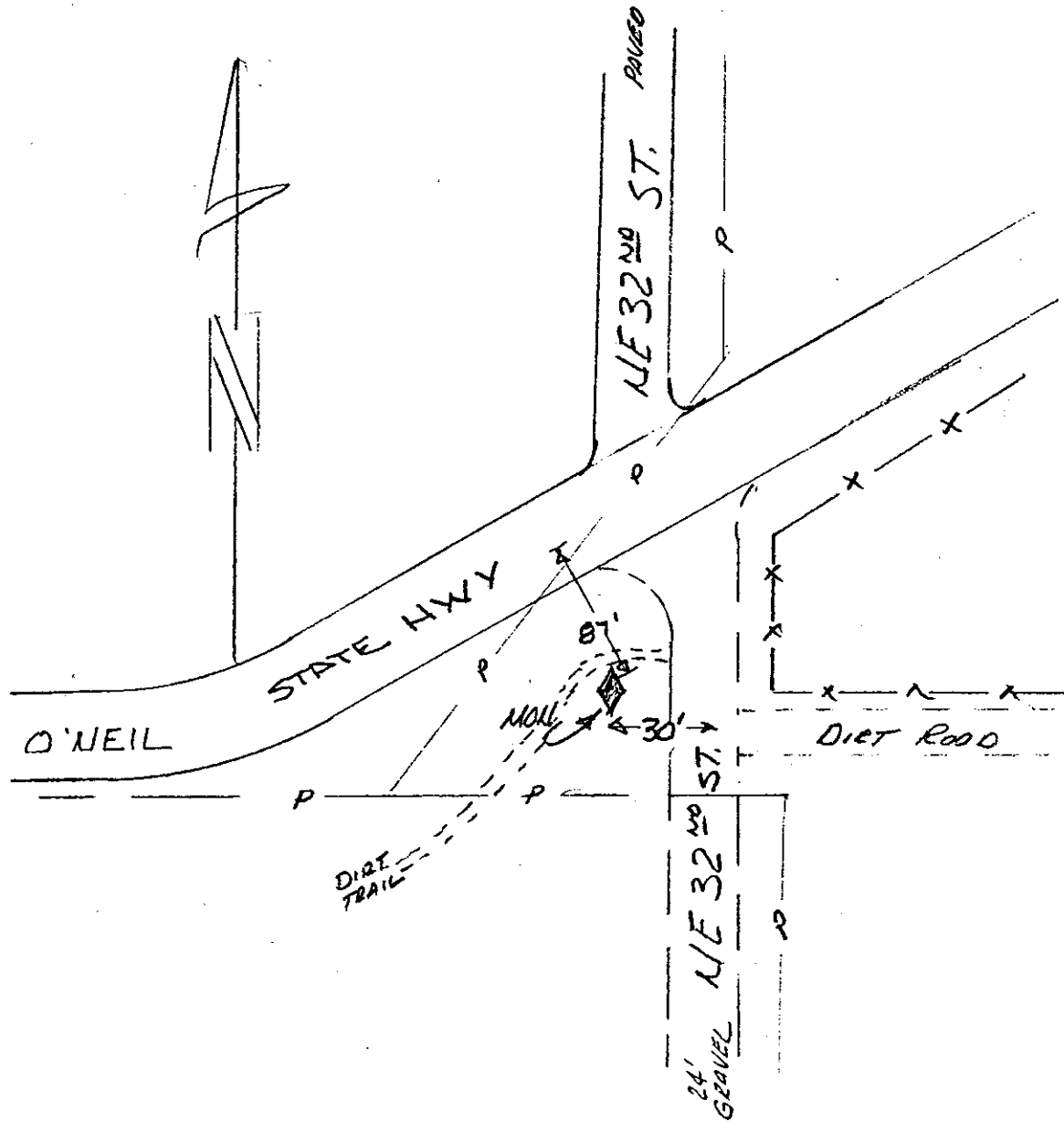
 TO REACH THE STATION FROM REDMOND, START AT THE INTERSECTION OF US HWY 97 (5th ST.) & OR.HWY 126 (EVERGREEN AV.), PROCEED NORTH ON HWY 97 FOR 2.77 MI., TURN RIGHT O'NEIL HWY. AND PROCEED EASTERLY FOR 2.61 MILES, TURN RIGHT ON NE 33rd STREET AND PROCEED SOUTH FOR 100 FEET TO THE STATION ON THE RIGHT.

 THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL. 70 FEET SOUTH OF THE SOUTH EDGE OF O'NEIL HWY. 15 FEET WEST OF THE WEST EDGE OF NE 33rd STREETD.

Location and reference sketch:

Name: 14132500

GIS #: 28

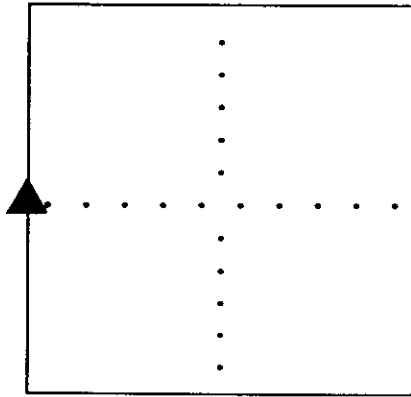


DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: 16120840
GIS # 0029
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 16 S.- R. 12 E., SEC.08

LATITUDE: 44° 12' 11.92836" N
LONGITUDE: 121° 19' 25.72114" W

----- EC CARTESIAN -----
X: -2381250.165 METERS
Y: -3912804.381 METERS
Z: +4424976.764 METERS

----- HEIGHT -----
ELLIPSOIDAL: 950.102 METERS
NGVD 29 : 970.064 METERS
NAVD 88 : 971.198 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 282119.218±.003 METERS
EAST: 1434148.514±.003 METERS

SCALE FACTOR: 1.000058043
CONVERGENCE: - 0° 33' 48.99 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - T 16 S R 12 E 1/4 7|8 LS 1034
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 10.0 MILES NORTHWESTERY OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED NORTH ON HWY 97 FOR 2.50 MI., TURN LEFT (TAKE HWY 20 OVERPASS) WESTERLY FOR 3.8 MI. TO CLINE FALLS HWY (IN TUMALO), TURN RIGHT & PROCEED NORTH FOR 3.75 MILES TO A CURVE TO THE RIGHT, CONTINUE STRAIGHT AHEAD FOR 0.42 MI. ON BECKER ROAD TO THE STATION IN THE CENTER OF THE INTERSECTION WITH BARR ROAD.

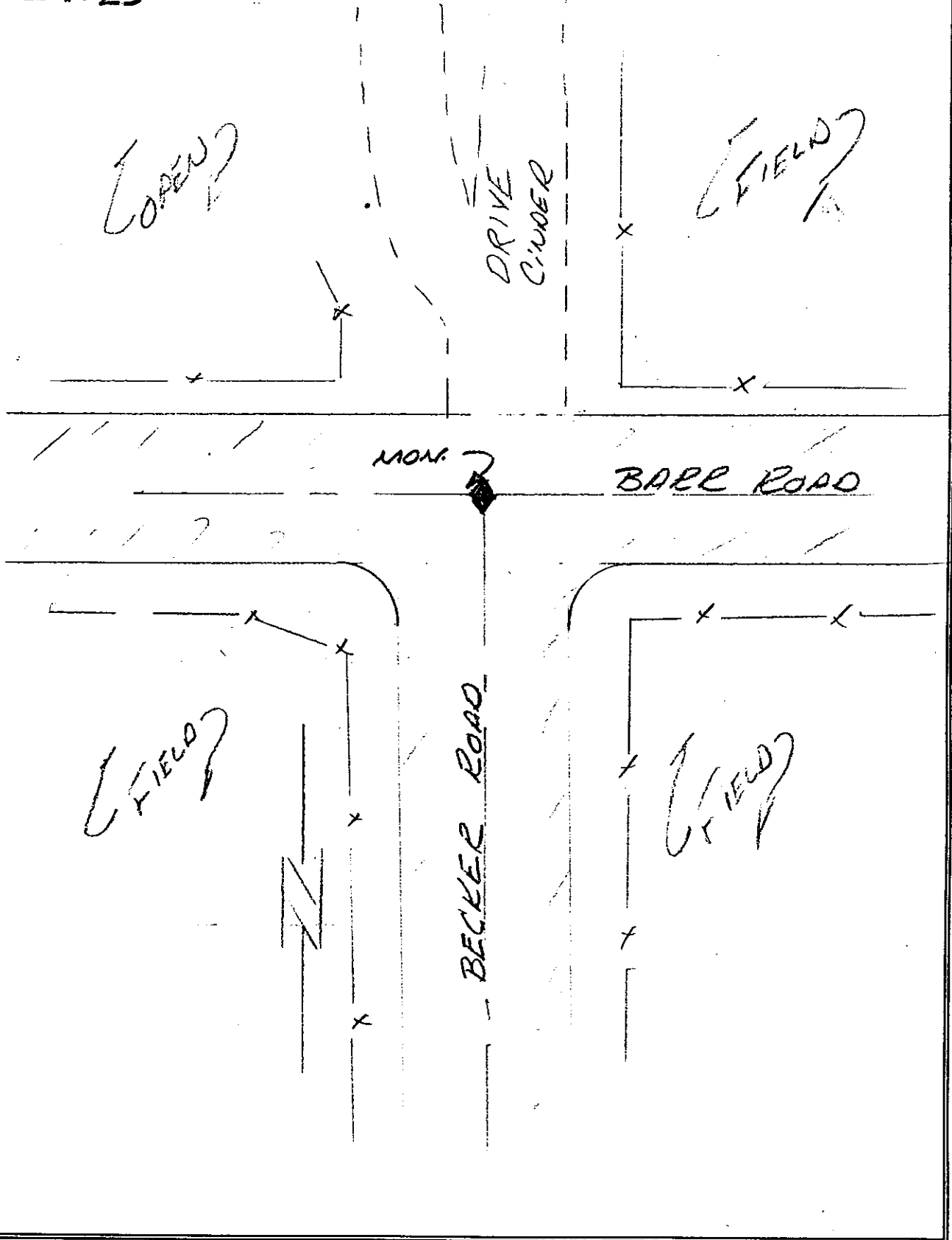
THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN GROUT ATTACHED TO A 5/8 IN. BAR, DISK IS 0.1 FOOT BELOW PAVED ROAD SURFACE.
10 FEET SOUTH OF THE NORTH EDGE OF BARR ROAD.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

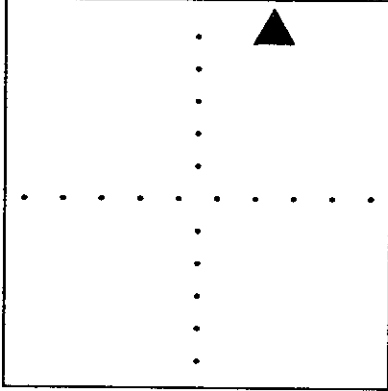
Location and reference sketch:

Name: 16120840

GIS #: 29



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: E 30 RESET 1969 GIS # 0030 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 16 S.- R. 12 E., SEC.26</p>	<p>LATITUDE: 44° 09' 44.11872" N LONGITUDE: 121° 15' 05.57057" W</p> <p>----- EC CARTESIAN ----- X: -2377973.905 METERS Y: -3918541.092 METERS Z: +4421724.853 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 979.148 METERS NGVD 29 : 998.970 METERS NAVD 88 : 1000.107 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 277502.617±.003 METERS EAST: 1439883.846±.003 METERS</p> <p>SCALE FACTOR: 1.000045293 CONVERGENCE: - 0° 30' 51.01 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - E 30 RESET 1969
AGENCY INSCRIPTION - US COST & GEODITIC SURVEY
THE STATION IS LOCATED ABOUT 7.8 MILES NORTHERLY OF BEND.

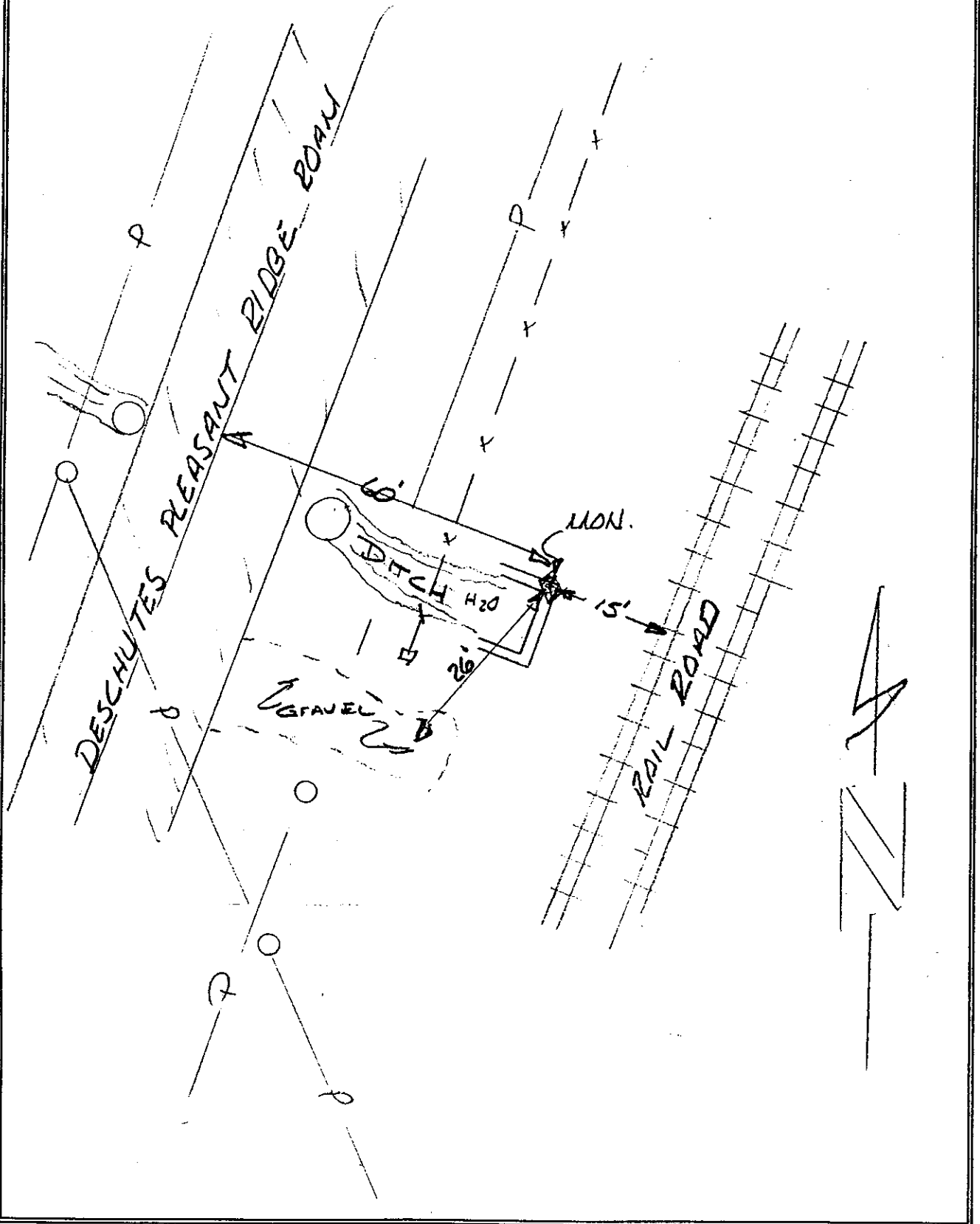
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED NORTH ON HWY 97 FOR 7.47 MI., TURN RIGHT AT DESCHUTES JUNCTION AND PROCEED EAST FOR 0.24 MI., TURN LEFT ON PLEASANT RIDGE ROAD AND PROCEED NORTH FOR 0.27 FEET TO THE STATION ON THE RIGHT WHERE A IRRIGATION DITCH PASSES UNDER THE ROAD

THE STATION MARK IS A 3 1/2 IN. STANDARD US GEODETIC SURVEY BRASS DISK IN GROUT IN THE NORTHEAST CORNER OF A CONCRETE IRRIGATION SIPHON HEADWALL THAT IS 16 FEET WEST OF THE CENTER OF THE WESTERLY SET OF RAILROAD TRACKS.

Location and reference sketch:

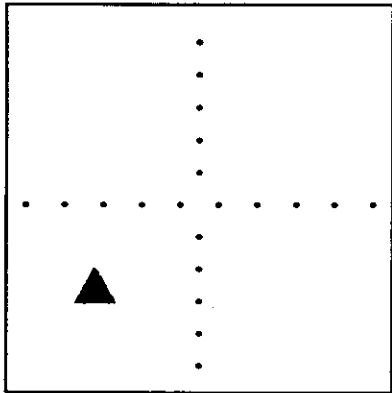
Name: E-20 RESET 1969

GIS #: 30



DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: CLINE 1971 GIS # 0032 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 15 S.- R. 12 E., SEC.21</p>	<p>LATITUDE: 44° 15' 11.46185" N LONGITUDE: 121° 18' 10.51745" W</p> <p>----- EC CARTESIAN ----- X: -2377918.546 METERS Y: -3910539.733 METERS Z: +4429142.583 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1228.705 METERS NGVD 29 : 1248.708 METERS NAVD 88 : 1249.822 METERS</p> <p>---- SPC -- OREGON SOUTH ---- NORTH: 287644.547±.003 METERS EAST: 1435871.431±.003 METERS</p> <p>SCALE FACTOR: 1.000074230 CONVERGENCE: - 0° 32' 57.54 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - CLINE 1971
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 13.0 MILES NORTH OF BEND.

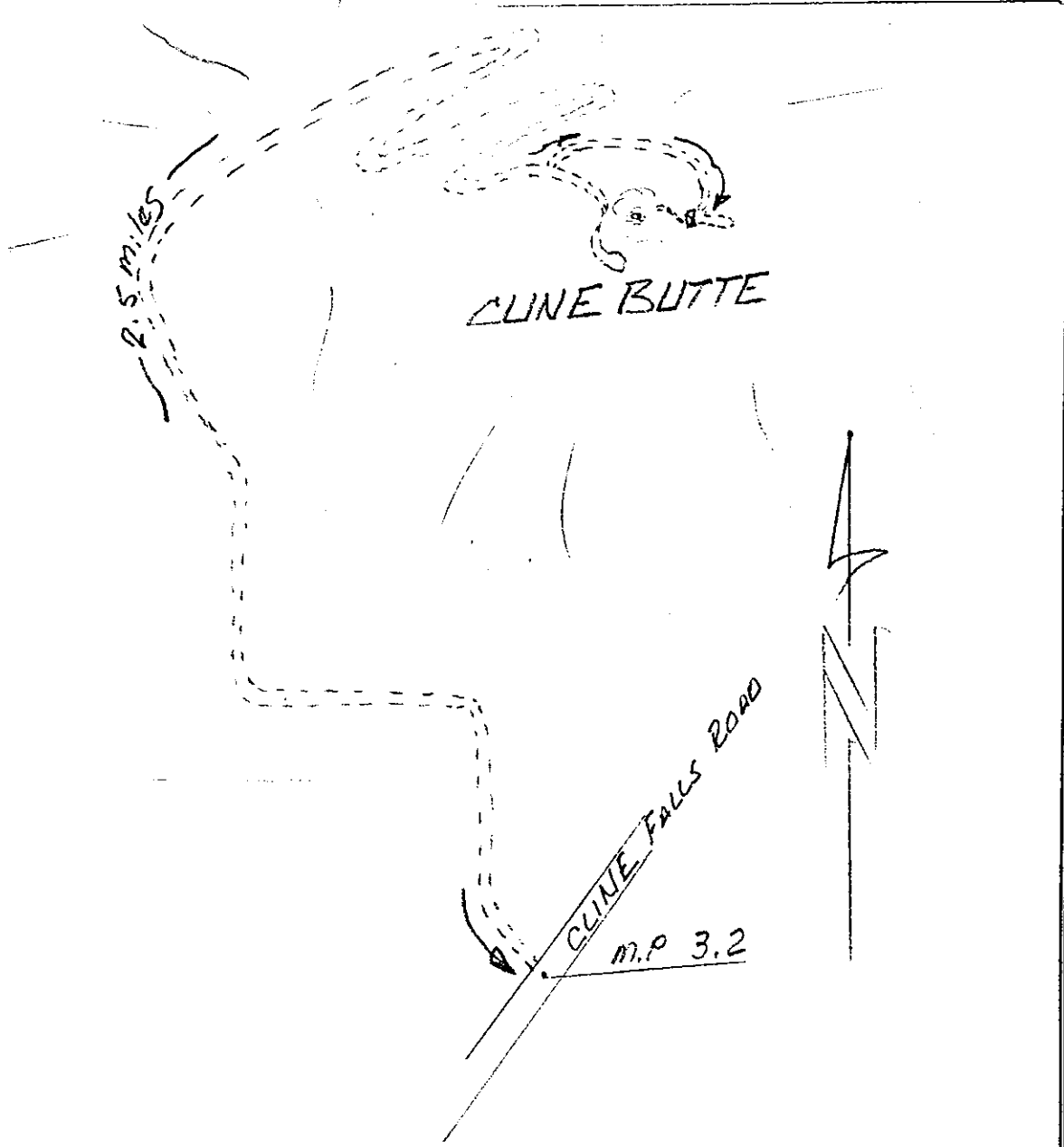
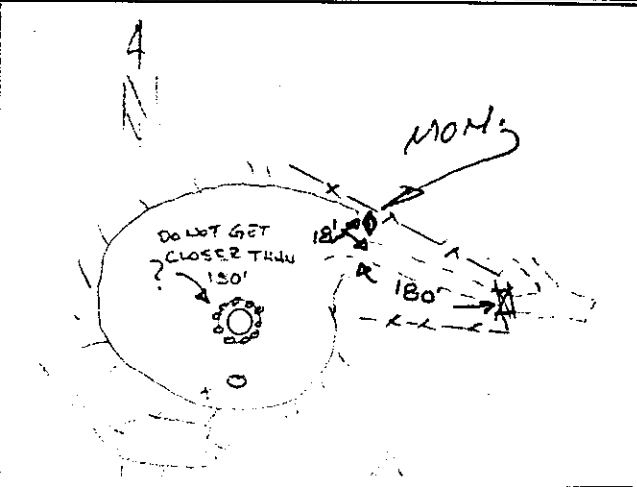
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED NORTH ON HWY 97 FOR 2.50 MI., TURN LEFT (TAKE HWY 20 OVERPASS) WESTERLY FOR 3.8 MI. TO CLINE FALLS HWY (IN TUMALO), TURN RIGHT & PROCEED NORTH FOR 6.9 MILES TO A SIDE ROAD ON THE LEFT AND A WIRE GATE. TURN AND PROCEED ON ROAD TO TOP OF CLINE BUTTE FOR 2.6 MI TO A STEEL PIPE GATE. WALK UP ROAD FOR 400 FEET TO STATION ON RIGHT.

THE STATION MARK IS A 3 1/2 IN. STANDARD DISK GROUTED IN BEDROCK AT GROUND LEVEL.
24 FEET NORTH OF ROAD.

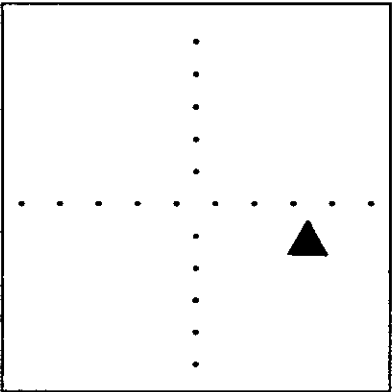
Location and reference sketch:

Name: CLINE 1971

GIS #: 32



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: C-30 1921 GIS # 0034 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 17 S.- R. 12 E., SEC.09</p>	<p>LATITUDE: 44° 06' 53.97704" N LONGITUDE: 121° 17' 27.31060" W</p> <p>----- EC CARTESIAN ----- X: -2382584.114 METERS Y: -3920061.842 METERS Z: +4417989.709 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1028.261 METERS NGVD 29 : 1048.013 METERS NAVD 88 : 1049.170 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 272280.186±.003 METERS EAST: 1436684.962±.003 METERS</p> <p>SCALE FACTOR: 1.000031262 CONVERGENCE: - 0° 32' 27.98 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - C 30 1921 ELEV. 3438.349
AGENCY INSCRIPTION - US COST & GEODITIC SURVEY
THE STATION IS LOCATED ABOUT 4.0 MILES NORTH OF BEND.

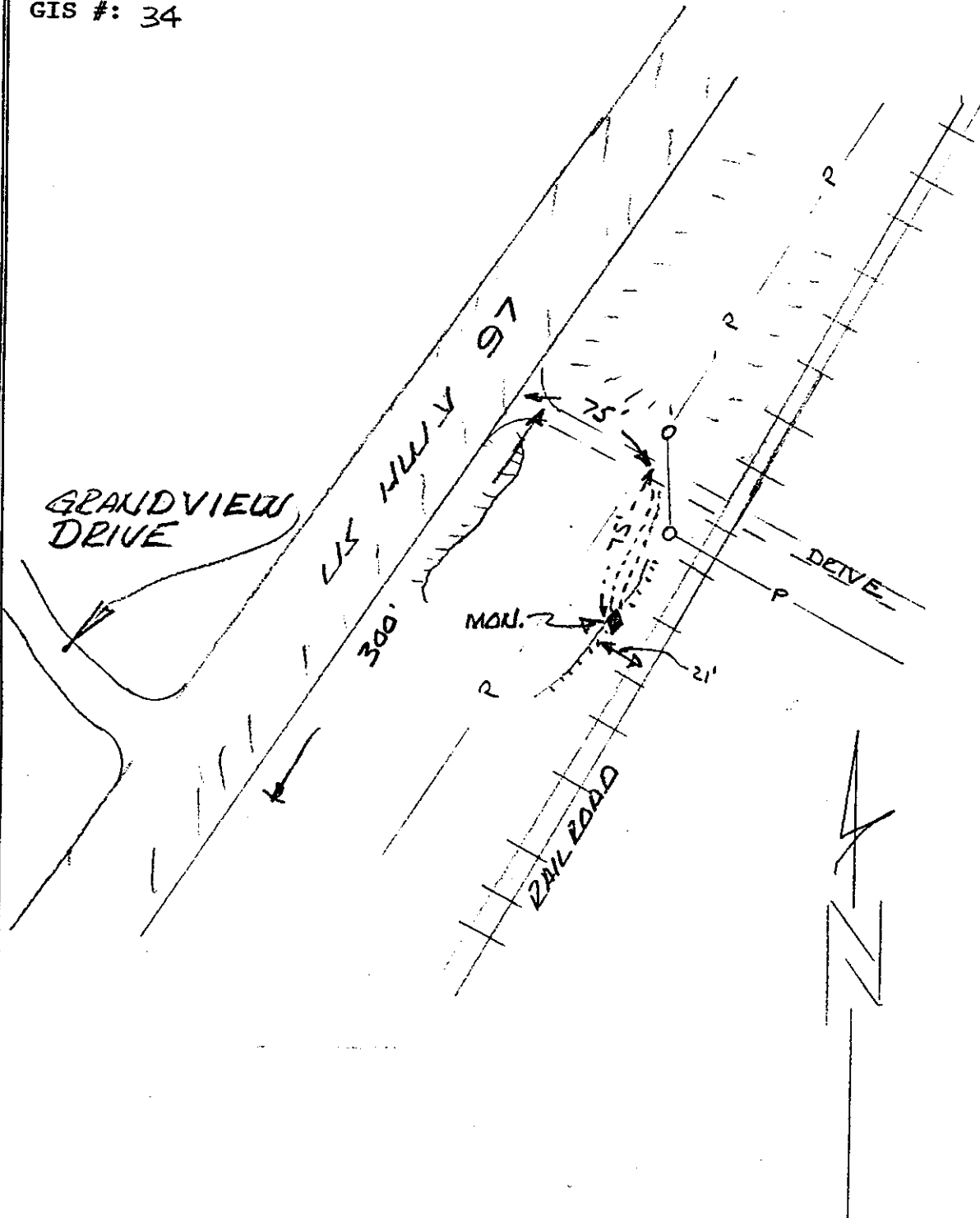
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED NORTH ON HWY 97 FOR 4.00 MI., TURN RIGHT ON A DIRT ACCESS RD. LEADS TO RAILROAD CROSSING, PROCEED EAST FOR 144 FEET, WALK SOUTH 70 FEET TO THE STATION.

THE STATION MARK IS A 3 1/2 IN. STANDARD US GEODETIC SURVEY BRASS DISK IN GROUT IN A ROCK LEDGE, 2 FEET ABOVE RAILROAD GRADE. 1 FOOT NORTH OF A WITNESS POST. 25 FEET WEST OF THE CENTER OF RAILROAD TRACKS.

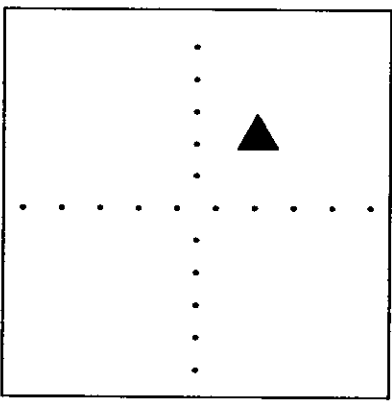
Location and reference sketch:

Name: C-30 1921

GIS #: 34



DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0035 GIS # 0035 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p style="text-align: center;">STATION LOCATION</p> <div style="text-align: center;"></div> <p style="text-align: center;">T. 18 S.- R. 12 E., SEC.30</p>	----- LATITUDE: 43° 59' 27.22059" N LONGITUDE: 121° 19' 54.79581" W ----- EC CARTESIAN ----- X: -2390428.171 METERS Y: -3926638.995 METERS Z: +4408180.587 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1176.031 METERS NGVD 29 : 1195.480 METERS NAVD 88 : 1196.648 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 258523.399±.003 METERS EAST: 1433268.500±.003 METERS SCALE FACTOR: 0.999997699 CONVERGENCE: - 0° 34' 08.88 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0035
AGENCY INSCRIPTION - NONE
THE STATION IS LOCATED ABOUT 5 MILE SOUTH OF BEND.

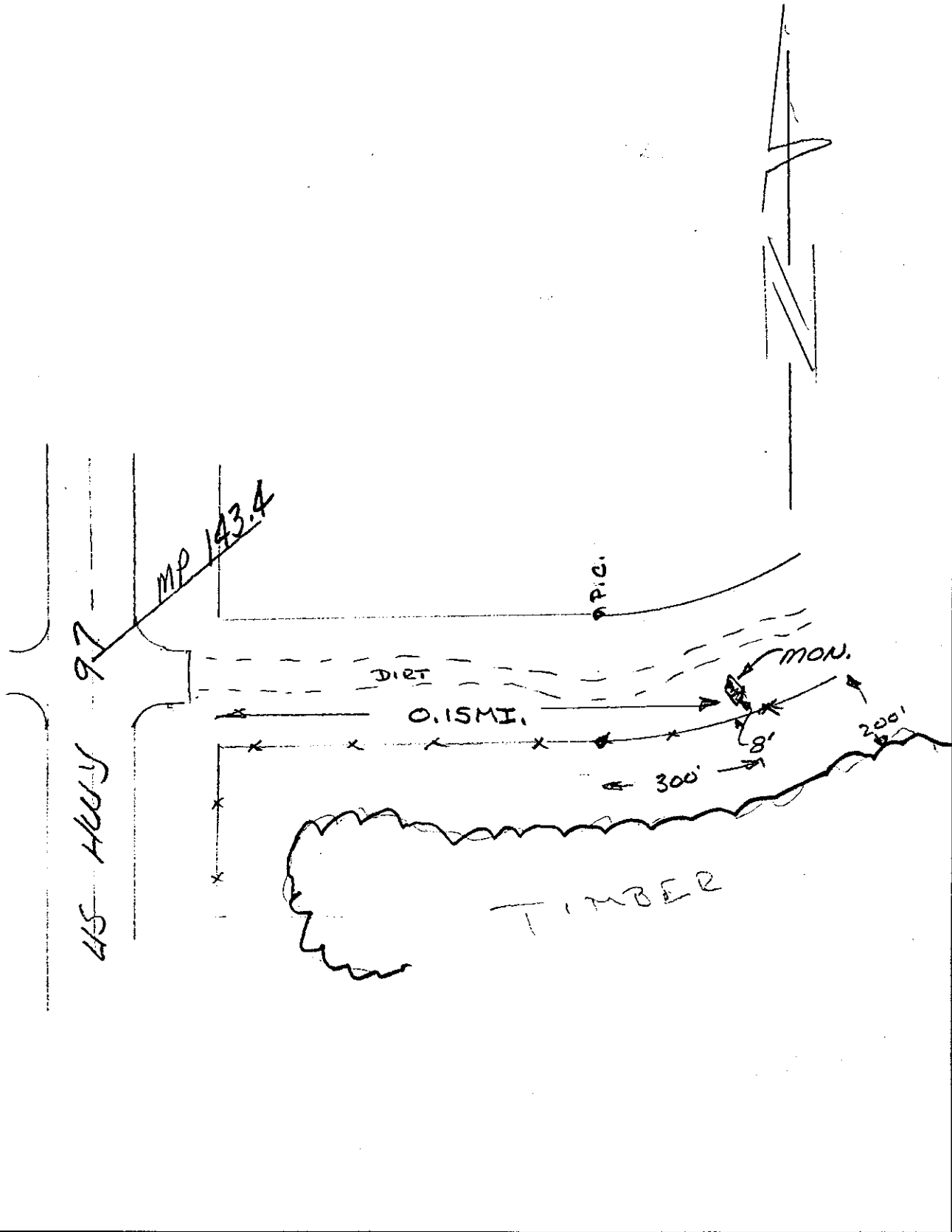
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED SOUTH ON HWY 97 FOR 5.1 MI TO THE INTERSECTION WITH BAKER ROAD, TURN LEFT ON DIRT ROAD (UNDER CONSTRUCTION FOR 10 YEARS) AND PROCEED EAST FOR 1000 FEET TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 2 IN BRASS DISK GROUTED IN A ROCK OUTCROP AT GROUND LEVEL.
8.6 FEET NORTHERLY FROM A WIRE FENCE LINE
2 FEET NORTH FROM AWITNESS POST.

Location and reference sketch:

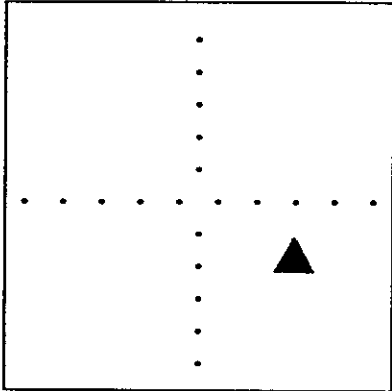
Name: GIS 35

GIS #: 35



DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0036 GIS # 0036 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 18 S.- R. 11 E., SEC.12</p>	<p>LATITUDE: 44° 01' 12.53426" N LONGITUDE: 121° 22' 09.96186" W</p> <p>----- EC CARTESIAN ----- X: -2391820.319 METERS Y: -3923135.440 METERS Z: +4410510.159 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1163.330 METERS NGVD 29 : 1182.830 METERS NAVD 88 : 1184.017 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 261804.279±.003 METERS EAST: 1430290.515±.003 METERS</p> <p>SCALE FACTOR: 1.000005183 CONVERGENCE: - 0° 35' 41.36 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0036
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 3 MILE SOUTHWEST OF BEND.

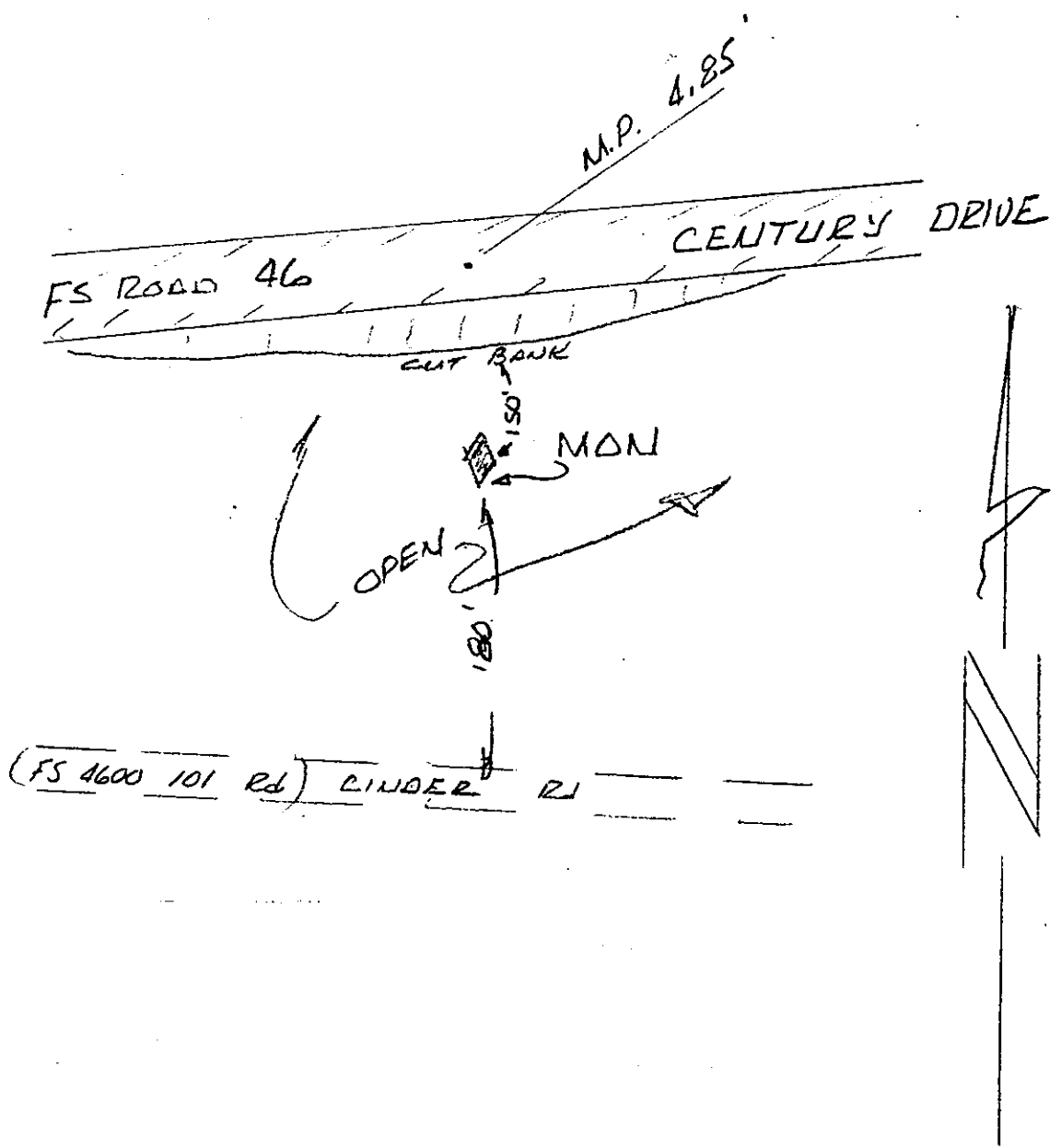
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED SOUTH ON HWY 97 0.3 MI., TURN RIGHT ON FRANKLIN AVE & PROCEED 0.6 MI., LEFT ON BOND ST. & PROCEED SOUTH 0.4 MI., TURN RIGHT ON COLORADO AVE AND PROCEED 1.10 MI. TO THE INTERSECTION WITH CENTURY DRIVE HWY., TURN LEFT AND PROCEED SOUTHERLY 2.5 MI. TO THE STATION ON THE LEFT.

THE STATION MARK IS A 2 IN. BRASS DISK CROUTRED IN A LARGE BOULDER 0.4 FEET ABOVE GROUND LEVEL.
155 FEET SOUTHEASTERLY FROM ROAD CUT LINE
2 FEET NORTHER FROM A WITNESS POST.

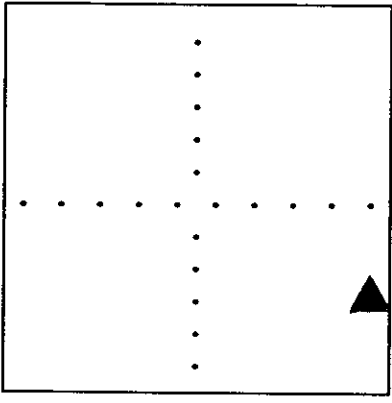
Location and reference sketch:

Name: . 015 36

GIS #: 36



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0037 GIS # 0037 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 18 S.- R. 10 E., SEC.27</p>	<p>LATITUDE: 43° 58' 57.50831" N LONGITUDE: 121° 30' 16.88130" W</p> <p align="center">----- EC CARTESIAN -----</p> <p>X: -2402737.705 METERS Y: -3920191.367 METERS Z: +4407788.395 METERS</p> <p align="center">----- HEIGHT -----</p> <p>ELLIPSOIDAL: 1561.593 METERS NGVD 29 : 1580.756 METERS NAVD 88 : 1581.973 METERS</p> <p align="center">---- SPC -- OREGON SOUTH ----</p> <p>NORTH: 257758.406±.005 METERS EAST: 1419396.495±.005 METERS</p> <p>SCALE FACTOR: 0.999995635 CONVERGENCE: - 0° 41' 14.48 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0037
AGENCY INSCRIPTION - NONE
THE STATION IS LOCATED ABOUT 11 MILE SOUTHWEST OF BEND.

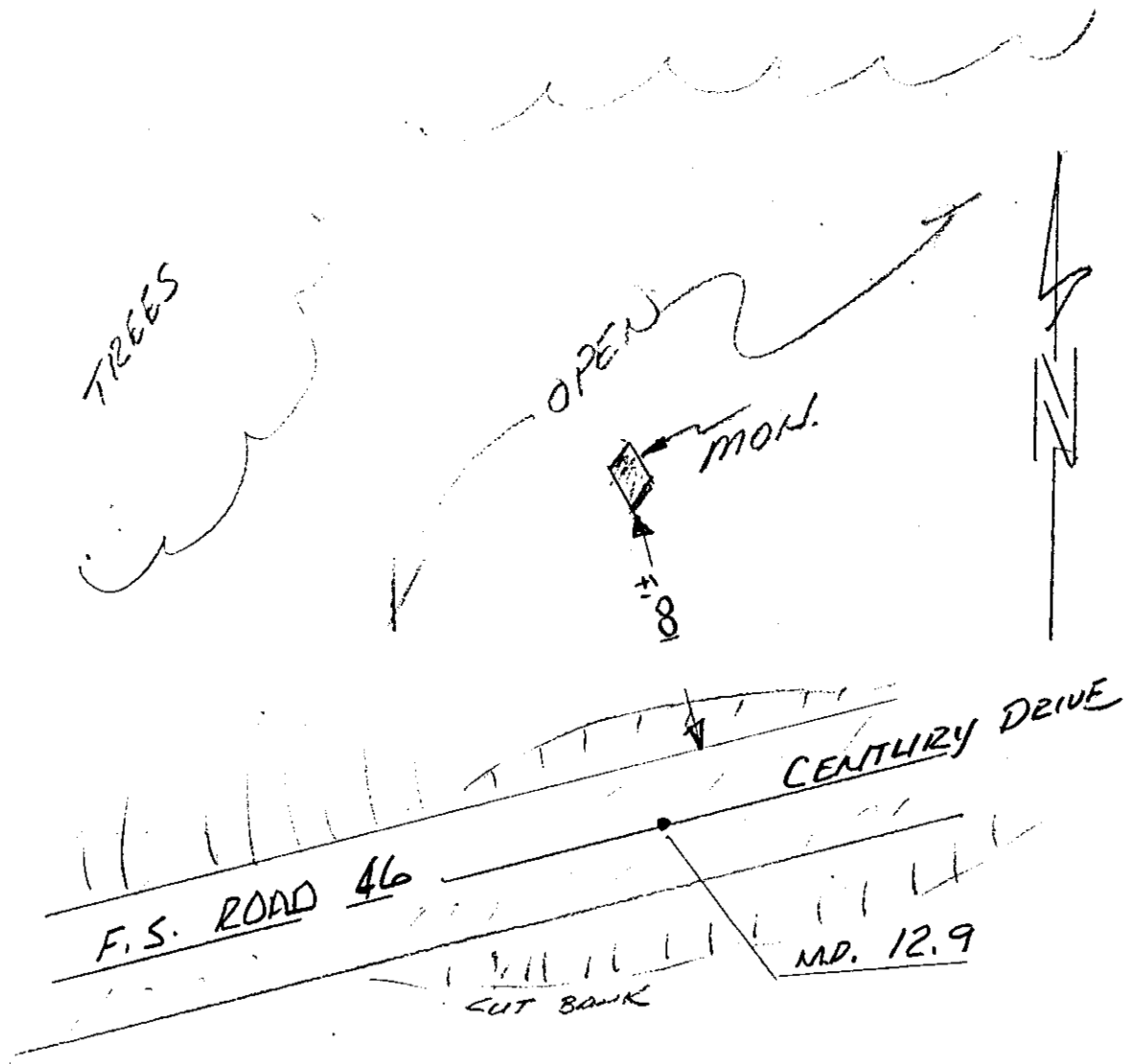
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED SOUTH ON HWY 97 0.3 MI., TURN RIGHT ON FRANKLIN AVE & PROCEED 0.6 MI., LEFT ON BOND ST. & PROCEED SOUTH 0.4 MI., TURN RIGHT ON COLORADO AVE AND PROCEED 1.10 MI. TO THE INTERSECTION WITH CENTURY DRIVE HWY., TURN LEFT AND PROCEED SOUTHERLY 10.7 MI. TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 2 IN. BRASS DISK CROUTRED IN A LARGE BOULDER 1.5 FEET ABOVE GROUND LEVEL. 100 FEET NORTHERLY FROM THE NORTH EDGE OF ROAD 2 FEET SOUTH FROM A WITNESS POST.

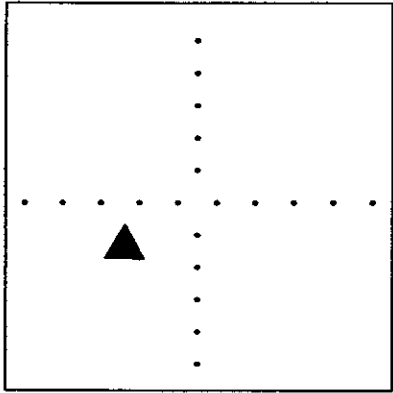
Location and reference sketch:

Name: GIS 37

GIS #: 37



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0038 GIS # 0038 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 21 S.- R. 11 E., SEC.28</p>	----- LATITUDE: 43° 43' 37.89194" N LONGITUDE: 121° 25' 24.37027" W ----- EC CARTESIAN ----- X: -2407326.925 METERS Y: -3940209.531 METERS Z: +4387126.193 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1286.037 METERS NGVD 29 : 1305.366 METERS NAVD 88 : 1306.583 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 229303.235±.006 METERS EAST: 1425601.989±.006 METERS SCALE FACTOR: 0.999942108 CONVERGENCE: - 0° 37' 54.36 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - GIS 0038 1990
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 6 MILES NORTHEREAST OF LAPINE

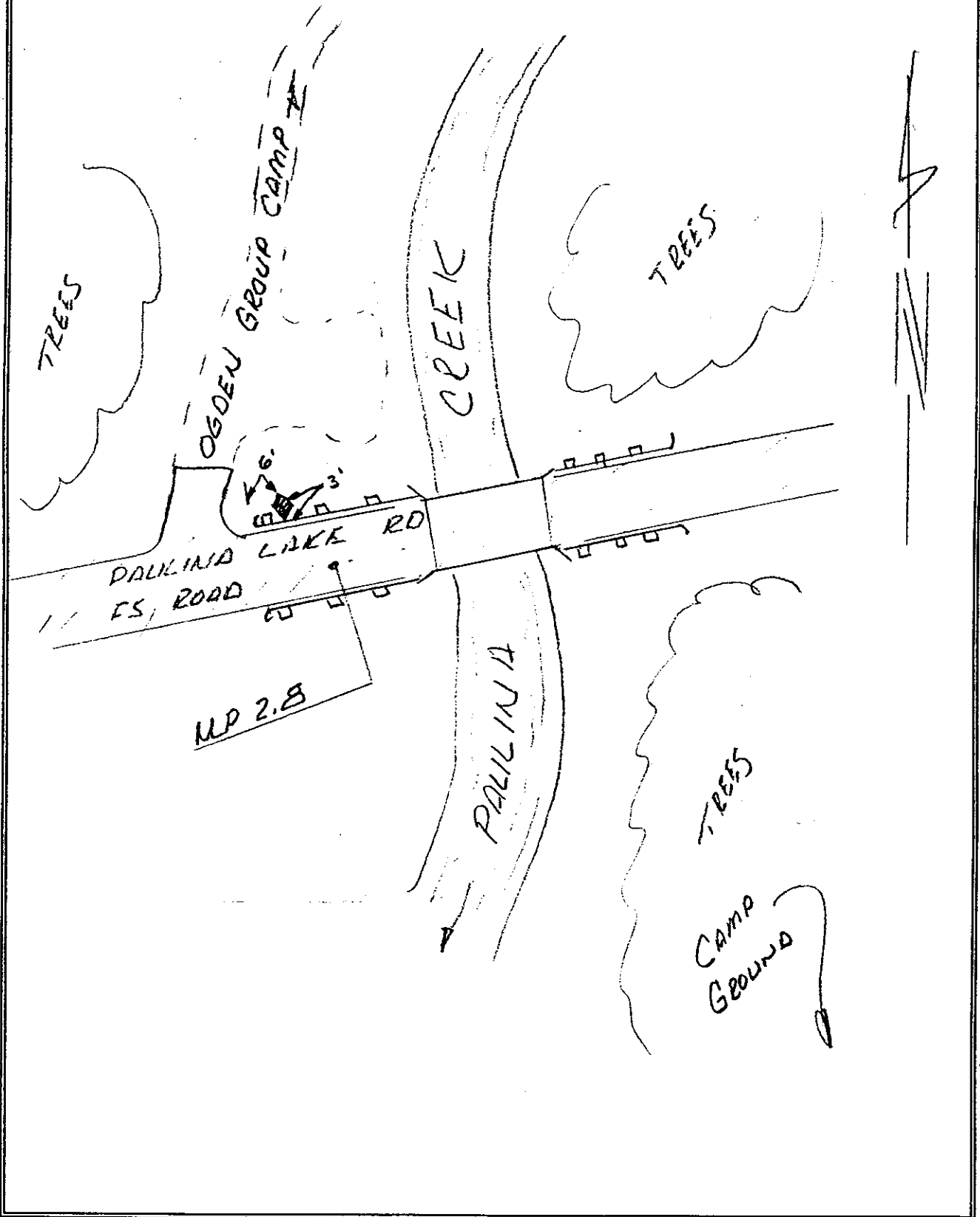
 TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 6.3 TO INTERSECTION WITH PAULINA LAKE RD. (FOREST RD. 21) TURN RIGHT AND PROCEED EASTERLY FOR 2.8 MI. TO THE BRIDGE OVER PAULINA CREEK AND TO THE STATION ON THE LEFT.

 THE STATION MARK IS A STANDARD 3 1/2 IN ALUMINUM CAP IN A MASS OF CONCRETE AT GROUND LEVEL.
 3 FEET NORTH OF NORTH GUARDRAIL
 80 FEET WEST OF PAULINA CREEK
 19 FEET EAST OF CAMP GROUND ROAD
 1 FOOT SOUTH OF A WITNESS POST.

Location and reference sketch:

Name: 61538

GIS #: 38



DESCHUTES COUNTY SURVEYOR'S OFFICE

61150 S.E. 27th. St.

Bend, Oregon. 97702

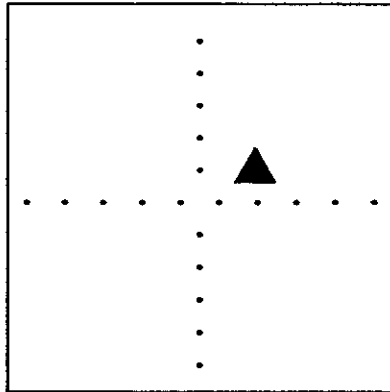
(503) 383-4395

DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0039
GIS # 0039
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



LATITUDE: 43° 44' 27.99122" N
LONGITUDE: 121° 36' 24.15555" W

----- EC CARTESIAN -----
X: -2419354.474 METERS
Y: -3931572.833 METERS
Z: +4388237.332 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1276.905 METERS
NGVD 29 : 1296.523 METERS
NAVD 88 : 1297.746 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 231028.199±.005 METERS
EAST: 1410857.491±.005 METERS

T. 21 S.- R. 09 E., SEC.23

SCALE FACTOR: 0.999944508
CONVERGENCE: - 0° 45' 25.75 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 39
AGENCY INSCRIPTION - NONE
THE STATION IS LOCATED ABOUT 7 MILES NORTHWEST OF LAPINE

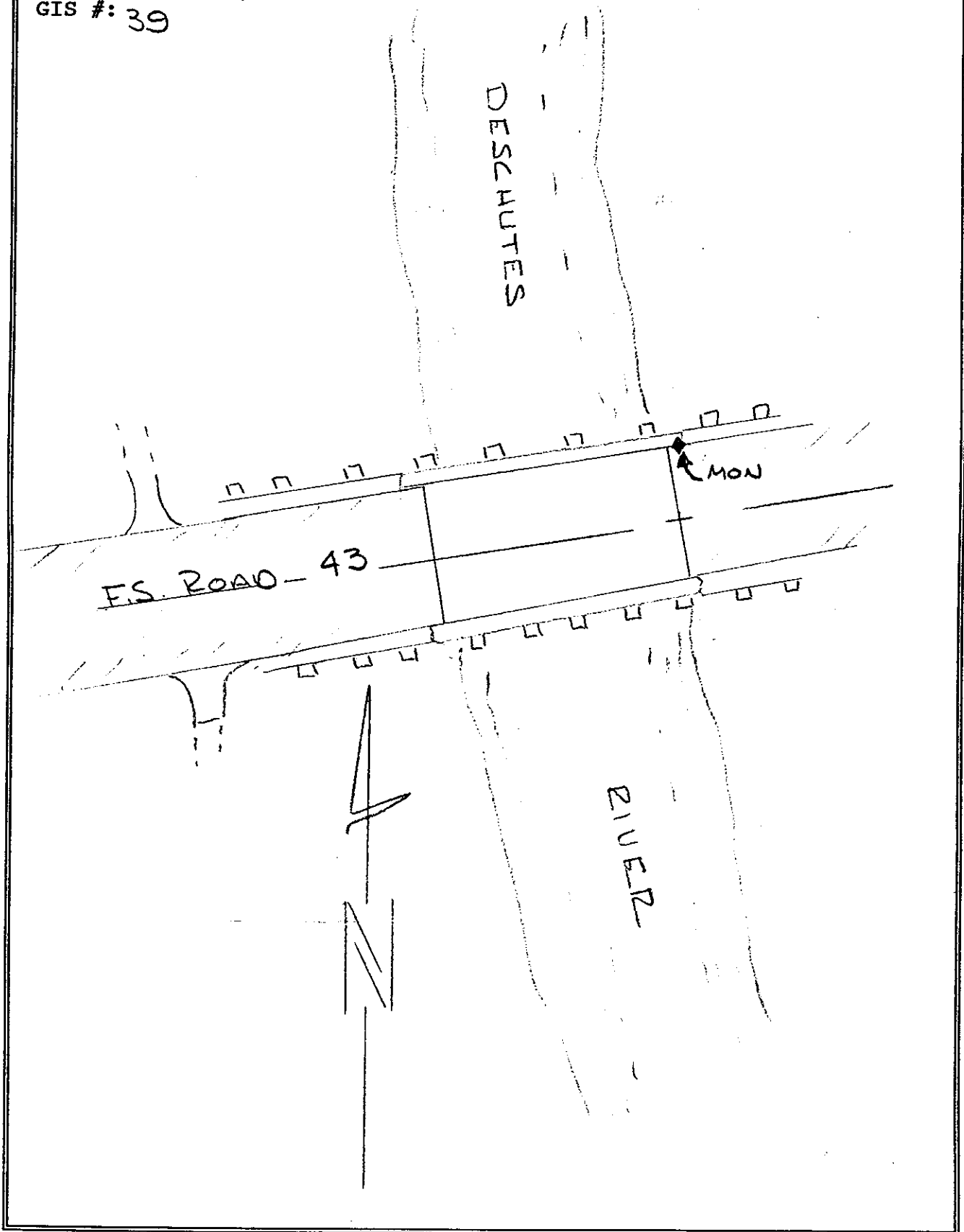
TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 2.8 TO INTERSECTION WITH BURGESS COUNTY ROAD, TURN LEFT AND PROCEED WESTERLY FOR 7.6 MI. TO THE STATION IN THE SIDEWALK IN THE NE COR. OF A BRIDGE OVER THE DESCHUTES RIVER.

THE STATION MARK IS A 2 IN. BRASS DISK GROUTED IN THE CONCRETE SIDEWALK IN THE NE BRIDGE CORNER, 8 IN ABOVE ROAD LEVEL.

Location and reference sketch:

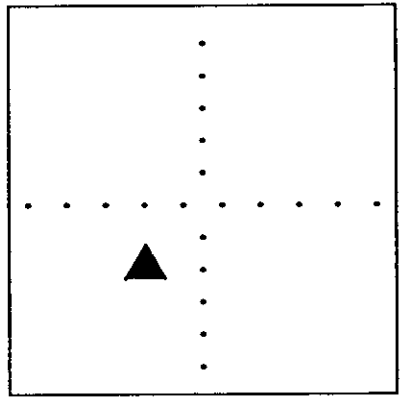
Name: GIS 39

GIS #: 39



DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0040 GIS # 0040 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 18 S.- R. 13 E., SEC.24</p>	----- LATITUDE: 43° 59' 56.97572" N LONGITUDE: 121° 06' 58.29775" W ----- EC CARTESIAN ----- X: -2375262.167 METERS Y: -3935002.092 METERS Z: +4408771.718 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1075.734 METERS NGVD 29 : 1095.145 METERS NAVD 88 : 1096.307 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 259292.162±.004 METERS EAST: 1450577.199±.003 METERS SCALE FACTOR: 0.999999787 CONVERGENCE: - 0° 25' 17.64 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - GIS 0040 1990
 AGENCY INSCRIPTION - NONE
 THE STATION IS LOCATED ABOUT 10.0 MILES EASTERLY OF BEND.

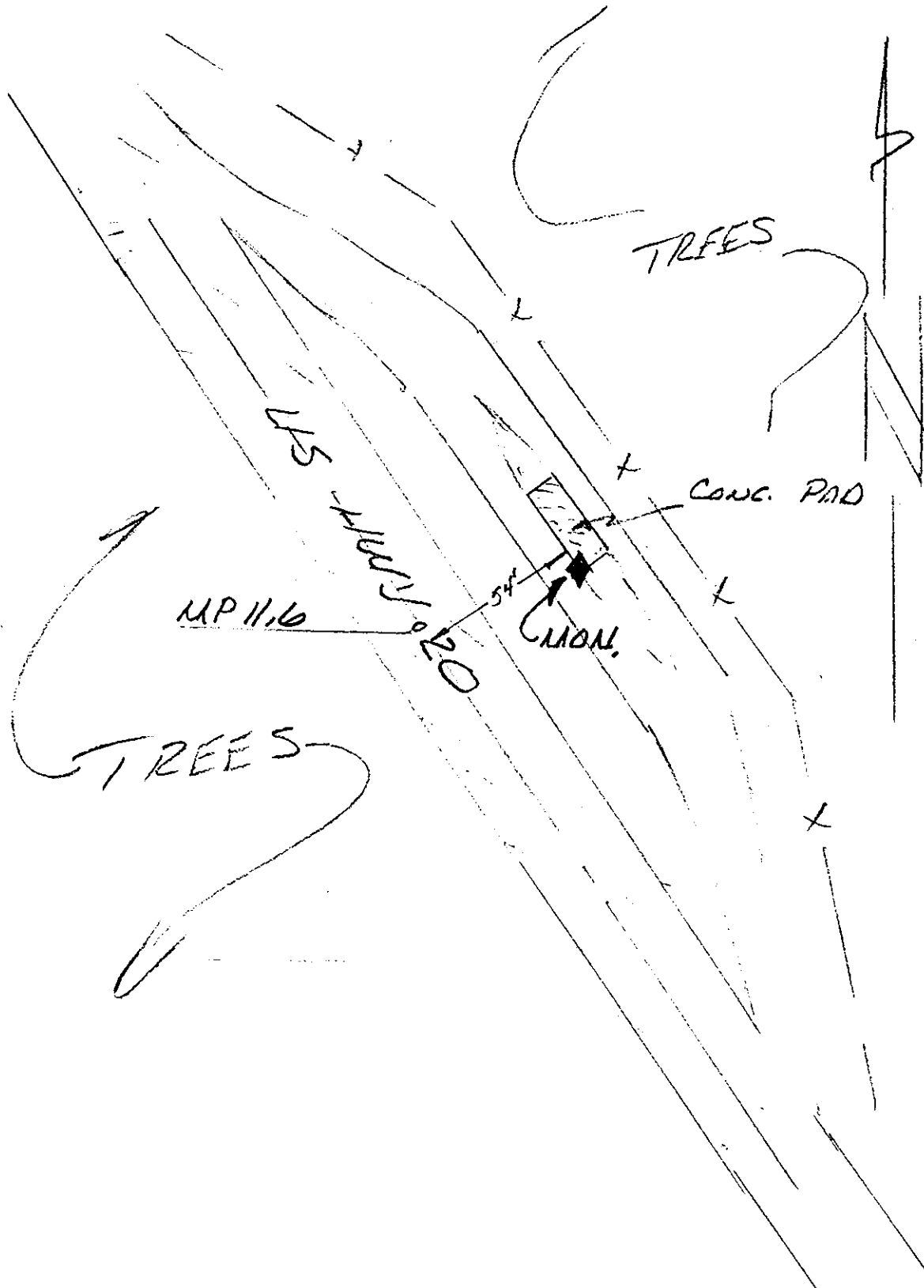
 TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 11.2 MI. TO THE STATION ON THE LEFT.

 THE STATION MARK IS A 2 IN. BRASS CAP GROUTED IN CONCRETE AT THE SW CORNER OF A STATE HWY CONCRETE JUMP SCALE PAD AT GROUND LEVEL.
 54 FEET NORTHEAST FROM THE CENTERLINE OF HWY 20.
 30 FEET SOUTHWEST OF A WITNESS POST.

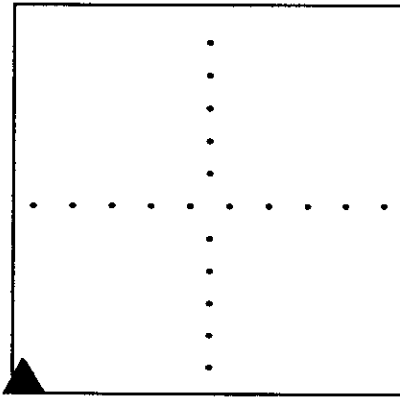
Location and reference sketch:

Name: GIS 40

GIS #: 40



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0041 GIS # 0041 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 20 S.- R. 10 E., SEC.01</p>	<p>LATITUDE: 43° 51' 45.73754" N LONGITUDE: 121° 29' 13.45441" W</p> <p>----- EC CARTESIAN ----- X: -2406256.590 METERS Y: -3928643.565 METERS Z: +4397994.224 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1282.693 METERS NGVD 29 : 1302.064 METERS NAVD 88 : 1303.289 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 244416.557±.005 METERS EAST: 1420652.861±.005 METERS</p> <p>SCALE FACTOR: 0.999968007 CONVERGENCE: - 0° 40' 31.09 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0041 1990
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 13.5 MILES NORTHERLY OF LAPINE

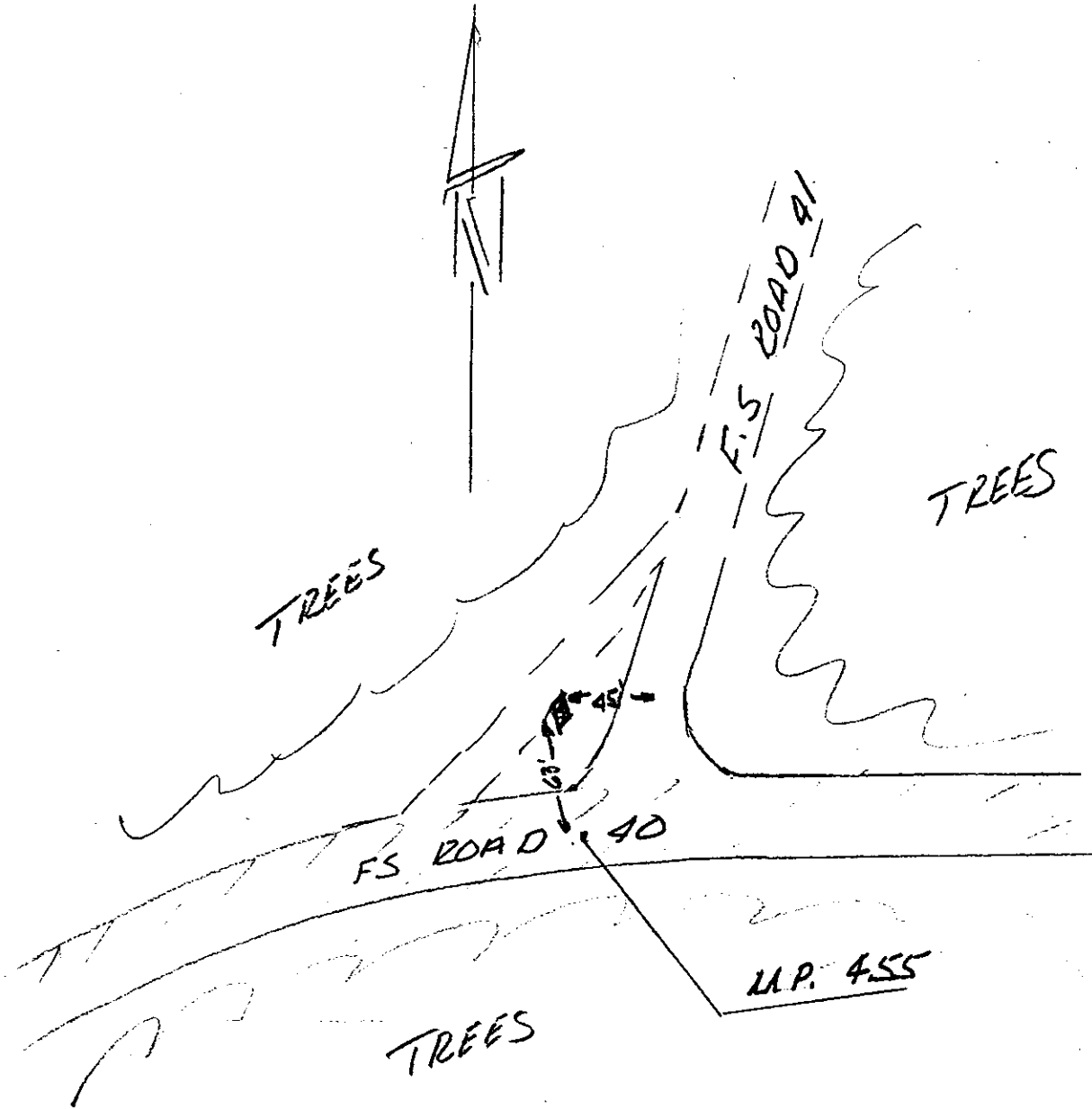
TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 12.5 MI TO INTERSECTION WITH VANDERVERT ROAD, TURN LEFT ON VANDERVERT ROAD AND PROCEED WEST FOR 1.0 MI. TO THE INTERSECTION WITH SOUTH CENTURY DRIVE, TRUN RIGHT ON SOUTH CENTURY DRIVE AND PROCEED NORTH FOR 2.0 MI. TO THE INTERSECTION WITH SPRING RIVER ROAD. TURN LEFT AND PROCEED WEST ON SPRING RIVER ROAD FOR 2.33 MI. TO THE STATION AT THE INTERSECTION WITH FOREST ROAD 41.

THE STATION MARK IS A 3 1/2 IN. DISK IN A MASS OF CONCRETE AT GROUND LEVEL.
50 FEET NORTH OF THE NORTH EDGE SPRING RIVER ROAD
33 FEET WEST OF THE WEST EDGE OF ROAD 41
1 FOOT SOUTH FROM A WITNESS POST.

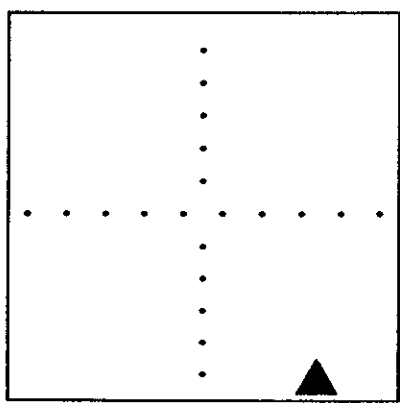
Location and reference sketch:

Name: GIS 0041

GIS #: 41



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0042 GIS # 0042 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 20 S.- R. 09 E., SEC.18</p>	----- LATITUDE: 43° 50' 14.63685" N LONGITUDE: 121° 41' 16.16163" W ----- EC CARTESIAN ----- X: -2421087.211 METERS Y: -3921938.456 METERS Z: +4396070.144 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1432.856 METERS NGVD 29 : 1452.372 METERS NAVD 88 : 1453.659 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 241814.777±.007 METERS EAST: 1404476.227±.005 METERS SCALE FACTOR: 0.999962743 CONVERGENCE: - 0° 48' 45.52 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
 MARK IS STAMPED - GIS 0042 1990
 AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
 THE STATION IS LOCATED ABOUT 15 MILES NORTHWEST OF LAPINE

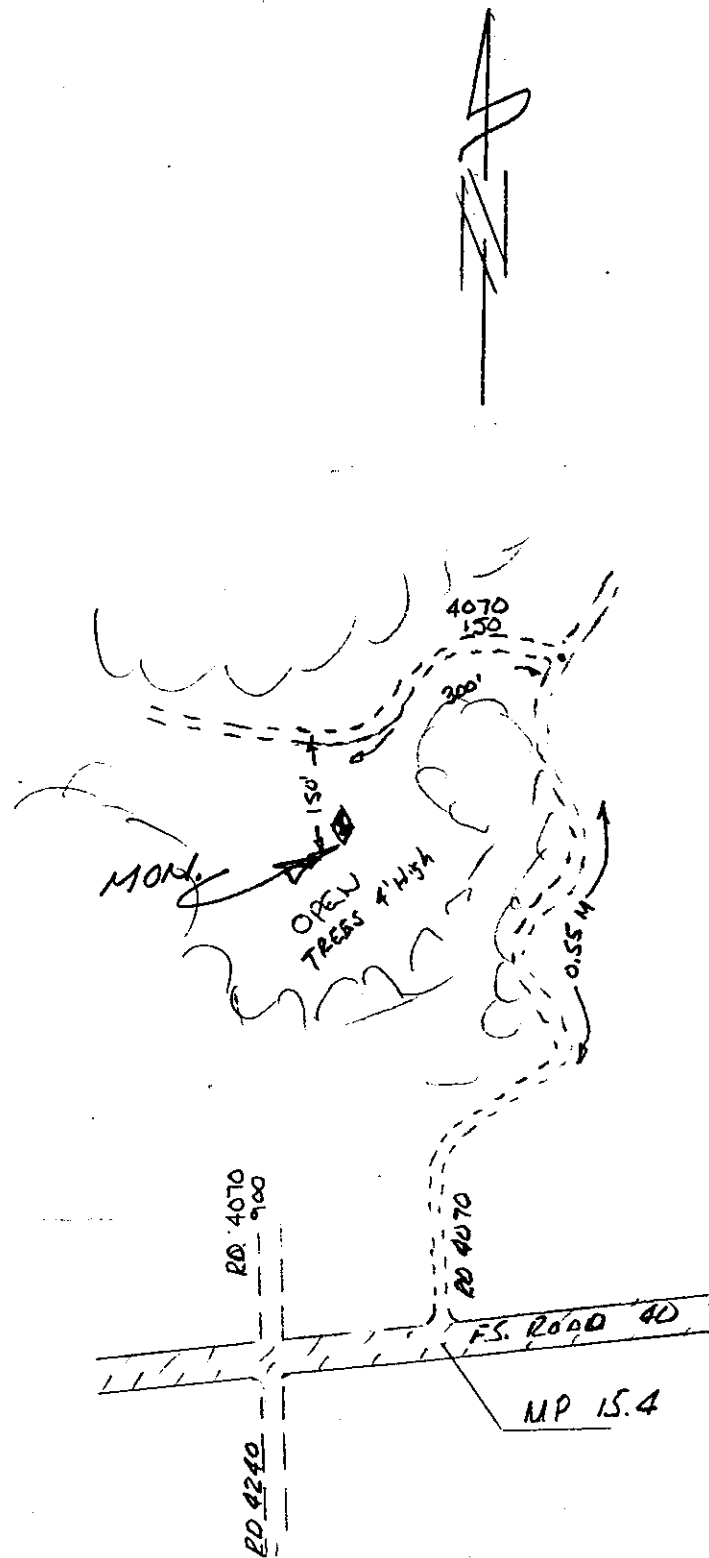
TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 12.5 MI TO INTERSECTION WITH VANDERVERT ROAD, TURN LEFT ON VANDERVERT ROAD AND PROCEED WEST FOR 1.0 MI. TO THE INTERSECTION WITH SOUTH CENTURY DRIVE, TRUN RIGHT ON SOUTH CENTURY DRIVE AND PROCEED NORTH FOR 2.0 MI. TO THE INTERSECTION WITH SPRING RIVER ROAD. TURN LEFT AND PROCEED WEST ON SPRING RIVER ROAD (2.33 MI. NOW FOREST ROAD 40) FOR 13.3 MI. TO ROAD 4070, TURN LEFT ON RD. 4070 AND PROCEED NORTH 0.58 MI. TO ROAD 4070-150, TURN LEFT AND PROCEED FOR 0.07 MI. THE STATION ON THE LEFT IN A CLEARING.

THE STATION MARK IS A 3 1/2 IN. DISK IN A MASS OF CONCRETE AT GROUND LEVEL.
 150 FEET SOUTH OF ROAD 4070-150
 1 FOOT NORTH OF A WITNESS POST.

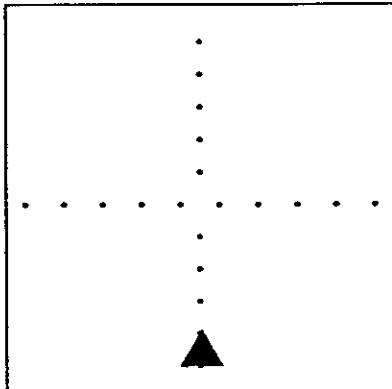
Location and reference sketch:

Name: GIS 42

GIS #: 42



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0043 GIS # 0043 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 18 S.- R. 13 E., SEC. 3</p>	<p>LATITUDE: 44° 02' 14.18867" N LONGITUDE: 121° 09' 11.29598" W</p> <p>----- EC CARTESIAN ----- X: -2376271.397 METERS Y: -3930942.789 METERS Z: +4411808.635 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1062.666 METERS NGVD 29 : 1082.159 METERS NAVD 88 : 1083.318 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 263549.533±.003 METERS EAST: 1447647.137±.003 METERS</p> <p>SCALE FACTOR: 1.000009687 CONVERGENCE: - 0° 26' 48.63 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0043 1988 LS 1031
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 4.0 MILES EASTERLY OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 2.04 MI. TO THE INTERSECTION WITH 27th STREET; PROCEED EAST ON HWY 20 FOR 2.1 MI. TO THE STATION ON TRHE LEFT.

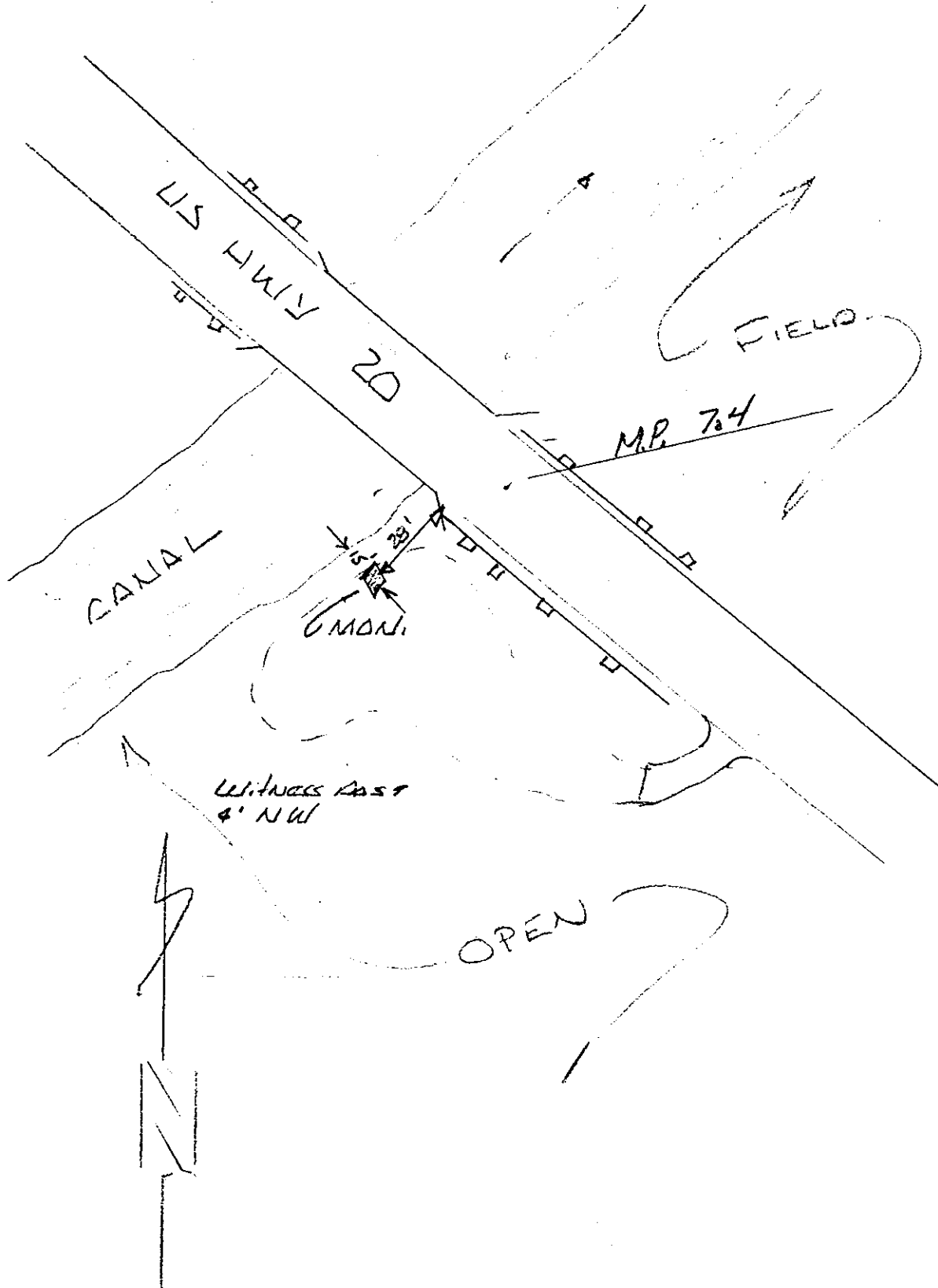
THE STATION MARK IS A 2 IN. BRASS CAP GROUTED IN A ROCK OUTCROP AT GROUND LEVEL 2 FEET ABOVE ROADWAY.
13.0 FEET SOUTH OF A WIRE FENCE
21 FEET NORTH FO THE NORTH EDGE OF PAVEMENT
2 FEET NORTH OF A WITNESS POST.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: GIS 43

GIS #: 43



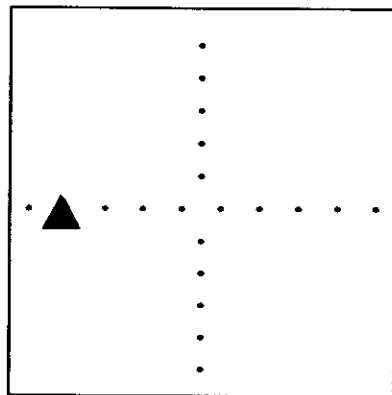
DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0044
GIS # 0044
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 17 S.- R. 13 E., SEC.31

LATITUDE: 44° 03' 29.05825" N
LONGITUDE: 121° 13' 19.40628" W

----- EC CARTESIAN -----
X: -2380168.828 METERS
Y: -3926713.490 METERS
Z: +4413476.698 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1072.514 METERS
NGVD 29 : 1092.084 METERS
NAVD 88 : 1093.258 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 265905.664±.003 METERS
EAST: 1442142.883±.003 METERS

SCALE FACTOR: 1.000015278
CONVERGENCE: - 0° 29' 38.38 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0044 1988 LS 1031
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 4.0 MILES EASTERLY OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 2.04 MI. TO THE INTERSECTION WITH 27th STREET; PROCEED EAST ON HWY 20 FOR 2.1 MI. TO THE STATION ON TRHE LEFT.

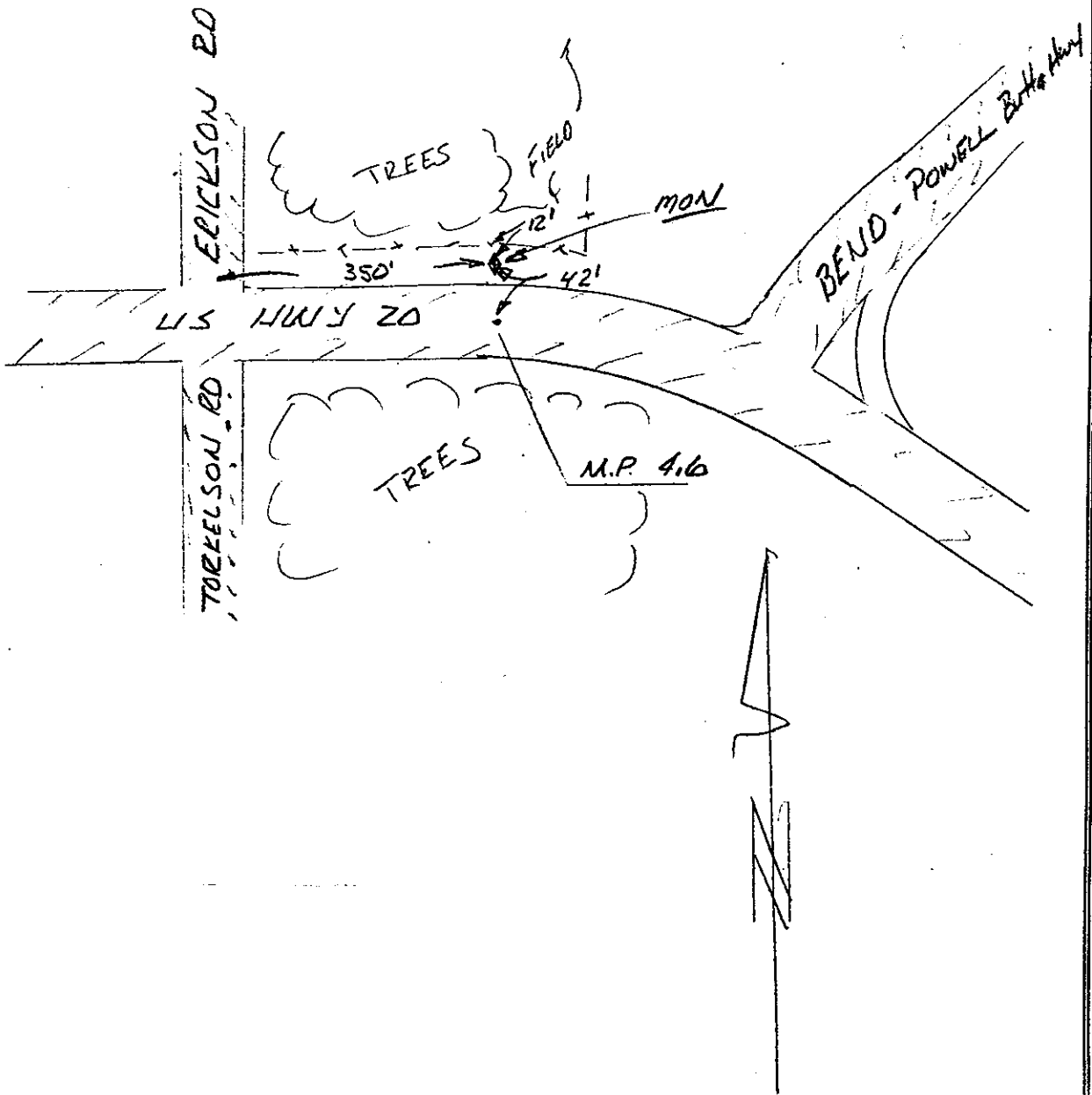
THE STATION MARK IS A 2 IN. BRASS CAP GROUTED IN A ROCK OUTCROP AT GROUND LEVEL 2 FEET ABOVE ROADWAY.
13.0 FEET SOUTH OF A WIRE FENCE
21 FEET NORTH FO THE NORTH EDGE OF PAVEMENT
2 FEET NORTH OF A WITNESS POST.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: GIS 44

GIS #: 44

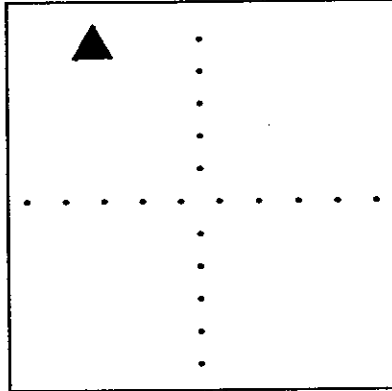


DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0045
GIS # 0045
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 18 S.- R. 12 E., SEC.14

LATITUDE: 44° 01' 18.86119" N
LONGITUDE: 121° 15' 37.12025" W

----- EC CARTESIAN -----
X: -2384255.491 METERS
Y: -3927537.569 METERS
Z: +4410616.609 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1114.408 METERS
NGVD 29 : 1133.921 METERS
NAVD 88 : 1135.085 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 261914.419±.002 METERS
EAST: 1439041.270±.002 METERS

SCALE FACTOR: 1.000005641
CONVERGENCE: - 0° 31' 12.59 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0045
AGENCY INSCRIPTION - DESCHUTES COUNTY SUTVEYORS OFFICE
THE STATION IS LOCATED ABOUT 3.5 MILES SOUTHEAST OF BEND

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 2.04 MI., TURN RIGHT ON SE 27TH STREET & PROCEED SOUTH FOR 2.35 MI., TURN LEFT AT THE DRIVE WAY TO THE DESCHUTES CO. PUBLIC WORKS DEPT., PROCEED 50 FEET AND KEEP LEFT ON THE NORTH DRIVE WAY FOR 300 FEET TO THE BACK GATE TO THE PUBLIC WORKS COMPOUND, CONTINUE EAST FOR 350 FEET TO THE STATION ON THE LEFT.

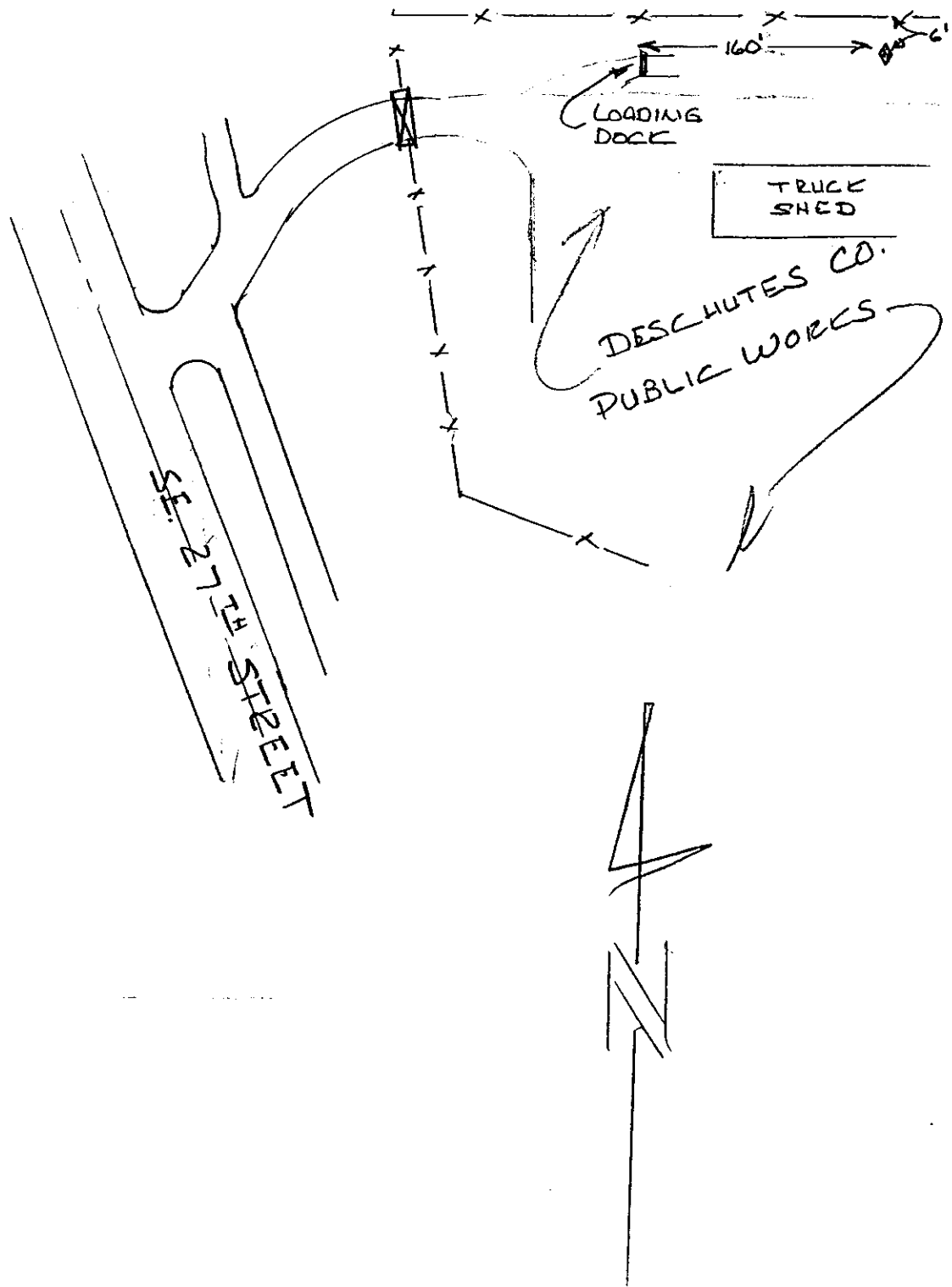
THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK IN A MASS OF CONCRETE AT GROUND LEVEL.
40 FEET NORTH OF THE EDGE OF PAVEMENT.
160 FEET EAST OF A CONCRETE LOADING DOCK.
6.0 FEET SOUTH OF A CHAIN LINK FENCE.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: GIS 45

GIS #: 45

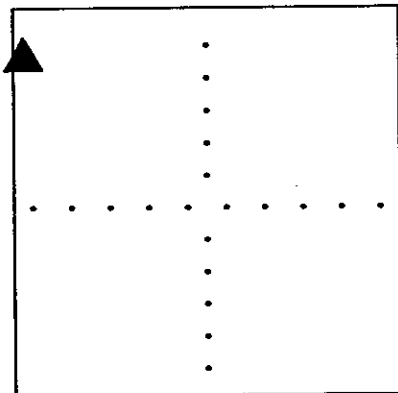


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: BEND AIRPORT
GIS # 0046
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 17 S.- R. 13 E., SEC.20

LATITUDE: 44° 05' 37.42982" N
LONGITUDE: 121° 12' 11.98308" W

----- EC CARTESIAN -----
X: -2377439.623 METERS
Y: -3925104.769 METERS
Z: +4416291.149 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1025.760 METERS
NGVD 29 : 1045.411 METERS
NAVD 88 : 1046.556 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 269855.013±.003 METERS
EAST: 1443676.815±.003 METERS

SCALE FACTOR: 1.000025174
CONVERGENCE: - 0° 28' 52.25 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

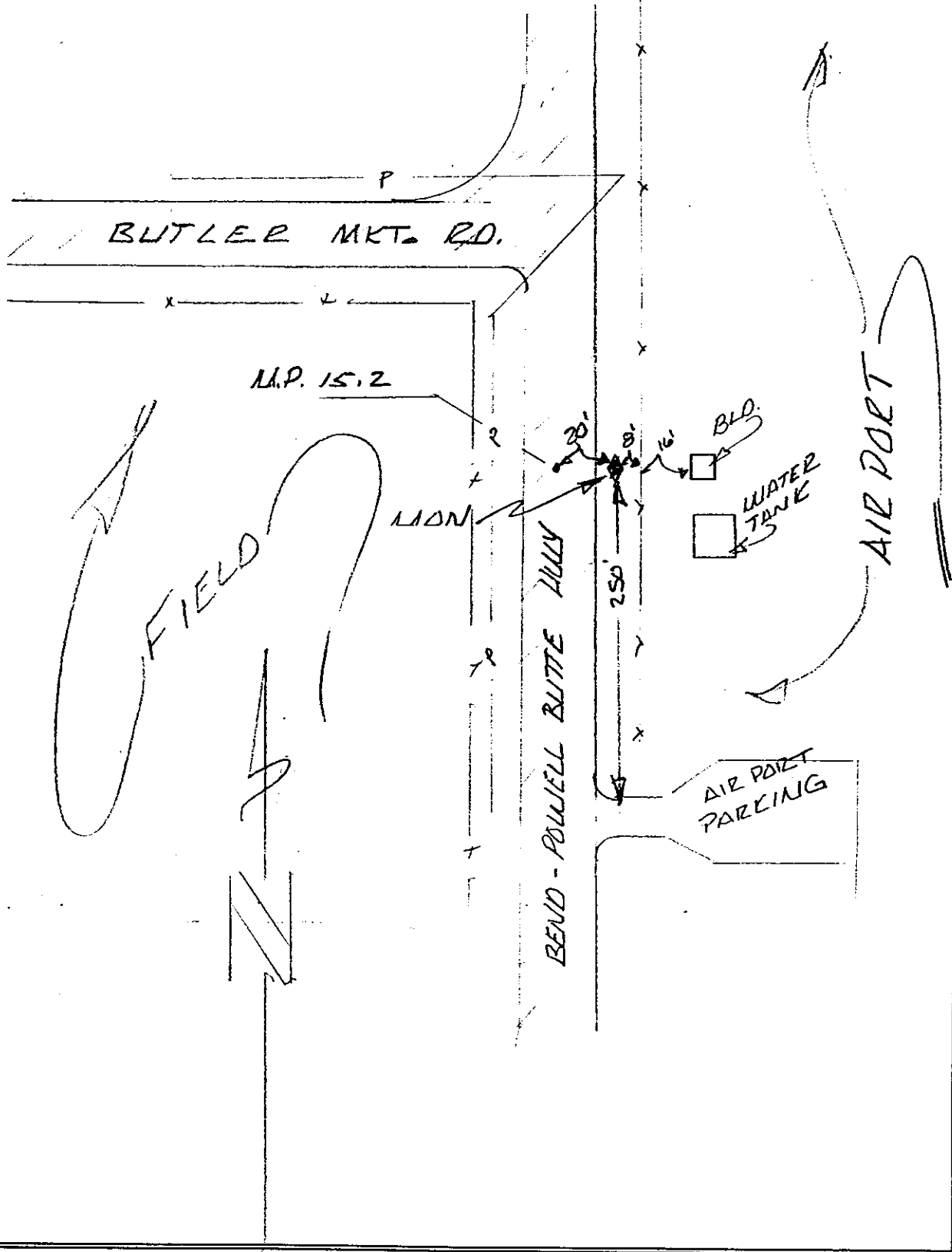
SURFACE MARKER:
MARK IS STAMPED - BEND AIRPORT 1978
AGENCY INSCRIPTION - DESCHUTES COUNTY CONTROL SURVEY
THE STATION IS LOCATED ABOUT 5.5 MILES EASTERLY OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 4.35 MI. TO THE JUNCTION WITH THE POWELL BUTTE COUNTY HWY., TURN LEFT AND PROCEED ON SAID HWY FOR 2.86 MILES TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 3 IN. BRASS CAP GROUTED IN A 8 IN. PIPE IN A MASS OF CONCRETE 2 ABOVE GROUND LEVEL.
9.5 FEET EAST OF A WIRE FENCE
21 FEET WEST FO THE CENTER LINE OF THE HWY.
1 FEET SOUTH OF A WITNESS POST.
325 FEET SOUTH OF THE CENTER LINE OF BUTLER ROAD.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

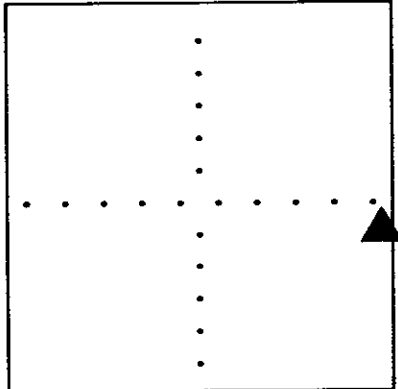
Location and reference sketch:
Name: BEND AIRPORT 1978
GIS #: 46



DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: T 463 1936
GIS # 0047
ORDER C-1st. (GPS)

STATION LOCATION



T. 16 S.- R. 13 E., SEC.24

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

LATITUDE: 44° 10' 17.52483" N
LONGITUDE: 121° 06' 08.35579" W

----- EC CARTESIAN -----
X: -2367384.984 METERS
Y: -3924099.513 METERS
Z: +4422457.257 METERS

----- HEIGHT -----
ELLIPSOIDAL: 968.632 METERS
NGVD 29 : 988.231 METERS
NAVD 88 : 989.356 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 278437.248±.004 METERS
EAST: 1451827.620±.004 METERS

SCALE FACTOR: 1.000048129
CONVERGENCE: - 0° 24' 43.47 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:

MARK IS STAMPED - T 463 1936
AGENCY INSCRIPTION - U S C & G S
THE STATION IS LOCATED ABOUT 12.5 MILES NORTHEASTERLY OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 4.35 MI. TO THE JUNCTION WITH THE POWELL BUTTE COUNTY HWY., TURN LEFT AND PROCEED ON SAID HWY FOR 10.50 MILES TO THE STATION ON THE RIGHT, 8 FEET ABOVE ROADWAY IN ROCK OUTCROP.

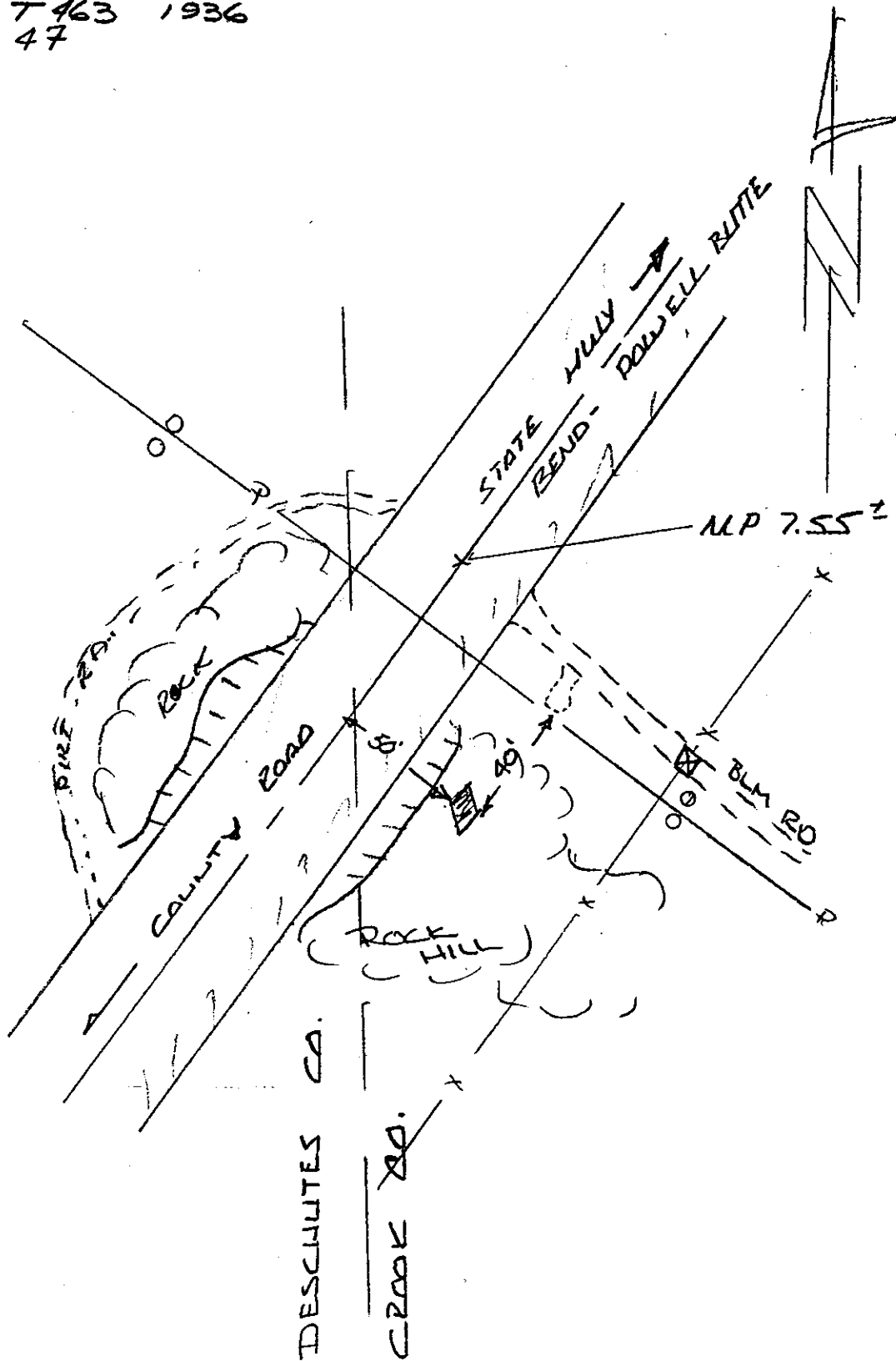
THE STATION MARK IS A 3 1/2 IN. BRASS CAP GROUTED IN ROCK AT GROUND LEVEL.

61 FEET EAST OF A WIRE FENCE
20 FEET WEST OF THE ROCK CUT.
1 FEET SOUTH OF A WITNESS POST.
100 FEET SOUTH OF A BPA POWERLINE.

Location and reference sketch:

Name: T 463 1936

GIS #: 47



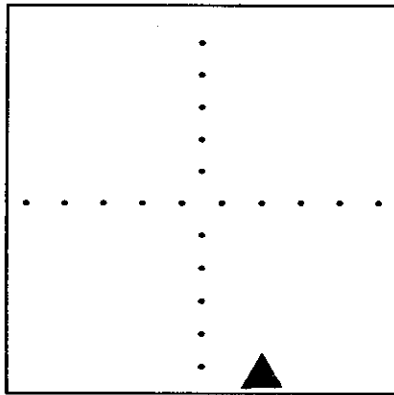
DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0048
GIS # 0048
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 21 S.- R. 10 E., SEC.32

LATITUDE: 43° 42' 12.70220" N
LONGITUDE: 121° 33' 07.42678" W

----- EC CARTESIAN -----
X: -2417114.774 METERS
Y: -3936339.592 METERS
Z: +4385220.596 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1278.990 METERS
NGVD 29 : 1298.595 METERS
NAVD 88 : 1299.822 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 226796.616±.005 METERS
EAST: 1415206.465±.004 METERS

SCALE FACTOR: 0.999938163
CONVERGENCE: - 0° 43' 11.16 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0048
AGENCY INSCRIPTION - DESCHUTES COKUNTY SURVEYOR OFFICE
THE STATION IS LOCATED ABOUT 3.5 MILES NORTHWEST OF LAPINE

TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 2.8 TO INTERSECTION WITH BURGESS COUNTY ROAD, TURN LEFT AND PROCEED 3.8 MI. TO THE STATION ON THE RIGHT.

THE STATION MARK IS A STANDARD DISK ON A 5/8 IN. IRON RON IN CONCRETE AT GROUND LEVEL. BEING SE. COR. OF LOT 1, BLK 8 OF FOREST VIEW FIRST ADD. SUBDIVISION.
9 FEET WESTERLY FROM THE WEST EDGE OF PRIMROSE LANE
11 FEET NORTHERLY FROM NORTH EDGE OF BURGESS ROAD
1 SOUTH FROM A WITNESS POST.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

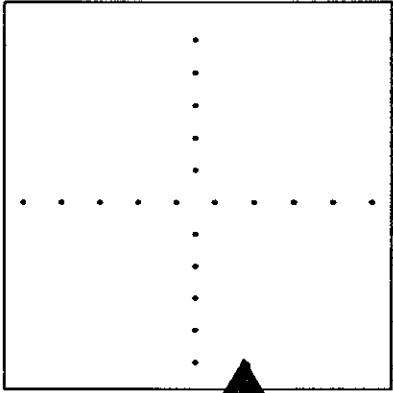
Location and reference sketch:

Name: GIS 48

GIS #: 48



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: Y 370 1942 GIS # 0049 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
<p align="center">STATION LOCATION</p>  <p align="center">T. 21 S.- R. 10 E., SEC.36</p>	LATITUDE: 43° 42' 12.50821" N LONGITUDE: 121° 28' 37.47016" W ----- EC CARTESIAN ----- X: -2411958.300 METERS Y: -3939495.500 METERS Z: +4385207.598 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1266.443 METERS NGVD 29 : 1285.947 METERS NAVD 88 : 1287.166 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 226717.411±.006 METERS EAST: 1421249.944±.005 METERS SCALE FACTOR: 0.999938154 CONVERGENCE: - 0° 40' 06.47 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - Y 370 1942
 AGENCY INSCRIPTION - USC & GS
 THE STATION IS LOCATED ABOUT 3 MILES NORTHEAST OF LAPINE

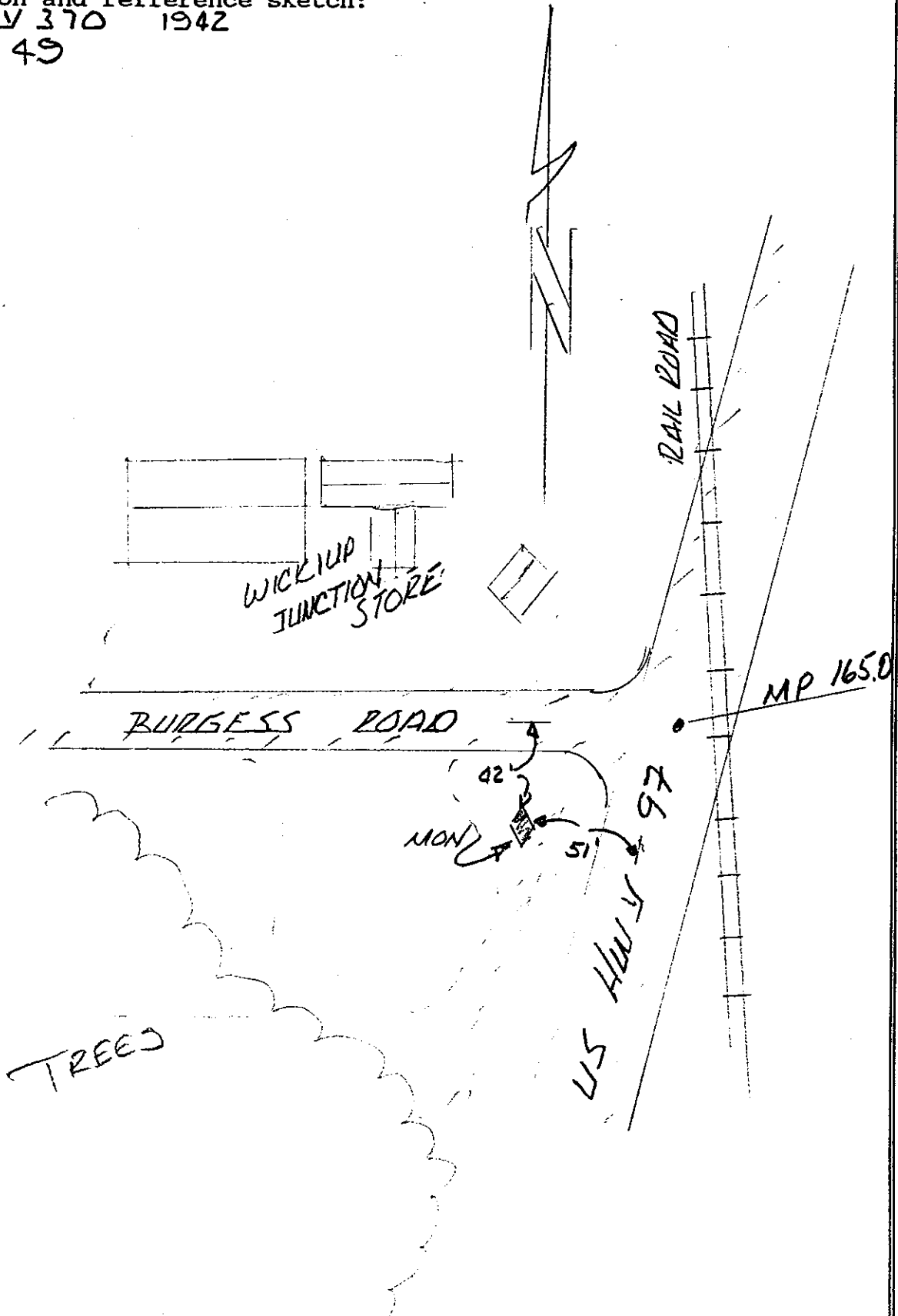
 TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 2.8 TO INTERSECTION WITH BURGESS COUNTY ROAD, TURN LEFT AND PROCEED 60 FEET TO THE STATION ON THE LEFT.

 THE STATION MARK IS A STANDARD NGS DISK IN A 10 IN. X 10 IN. CONCRETE POST AT GROUND LEVEL.
 1.0 FEET WESTERLY OF A WITNESS POST.
 36 FEET WESTERLY OF THE WEST EDGE OF HWY 97
 29 FEET SOUTHERLY OF SOUTH EDGE OF BURGESS ROAD

Location and reference sketch:

Name: V 370 1942

GIS #: 49



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: BEAL RM NO 1 GIS # 0050 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p> <hr/> <p>LATITUDE: 43° 36' 58.73302" N LONGITUDE: 121° 32' 51.29080" W</p> <p>----- EC CARTESIAN -----</p> <p>X: -2420308.380 METERS Y: -3942232.045 METERS Z: +4378210.384 METERS</p> <p>----- HEIGHT -----</p> <p>ELLIPSOIDAL: 1280.984 METERS NGVD 29 : 1300.638 METERS NAVD 88 : 1301.868 METERS</p> <p>---- SPC -- OREGON SOUTH ----</p> <p>NORTH: 217103.584±.007 METERS EAST: 1415446.504±.005 METERS</p> <p>SCALE FACTOR: 0.999925103 CONVERGENCE: - 0° 43' 00.12 "</p>
<p align="center">STATION LOCATION</p> <div style="border: 1px solid black; width: 150px; height: 150px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);"> </div> </div> <p align="center">T. 23 S.- R. 10 E., SEC.05</p>	

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - BEAL NO 1 1971
 AGENCY INSCRIPTION - USC & GS
 THE STATION IS LOCATED ABOUT 4 MILES SOUTHWEST OF LAPINE

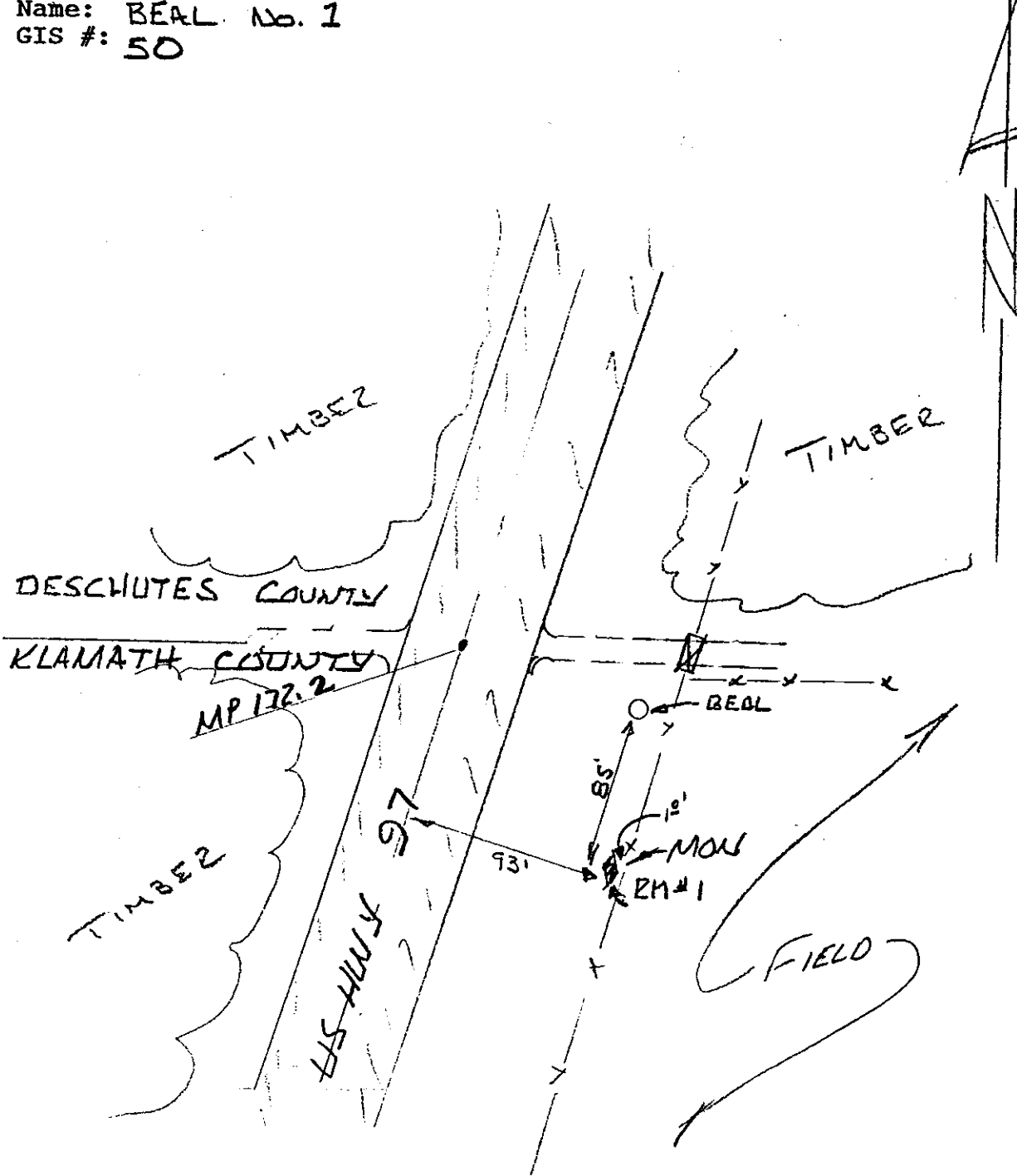
TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED SOUTHERLY ON HWY 97 FOR 4.2 TO THE COUNNTY LINE AND TURN LEFT ON A DIRT DRIVE WAY AND PROCEED 60 FEET, GO SOUTHERLY ALONG FENCE FOR 100 FEET TO THE STATION.

THE STATION MARK IS A STANDARD NGS REFFERANCE DISK IN A MASS OF CONCRETE
 1.0 FEET WESTERLY OF A WIRE FENCE
 75 FEET EASTERLY OR THE EAST EDGE OF HWY 97
 89 FEET SOUTHERLY OF STATION BEAL

Location and reference sketch:

Name: BEAL No. 1

GIS #: 50



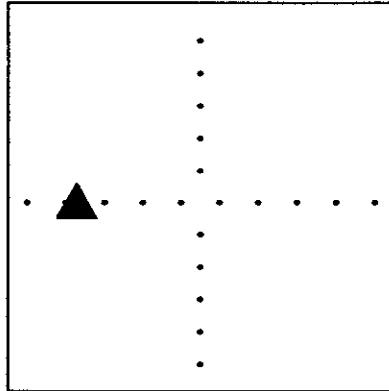
DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: CAREY 1971
GIS # 0052
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



LATITUDE: 43° 45' 10.54426" N
LONGITUDE: 121° 27' 40.43964" W

----- EC CARTESIAN -----
X: -2408884.422 METERS
Y: -3936918.823 METERS
Z: +4389175.714 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1261.647 METERS
NGVD 29 : 1281.072 METERS
NAVD 88 : 1282.290 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 232196.690±.005 METERS
EAST: 1422589.764±.004 METERS

T. 21 S.- R. 10 E., SEC.18

SCALE FACTOR: 0.999946594
CONVERGENCE: - 0° 39' 27.45 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - CAREY 1971
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 6 MILES NORTHERLY OF LAPINE

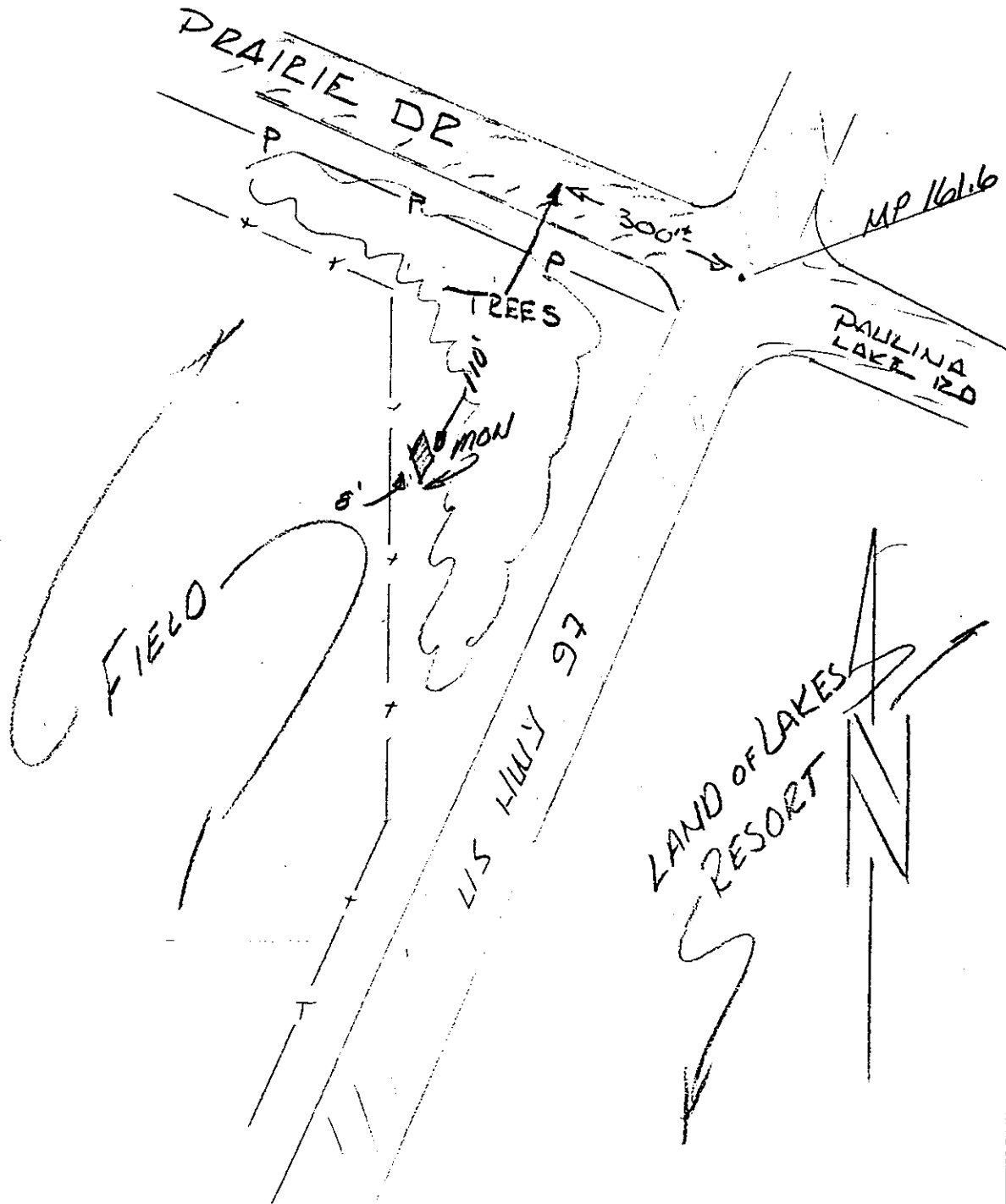
TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 6.3 TO INTERSECTION WITH PAULINA LAKE RD. AND PRAIRE DRIVE ROAD, TURN LEFT ON PRAIRIE DRIVE AND PROCEED FOR 400 FEET MORE OR LESS TO THE STATION ON THE LEFT.

THE STATION MARK IS A STANDARD 3 1/2 IN ALUMINUM CAP IN A MASS OF CONCRETE AT GROUND LEVEL.
1 FOOT NORTHERLY OF A WITNESS POST.
10 FEET EASTERLY FROM A WIRE FENCE LINE

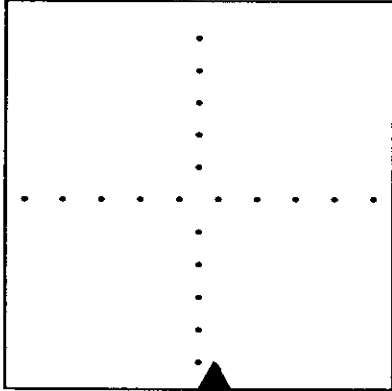
Location and reference sketch:

Name: CAREY

GIS #: 52



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: PAULINA PEAK BM USGS 1933 GIS # 0053 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 22 S.- R. 12 E., SEC.02</p>	<p>LATITUDE: 43° 41' 21.10573" N LONGITUDE: 121° 15' 17.60078" W</p> <p>----- EC CARTESIAN ----- X: -2397662.850 METERS Y: -3950465.976 METERS Z: +4384853.472 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 2414.633 METERS NGVD 29 : 2433.229 METERS NAVD 88 : 2434.442 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 224945.975±.008 METERS EAST: 1439142.777±.007 METERS</p> <p>SCALE FACTOR: 0.999935857 CONVERGENCE: - 0° 30' 59.24 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - PAULINA PEAK BM 1931 (SEE NOTE)
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 12.5 MILES EASTERLY OF LAPINE

TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 6.3 TO INTERSECTION WITH PAULINA LAKE RD. (FOREST RD. 21) TURN RIGHT AND PROCEED EASTERLY FOR 12.5 MI. TO FOREST RD. #500, TURN RIGHT AND PROCEED 3.9 MI TO THE TOP OF PAULINA PEAK PARKING LOT AND THE STATION ON THE LEFT ON THE HIGH ROCK PEAK.

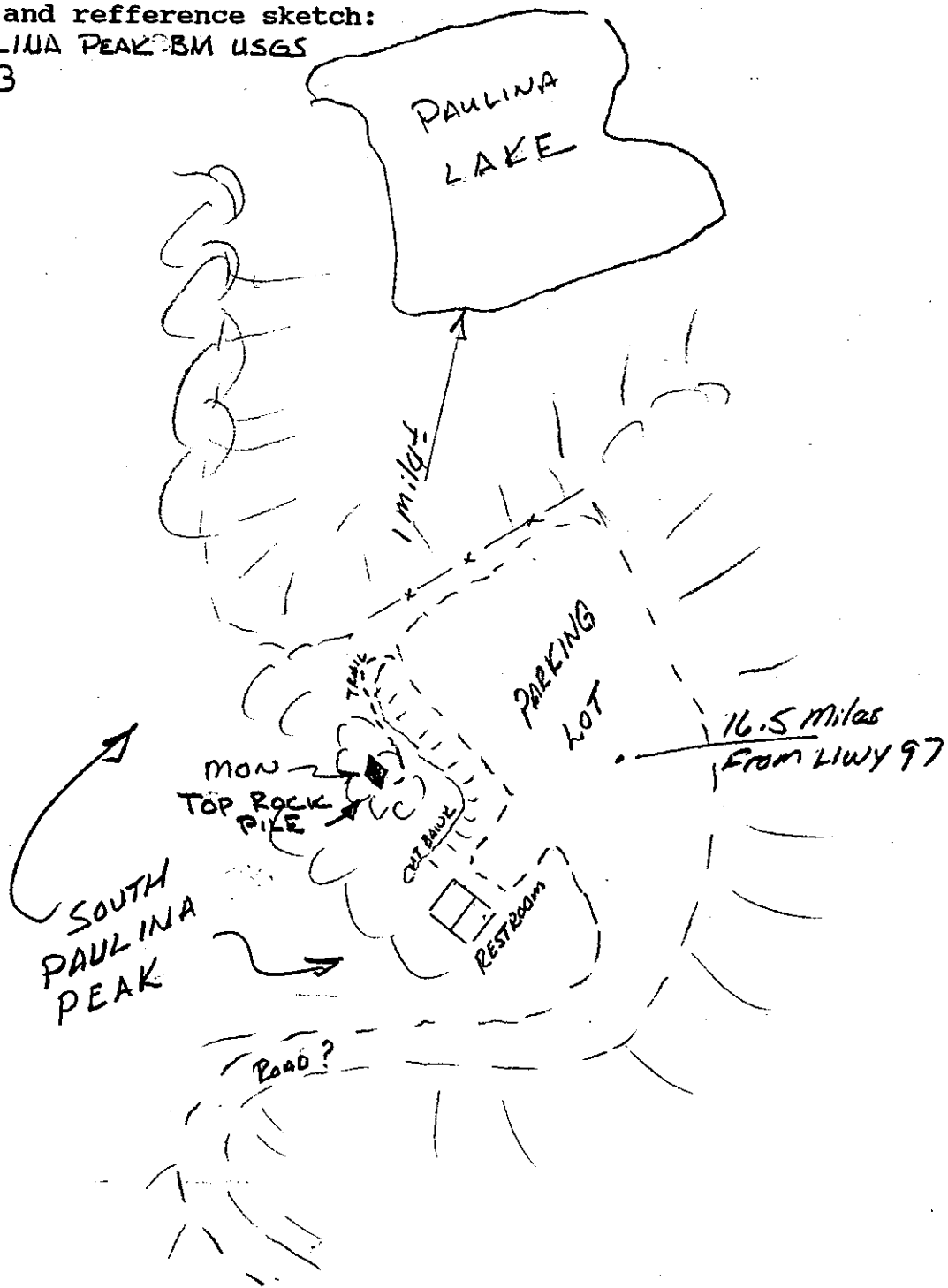
THE STATION MARK IS A STANDARD USGS 3 1/2 IN DISK GROUTED IN ROCK PEAK.
6 FEET WEST OF OLD ROCK INFORMATION SIGN
100 FEET NORTH OF BATHROOMS

NOTE: THE TOP OF CAP IS POOR CONDITION

Location and reference sketch:

Name: PAULINA PEAK BM USGS

GIS #: 53

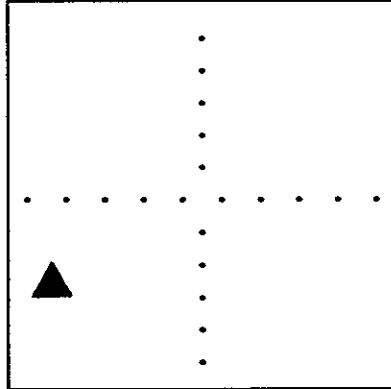


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: BNRR STA 369+48.3 1984
GIS # 0054
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 20 S.- R. 11 E., SEC.16

LATITUDE: 43° 50' 14.56218" N
LONGITUDE: 121° 25' 23.65435" W

----- EC CARTESIAN -----
X: -2402887.436 METERS
Y: -3932973.849 METERS
Z: +4395950.988 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1263.217 METERS
NGVD 29 : 1282.530 METERS
NAVD 88 : 1283.743 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 241544.293±.005 METERS
EAST: 1425752.964±.005 METERS

SCALE FACTOR: 0.999962739
CONVERGENCE: - 0° 37' 53.87 "

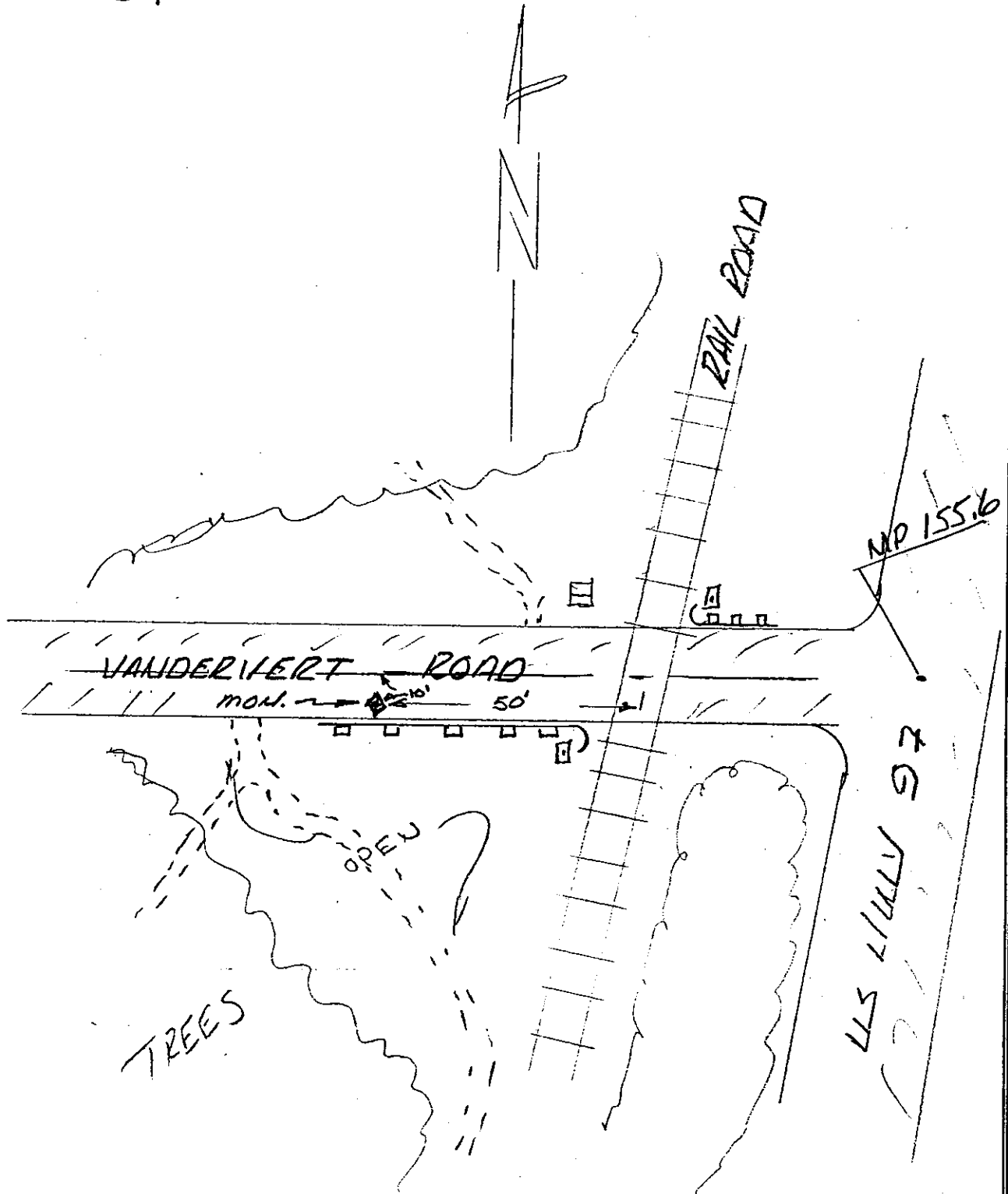
The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - BNRR STA 369+48.3 1984
AGENCY INSCRIPTION - NONE
THE STATION IS LOCATED ABOUT 12 MILES NORTHERLY OF LAPINE

TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 12.5 MI TO INTERSECTION WITH VANDERVERT ROAD, TURN LEFT ON VANDERVERT ROAD AND PROCEED WEST FOR 300 FEET TO THE RAIL ROAD CROSSING AND THE STATION 20 FEET AHEAD AND ON THE LEFT.

THE STATION MARK IS A 2 1/2 IN. DISK IN A 7 IN. DIA. MOUNUMENT BOX IN THE EAST BOUND LANE OF VANDERVERT ROAD
DISK IS 0.3 FEET BELOW ROAD SURFACE
2 FEET NORTH OF SOUTH EDGE OF PAVEMENT
48 FEET WEST OF CENTER OF RAIL ROAD
5 FEET NORTH OF A WITNESS POST.

Location and reference sketch:
Name: BNRR STA 369+48.3 1984
GIS #: 54

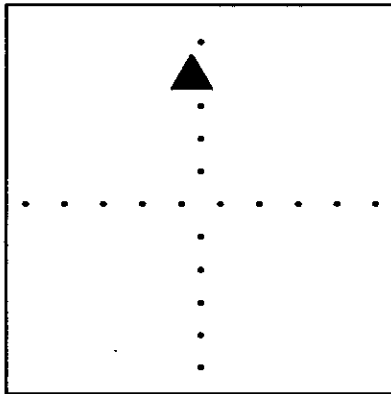


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: LAVA BUTTE 1933 1984
GIS # 0055
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 19 S.- R. 11 E., SEC.24

LATITUDE: 43° 55' 04.28799" N
LONGITUDE: 121° 21' 21.71654" W

----- EC CARTESIAN -----
X: -2395139.608 METERS
Y: -3930648.053 METERS
Z: +4402569.531 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1510.666 METERS
NGVD 29 : 1529.937 METERS
NAVD 88 : 1531.127 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 250428.210±.004 METERS
EAST: 1431248.809±.006 METERS

SCALE FACTOR: 0.999980163
CONVERGENCE: - 0° 35' 08.35 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - LAVA BUTTE 1933 1984
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 10 MILE SOUTH OF BEND.

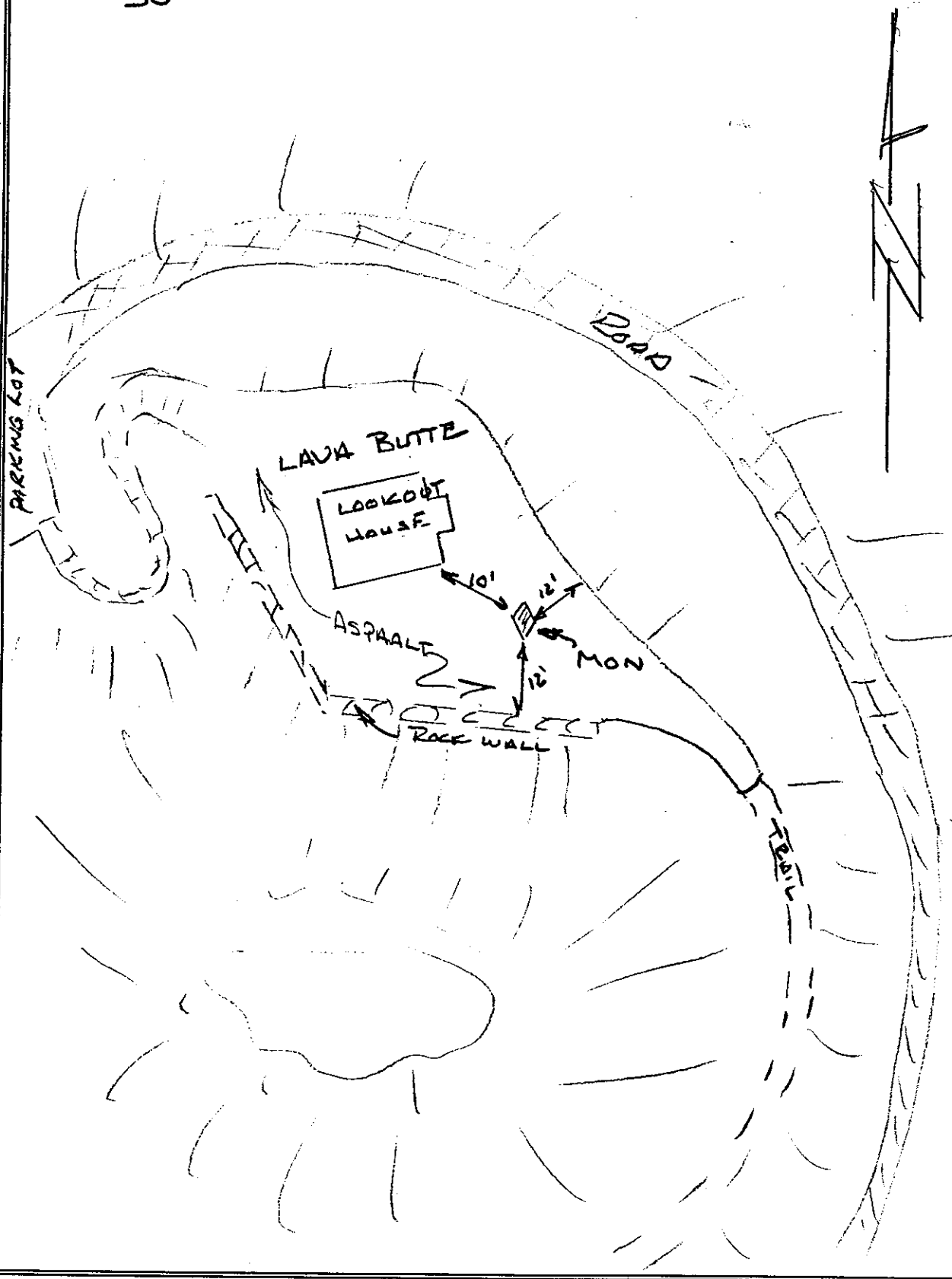
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED SOUTH ON HWY 97 FOR 11.1 MI TO THE ENTRANCE OF LAVA BUTTE VISITOR CENTER, TURN RIGHT AND PROCEED 400 FEET WEST TO VISITO CENTER, TURN RIGH ON ROAD TO TOP OF LAVA BUTTE, PROCEED 1.3 MI. TO PARKING LOT ON TOP OF BUTTE, THE STATION IS 300 FEET UP HILL ALONG A FOOT PATH BY THE LOOKOUT HOUSE.

THE STATION MARK IS A 3 1/2 IN. DISK SET IN CONCRETE FLUSH WITH ASPHALT WALK AREA.
10 FEET SOUTHERLY FROM SOUTHEAST CORNER OF LOOKOUT HOUSE

Location and reference sketch:

Name: LAVA BUTTE RESET 1984 (1933)

GIS #: 55



DESCHUTES COUNTY SURVEYOR'S OFFICE

61150 S.E. 27th. St.

Bend, Oregon. 97702

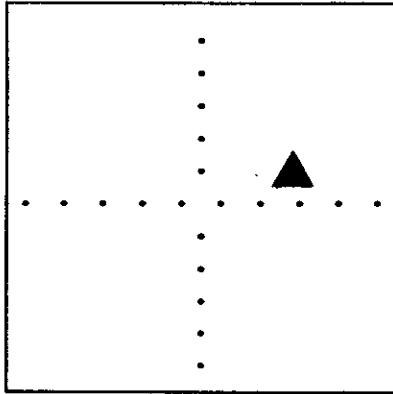
(503) 383-4395

DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: PINE USGS 1932
GIS # 0056
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 20 S.- R. 15 E., SEC.21

LATITUDE: 43° 49' 19.66593" N
LONGITUDE: 120° 55' 50.31372" W

----- EC CARTESIAN -----
X: -2369837.538 METERS
Y: -3954908.402 METERS
Z: +4395192.686 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1933.627 METERS
NGVD 29 : 1952.427 METERS
NAVD 88 : 1953.631 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 239529.875±.008 METERS
EAST: 1465358.318±.007 METERS

SCALE FACTOR: 0.999959662
CONVERGENCE: - 0° 17' 40.64 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:

MARK IS STAMPED - PINE 1932

AGENCY INSCRIPTION - USC & GS

THE STATION IS LOCATED ABOUT 4.0 MILES SOUTHERLY OF MILLICAN.

TO REACH THE STATION FROM MILLICAN, GO EASTERLY ON HWY 20 FOR 0.2 MI. AND TURN RIGHT ON THE PINE MOUNTAIN ROAD (FOREST ROAD 2017) AND PROCEED SOUTHERLY FOR 6.86 MI., TURN RIGHT ON FOREST ROAD 2017-350. AND PROCEED NORTHERLY ALONG RIDGE LINE TO END OF ROAD. WALK NORTHERLY ALONG TRAIL FOR 1100 FEET MORE OR LESS TO STATION ON HIGHEST POINT ON NORTH OF RIDGE.

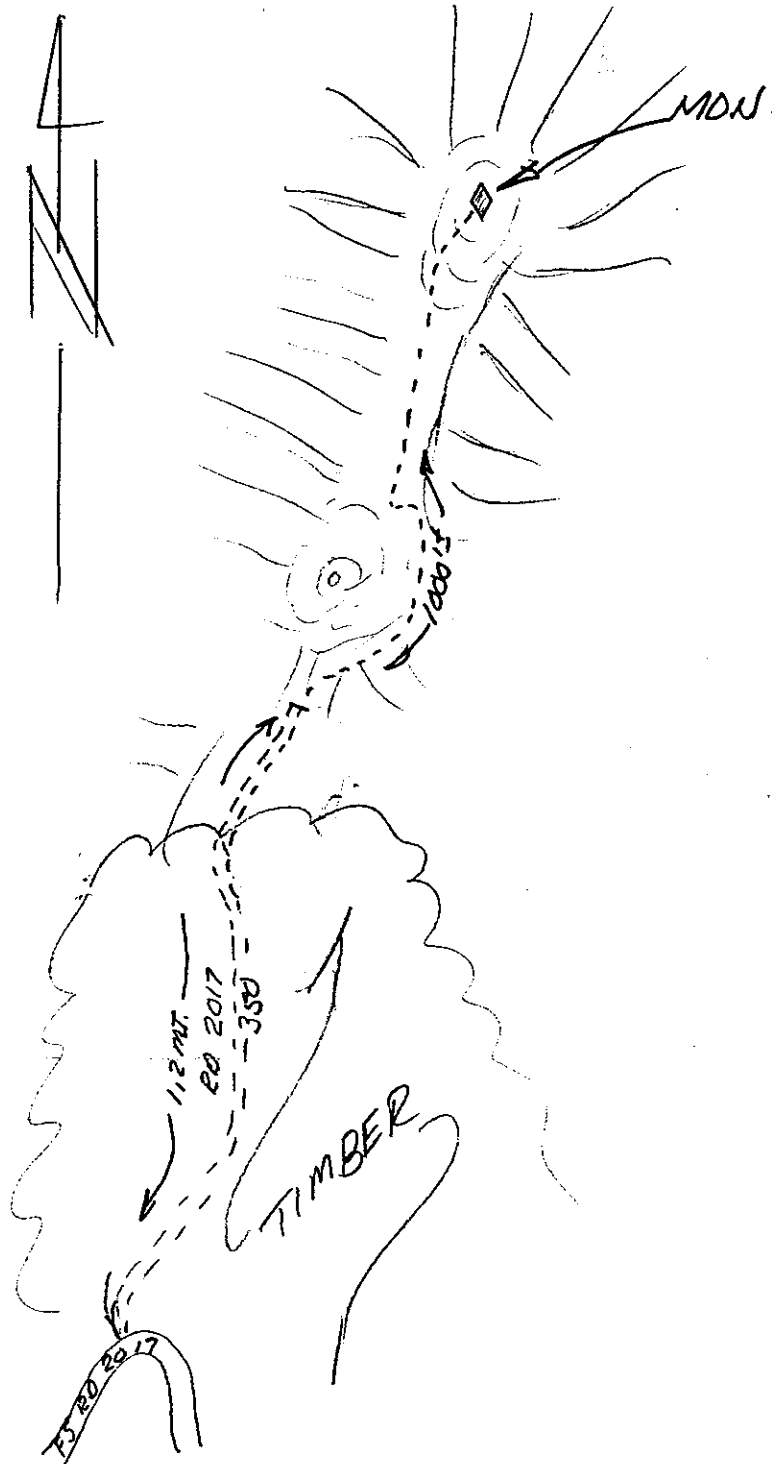
THE STATION MARK IS A 3 1/2 IN. BRASS CAP GROUTED IN A ROCK OUTCROP AT GROUND LEVEL.

DUGOUT SHELTER W/ROCK WALL S 53 E 19 FEET (NO WIND)

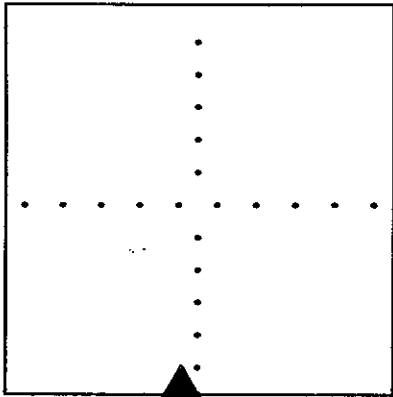
Location and reference sketch:

Name: PINE 1932

GIS #: 56



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: W-22 1920 GIS # 0057 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 19 S.- R. 14 E., SEC.33</p>	<p>LATITUDE: 43° 52' 28.62822" N LONGITUDE: 121° 02' 50.45852" W</p> <p>----- EC CARTESIAN ----- X: -2375569.728 METERS Y: -3946221.252 METERS Z: +4398962.983 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1303.212 METERS NGVD 29 : 1322.285 METERS NAVD 88 : 1323.495 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 245416.437±.006 METERS EAST: 1456008.438±.005 METERS</p> <p>SCALE FACTOR: 0.999970554 CONVERGENCE: - 0° 22' 28.08 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - W 22 1920
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 7 MI. WESTERLY OF MILLICAN.

TO REACH THE STATION FROM MILLICAN, GO WESTERLY ON HWY 20 FOR 4.4 MI., TURN LEFT ON EVANS WELLS ROAD (FOREST ROAD 2015) AND PROCEED SOUTHWESTERLY FOR 3.7 MI. TO JUNCTION WITH FOREST ROAD 2016, KEEP RIGHT ON ROAD 2015 FOR 0.45 MI. TO BLM ROAD ON RIGHT, TURN RIGHT ON BLM RD. 6515 C AND PROCEED NORTH FOR 0.15 MI. TO INTERSECTION OF OLD BEND TO BURNS ROAD, TURN RIGHT AND PROCEED EAST 165 FEET TO THE STATION ON THE LEFT.

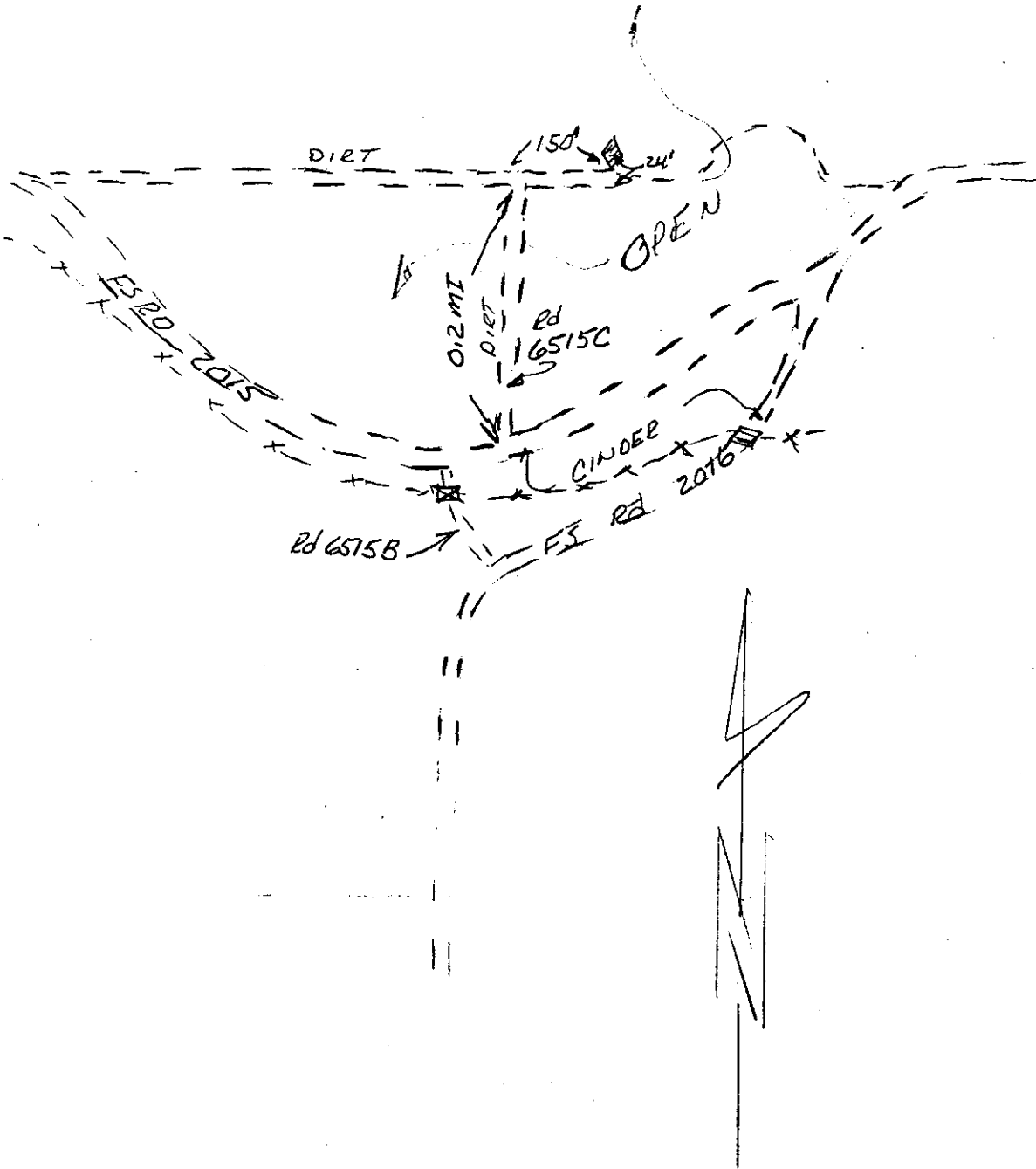
THE STATION MARK IS A 3 1/2 IN. BRASS CAP IN A CONCRETE POST 0.2 FEET ABOVE GROUND LEVEL.

1 FEET SOUTH OF A WITNESS POST.
15 FEET NORTH OF THE DIRT ROAD.

Location and reference sketch:

Name: W-22 1920

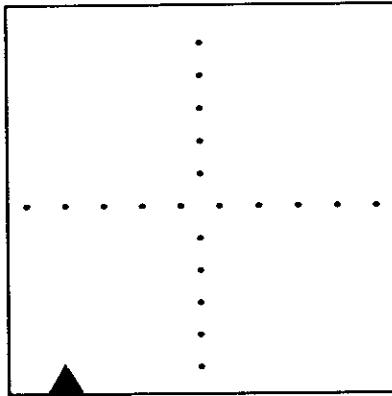
GIS #: 57



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: J-372 1943
GIS # 0058
ORDER C-1st. (GPS)

STATION LOCATION



T. 19 S.- R. 15 E., SEC.31

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

LATITUDE: 43° 52' 26.95459" N
LONGITUDE: 120° 59' 04.31007" W

----- EC CARTESIAN -----
X: -2371247.514 METERS
Y: -3948833.184 METERS
Z: +4398902.226 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1269.286 METERS
NGVD 29 : 1288.326 METERS
NAVD 88 : 1289.523 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 245333.680±.006 METERS
EAST: 1461056.966±.006 METERS

SCALE FACTOR: 0.999970454
CONVERGENCE: - 0° 19' 53.37 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - J 372 1943
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 3 MI. WESTERLY OF MILLICAN.

TO REACH THE STATION FROM MILLICAN, GO WESTERLY ON HWY 20 FOR 3.7 MI., TURN LEFT ON SPENCER WELLS ROAD (FOREST ROAD 23) PROCEED SOUTH FOR 1.85 MI. TURN LEFT ON A DIRT ROAD AND PROCEED WEST FOR 680 FEET TO THE STATION ON THE LEFT.

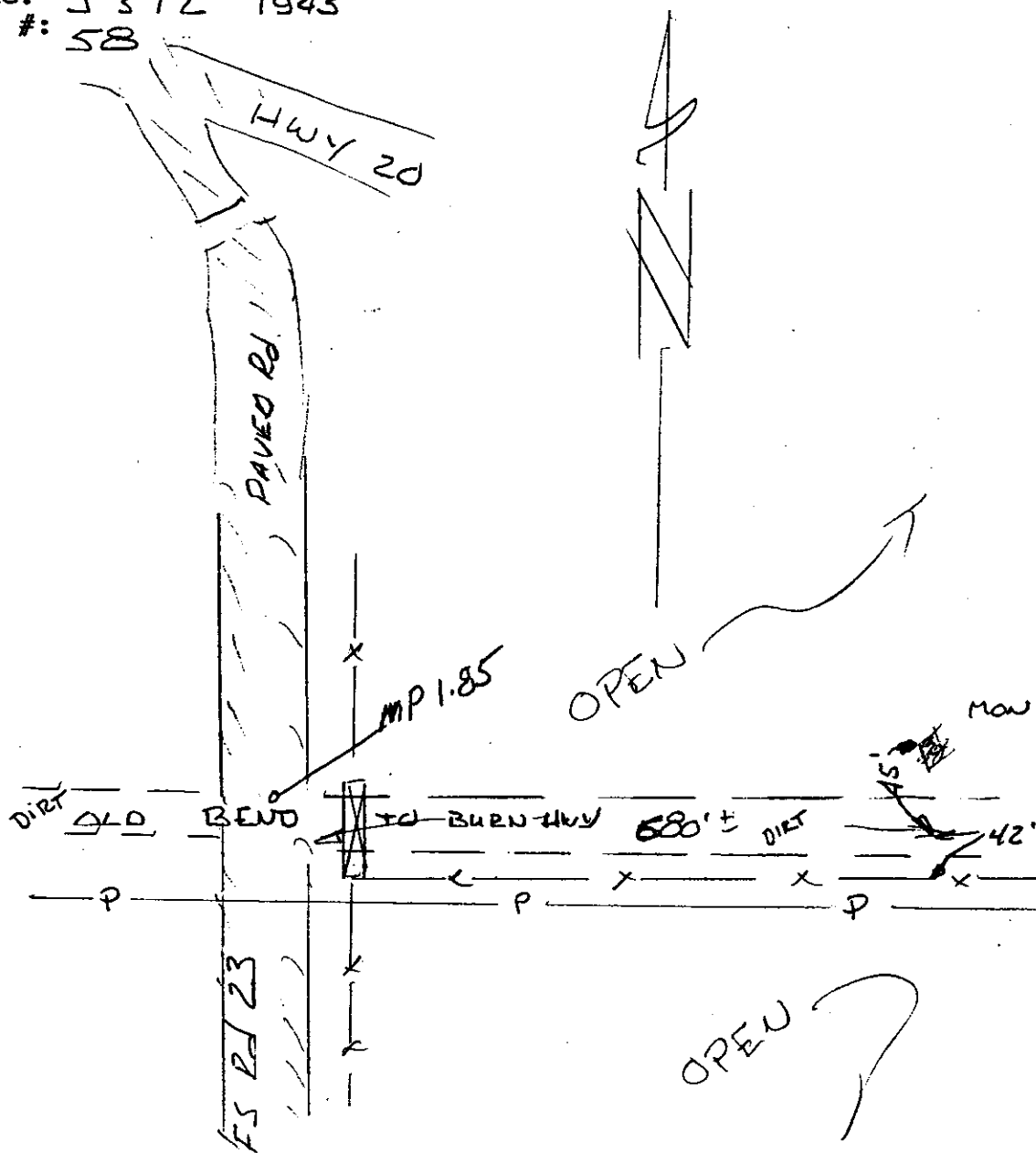
THE STATION MARK IS A 3 1/2 IN. BRASS CAP IN A CONCRETE POST
0.6 FEET ABOVE GROUND LEVEL.
60 FEET NORTH OF A WIRE FENCE
680 FEET EAST OF THE CENTER LINE SPENCER WELLS RD.
1 FEET SOUTH OF A WITNESS POST.
45 FEET NORTH OF THE DIRT ROAD.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: J 372 1943

GIS #: 58

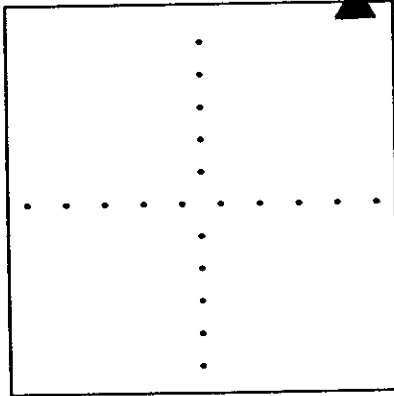


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: P-372 1943
GIS # 0059
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 20 S.- R. 16 E., SEC.06

LATITUDE: 43° 52' 16.02375" N
LONGITUDE: 120° 50' 50.06584" W

----- EC CARTESIAN -----
X: -2361909.360 METERS
Y: -3954722.572 METERS
Z: +4398679.191 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1298.456 METERS
NGVD 29 : 1317.291 METERS
NAVD 88 : 1318.484 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 244941.530±.007 METERS
EAST: 1472089.866±.005 METERS

SCALE FACTOR: 0.999969801
CONVERGENCE: - 0° 14' 15.23 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - P 372 1943
AGENCY INSCRIPTION - USC & GS
THE STATION IS LOCATED ABOUT 3.2 MILES EASTERLY OF MILLICAN.

TO REACH THE STATION FROM MILLICAN, GO EASTERLY ON HWY 20 FOR 3.8 MI. TO THE STATION ON THE RIGHT.

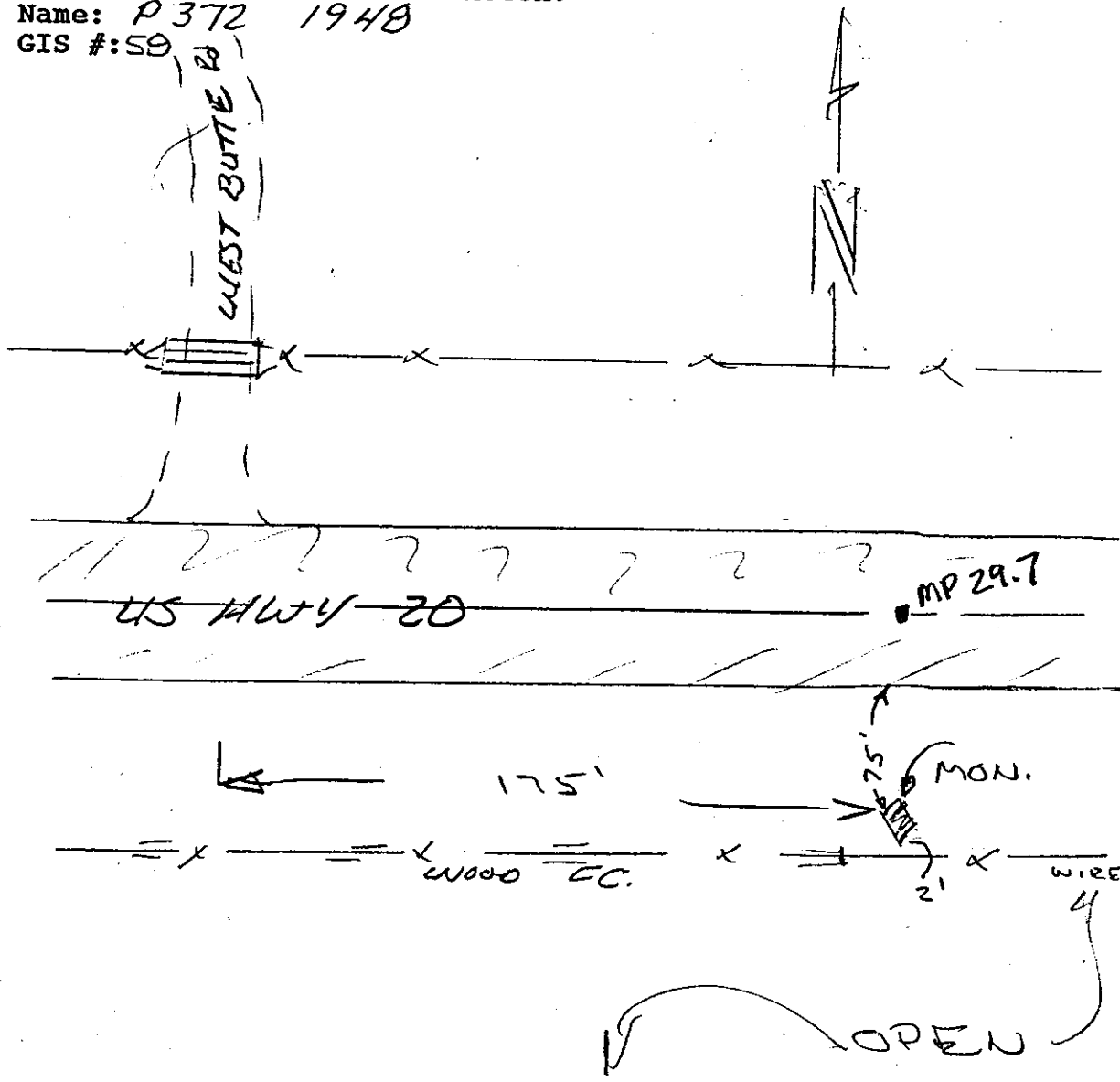
THE STATION MARK IS A 3 1/2 IN. BRASS CAP IN A CONCRETE POST
0.2 FEET ABOVE GROUND LEVEL.
1.7 FEET NORTH OF A WIRE FENCE
150 FEET EAST OF THE CENTER LINE WEST BUTTE RD.
1 FEET NORTH OF A WITNESS POST.
82 FEET SOUTH OF THE SOUTH EDGE OF HWY 20.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: P 372 1948

GIS #: 59

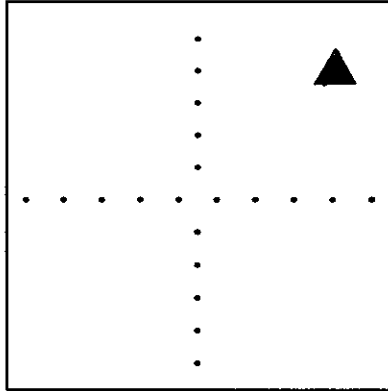


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: STATE HWY DEPT 'PI'
GIS # 0061
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 19 S.- R. 14 E., SEC.10

LATITUDE: 43° 56' 39.13776" N
LONGITUDE: 121° 01' 44.79138" W

----- EC CARTESIAN -----
X: -2371468.099 METERS
Y: -3942247.622 METERS
Z: +4404383.677 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1086.090 METERS
NGVD 29 : 1105.340 METERS
NAVD 88 : 1106.517 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 253138.424±.005 METERS
EAST: 1457523.319±.004 METERS

SCALE FACTOR: 0.999986299
CONVERGENCE: - 0° 21' 43.16 "

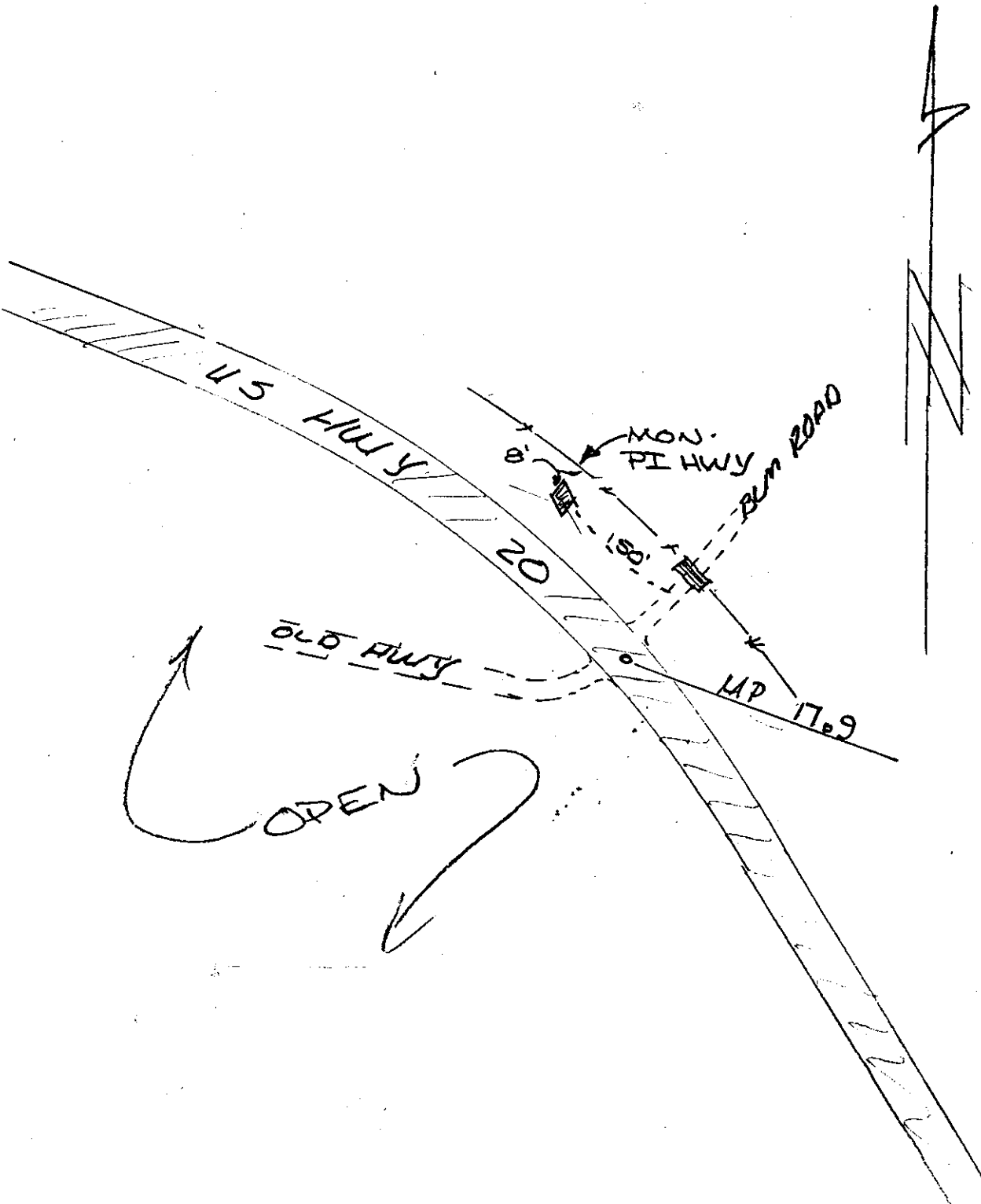
The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - PUNCH MARK ONLY
AGENCY INSCRIPTION - STATE HWY DEPT OREGON
THE STATION IS LOCATED ABOUT 13.5 MILES SOUTHEASTERLY OF BEND.

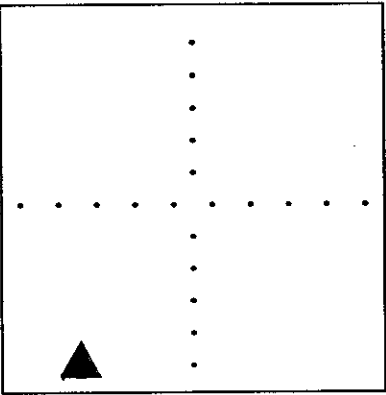
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 17.1 MI. TO A SIDE ROAD ON THE LEFT, TURN LEFT AND PROCEED 70 FEET MORE OR LESS TO A CATTLEGUARD IN FENCE LINE, THE STATION IS ON THE LEFT 150 FEET, BEING THE CENTERLINE POINT OF INTERSECTION OF HWY 20.

THE STATION MARK IS A 1 1/2 IN. ALUM. CAP ON A IRON RON IN A MASS OF CONCRETE.
10.5 FEET SOUTHERLY OF A WIRE FENCE
XX FEET NORTHEAST FROM THE CENTERLINE OF HWY 20.
2 FEET SOUTHWEST OF A WITNESS POST.

Location and reference sketch:
Name: STATE HWY DEPT. P.I.
GIS #: 61



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: P-35 RESET 1987 GIS # 0062 ORDER C-1st. (GPS)	HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88
STATION LOCATION 	LATITUDE: 43° 59' 36.76943" N LONGITUDE: 121° 39' 32.43139" W ----- EC CARTESIAN ----- X: -2412985.412 METERS Y: -3913215.672 METERS Z: +4408917.408 METERS ----- HEIGHT ----- ELLIPSOIDAL: 1931.526 METERS NGVD 29 : 1950.436 METERS NAVD 88 : 1951.789 METERS ----- SPC -- OREGON SOUTH ----- NORTH: 259129.991±.007 METERS EAST: 1407033.368±.006 METERS SCALE FACTOR: 0.999998366 CONVERGENCE: - 0° 47' 34.56 "
T. 18 S.- R. 09 E., SEC.21	

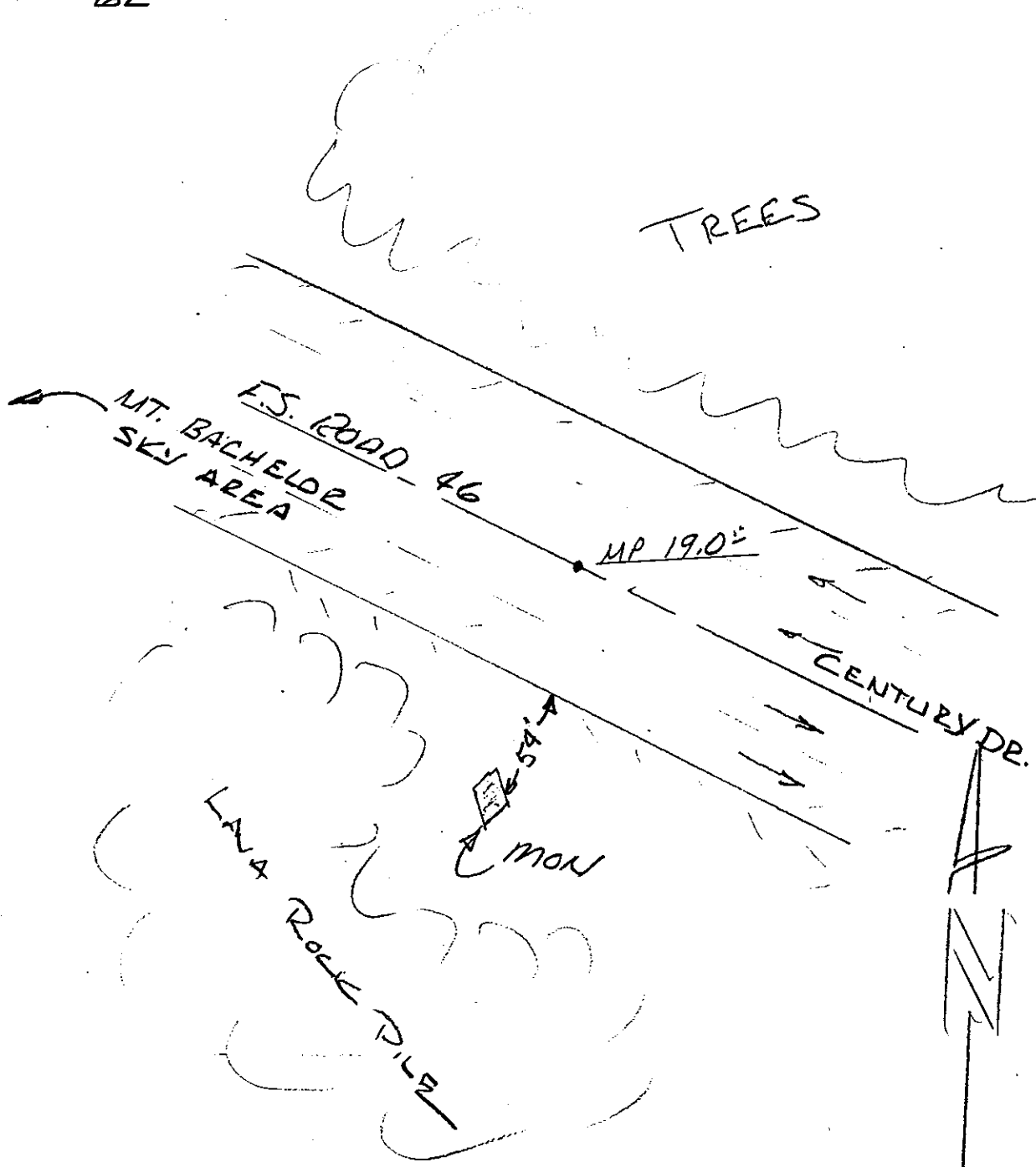
The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
 MARK IS STAMPED - P 35 USGS RESET 1987
 AGENCY INSCRIPTION - USG & GS
 THE STATION IS LOCATED ABOUT 18 MILE SOUTHWEST OF BEND.

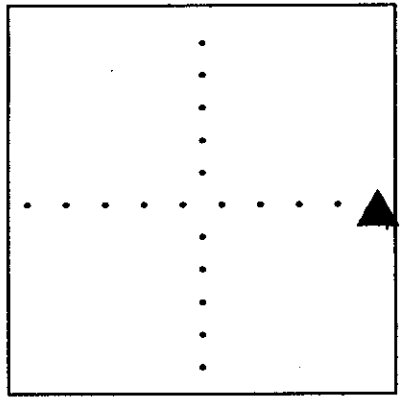
 TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED SOUTH ON HWY 97 0.3 MI., TURN RIGHT ON FRANKLIN AVE & PROCEED 0.6 MI., LEFT ON BOND ST. & PROCEED SOUTH 0.4 MI., TURN RIGHT ON COLORADO AVE AND PROCEED 1.10 MI. TO THE INTERSECTION WITH CENTURY DRIVE HWY., TURN LEFT AND PROCEED SOUTHERLY 19.0 MI. TO THE STATION ON THE LEFT.

 THE STATION MARK IS A 3 1/2 IN. DISK CROUTRED IN A ROCK OUTCROP 1.0 FEET ABOVE GROUND LEVEL.
 68 FEET SOUTHERLY FROM THE SOUTH EDGE OF ROAD
 2 FEET SOUTH FROM A WITNESS POST.
 560 FEET EASTERLY FROM ROAD TO SUNRISE SKI LODGE

Location and reference sketch:
Name: P 35 RESET 1987
GIS #: 62



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: FIRST 1945 GIS # 0063 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p align="center">T. 18 S.- R. 10 E., SEC. 1</p>	<p>LATITUDE: 44° 02' 28.04986" N LONGITUDE: 121° 27' 56.09387" W</p> <p>----- EC CARTESIAN ----- X: -2397639.383 METERS Y: -3917872.764 METERS Z: +4412343.322 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1389.332 METERS NGVD 29 : 1408.692 METERS NAVD 88 : 1409.908 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 264219.363±.005 METERS EAST: 1422608.773±.004 METERS</p> <p>SCALE FACTOR: 1.000010712 CONVERGENCE: - 0° 39' 38.16 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - FIRST 1945
AGENCY INSCRIPTION - U. S. COAST AND GEOIDETIC SURVEY
THE STATION IS LOCATED ABOUT 8 MILES WEST OF BEND.

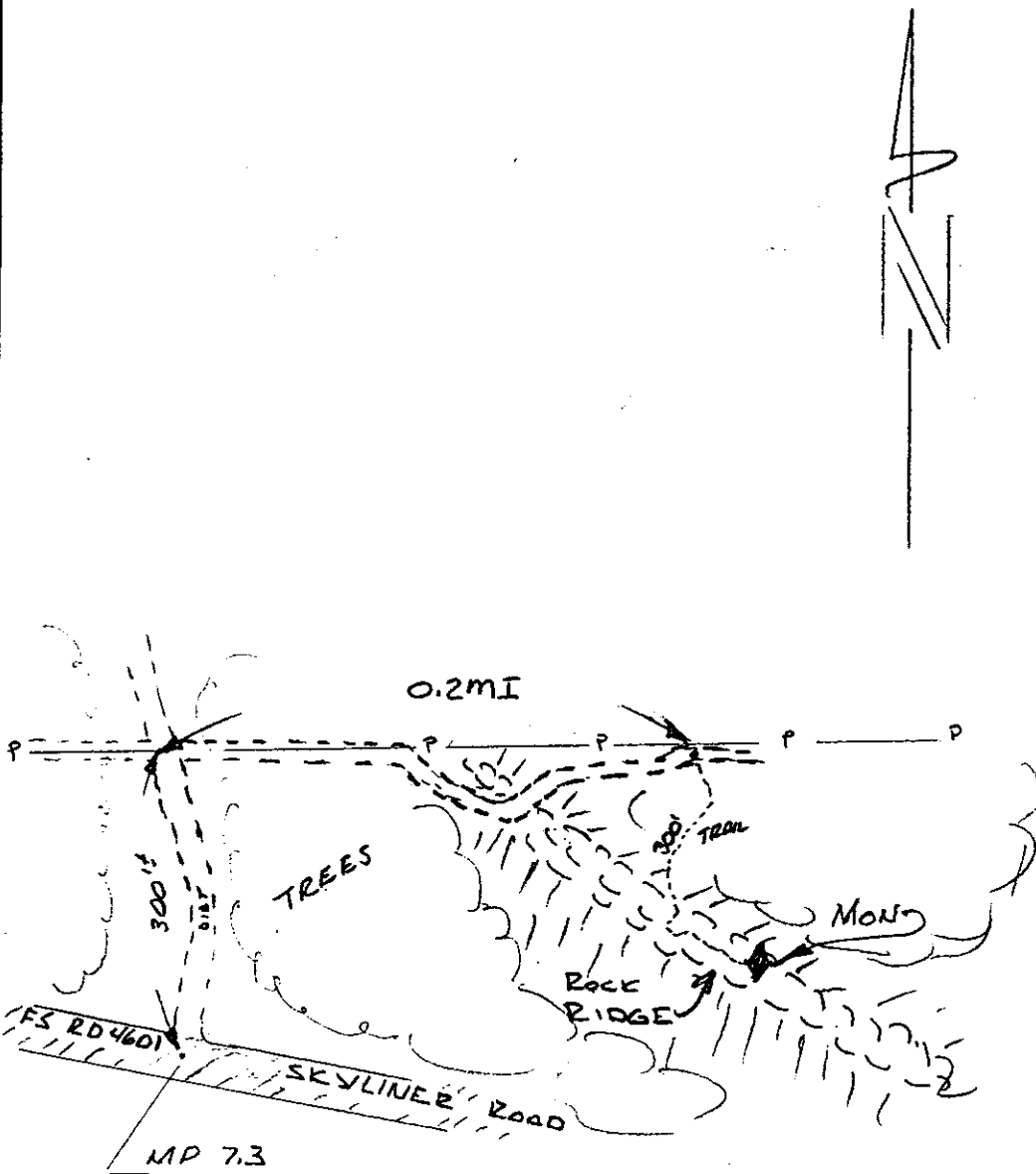
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED WEST ON 3RD ST. 0.5 MI. TO INTERSECTION WITH WALL ST. (GREENWOOD CHANGES TO NEWPORT AV.), PROCEED WESTERLY ON NEWPORT AV. 1.00 MI., TURN LEFT ON W. 14TH ST & PROCEED SO. 0.40 MI., TURN RIGHT ON GALVESTON AV. & PROCEED WESTERLY (0.4 MI. CHANGES TO SKLINER RD. (FS RD 4601)) 7.4 MI. TURN RIGHT ON DIRT RD., PROCEED NORTHERLY 0.05 MI. TURN RIGHT ON POWER & WATER LINE RD, PROCEED EASTERLY 0.2 MI PARK ON DOWN SLOPE NEAR POWER LINE CROSSES RD, PACK SOUTHEASTERLY 300 FT TO HIGH ROCK RIDGE, MARK IS ON HIGHEST PART.

THE STATION MARK IS A 3 1/2 IN. USC&GS BRASS CAP GROUTED INTO A MASS OF ROCK. ROCK RIDGE RUNS S.70 E. 360 DEG. OF 15 DEG MASK FOR GPS

Location and reference sketch:

Name: FIRST 1945

GIS #: 63

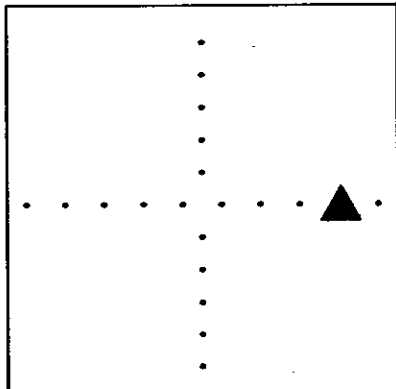


DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: DES016 1990
GIS # 0064
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 17 S.- R. 09 E., SEC.10

LATITUDE: 44° 07' 04.70321" N
LONGITUDE: 121° 37' 43.72853" W

----- EC CARTESIAN -----
X: -2405873.021 METERS
Y: -3906287.750 METERS
Z: +4418843.779 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1913.648 METERS
NGVD 29 : 1932.616 METERS
NAVD 88 : 1933.942 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 272921.251±.007 METERS
EAST: 1409641.591±.007 METERS

SCALE FACTOR: 1.000032126
CONVERGENCE: - 0° 46' 20.19 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - DES016 1990
AGENCY INSCRIPTION - USFS
THE STATION IS LOCATED ABOUT 12.5 MILES SOUTH OF SISTERS

TO REACH THE STATION FROM SISTERS START AT THE INTERSECTION OF ELM STREET AND US HWY 20 (CASCADE ST.), PROCEED SOUTH ON ELM ST. (AT CITY LIMITS ROAD IS NAMED THREE CREEKS ROAD AND FOREST RD 16) FOR 14.46 MILES TO THE STATION N THE RIGHT.

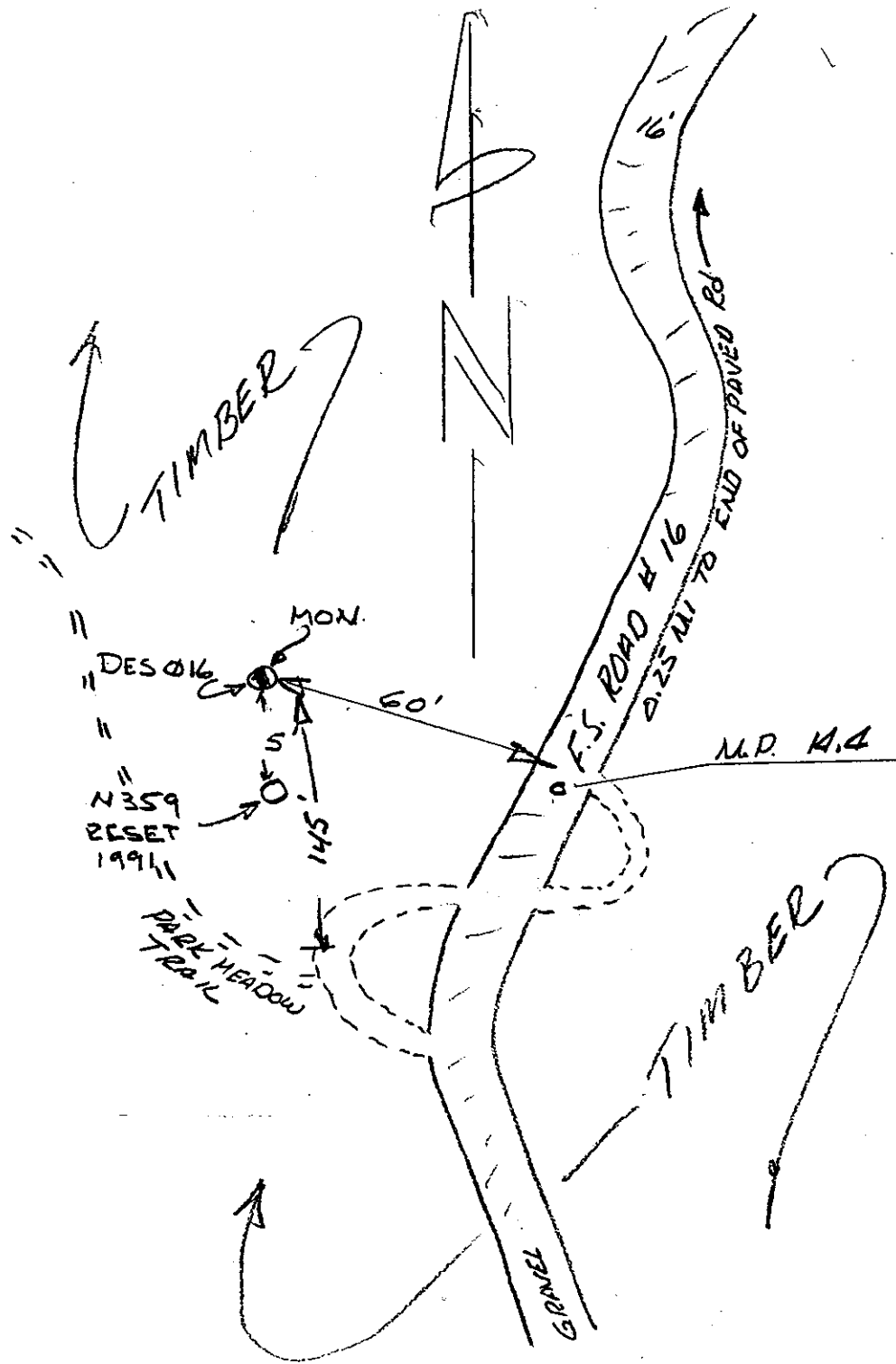
THE STATION MARK IS A 1 1/2 IN. ALUMINUM CAP ON A 5/8 IN. IRON ROD 1 IN. ABOVE GROUND LEVEL.
63 FEET NORHTWEST FROM THE ROAD CENTER LINE
1 FOOT EAST FROM A WITNESS POST.

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: DES 016

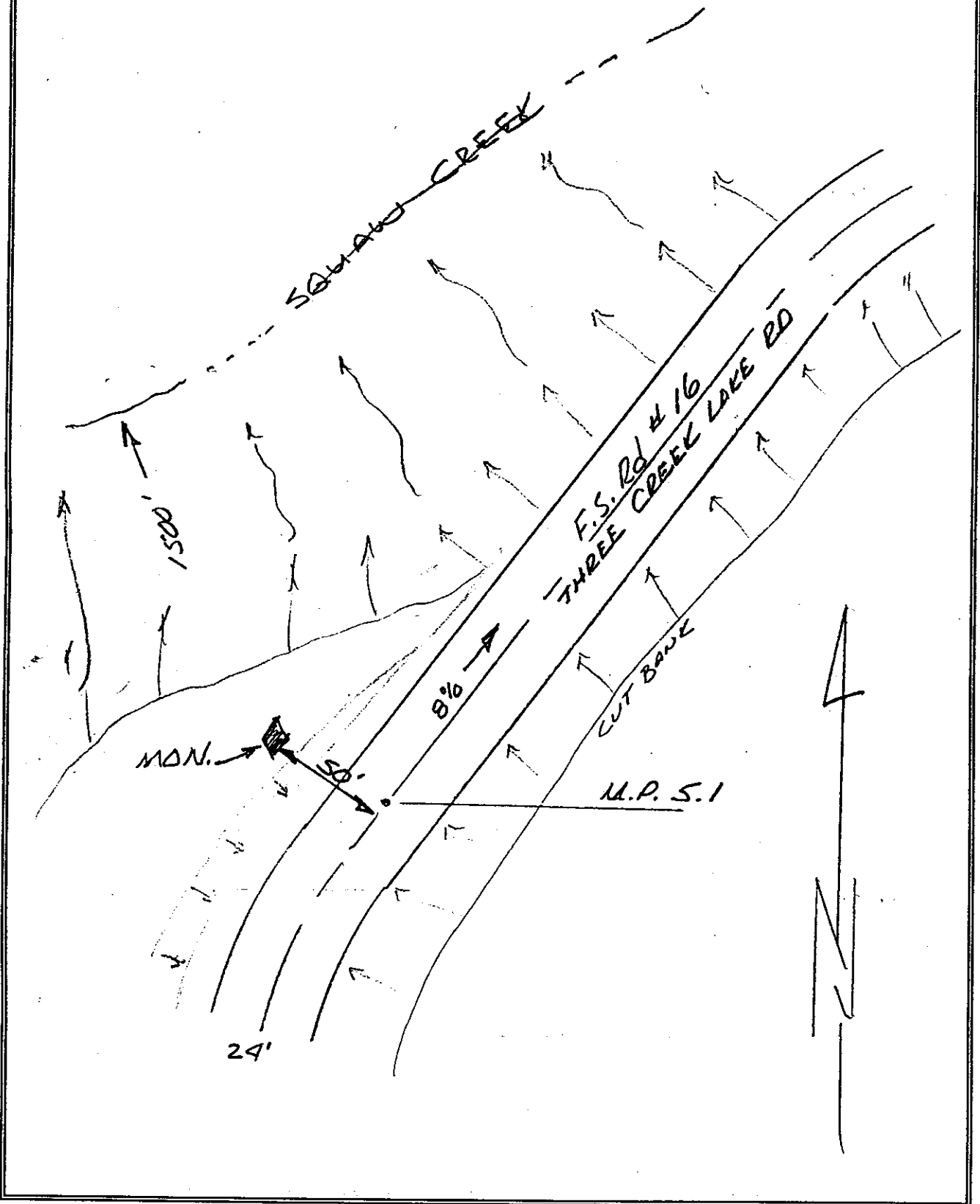
GIS #: 64



Location and reference sketch:

Name: X259 1942

GIS #: 65



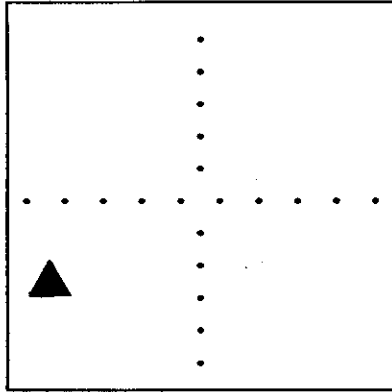
DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th. St.
Bend, Oregon. 97702
(503) 383-4395

DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0068
GIS # 0068
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 17 S.- R. 11 E., SEC.12

LATITUDE: 44° 06' 46.17468" N
LONGITUDE: 121° 21' 44.63437" W

----- EC CARTESIAN -----
X: -2387568.959 METERS
Y: -3917244.359 METERS
Z: +4417833.558 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1052.362 METERS
NGVD 29 : 1072.121 METERS
NAVD 88 : 1073.292 METERS
----- SPC -- OREGON SOUTH -----
NORTH: 272095.852±.004 METERS
EAST: 1430960.622±.004 METERS

SCALE FACTOR: 1.000030635
CONVERGENCE: - 0° 35' 24.03 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 68
AGENCY INSCRIPTION - DESCHUTES COUNTY PUBLIC WORKS
THE STATION IS LOCATED ABOUT 5 MILE NORTHWEST OF BEND.

TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED WEST ON GREENWOOD AV. FOR 0.50 MI. TO THE INTERSECTION WITH WALL ST., PROCEED WESTWELY ON NEWPORT AV. 1.30 MI. TO POINT OF ROAD NAME CHANGE TO SHEVLEN PARK ROAD, CONTINUE ON SHEVLEN PARK ROAD FOR 2.70 MI. MORE TO ENTRANCE OF SHEVLEN PARK AND BEGINNING OF JOHNSON ROAD, PROCEED NORTHERLY ON JOHNSON ROAD FOR 2.3 MI TO THE INTERSECTION WITH TUMALO CREEK ROAD; PROCEED EAST FOR 270 FEET TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 2 IN. ALUMINUM CAP ON A STEEL ROD IN A MASS OF CONCRETE 0.3 FT ABOVE GROUND LEVEL
1 FT. NORTH OF A WIRE FENCE LINE
1 FOOT SOUTH OF A WITNESS POST.
12 FEET SOUTH OF ROAD EDGE
270 FEET EAST OF JOHNSON ROAD

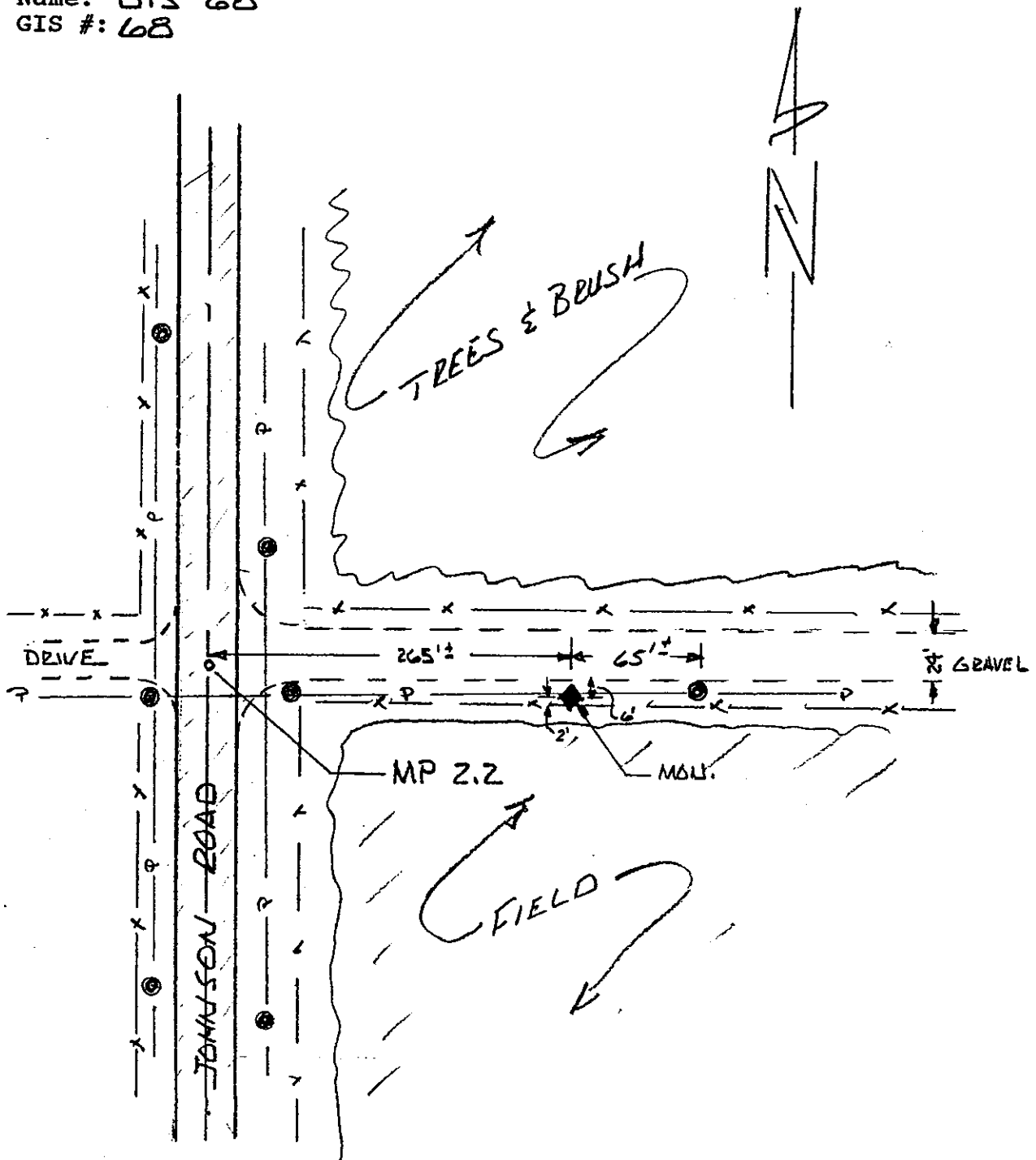
360 DEG. OF 15 DEG. MASK FOR GPS

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: GIS 68

GIS #: 68

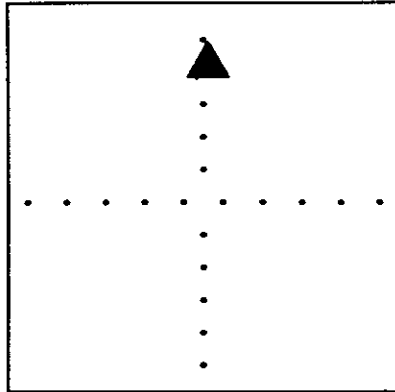


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: GIS 0069
GIS # 0069
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 20 S.- R. 10 E., SEC.33

LATITUDE: 43° 48' 11.05519" N
LONGITUDE: 121° 32' 05.68964" W

----- EC CARTESIAN -----
X: -2411931.345 METERS
Y: -3930536.028 METERS
Z: +4393203.686 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1268.365 METERS
NGVD 29 : 1287.869 METERS
NAVD 88 : 1289.098 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 237837.872±.004 METERS
EAST: 1416725.237±.004 METERS

SCALE FACTOR: 0.999955916
CONVERGENCE: - 0° 42' 28.92 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0069 1990
AGENCY INSCRIPTION - NONE
THE STATION IS LOCATED ABOUT 9 MILES NORTHEAST OF LAPINE

TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED NORTHERLY ON HWY 97 FOR 12.5 MI TO INTERSECTION WITH VANDERVERT ROAD, TURN LEFT ON VANDERVERT ROAD AND PROCEED WEST FOR 1.0 MI. TO THE INTERSECTION WITH SOUTH CENTURY DRIVE, TRUN LEFT ON SOUTH CENTURY DRIVE AND PROCEED SOUTH AND THEN WESTERLY (1.43 MI LITTLE DESCHUTES RIVER) (3.93 MI. DESCHUTES RIVER) 6.06 MI TO FOREST ROAD # 4360, TURN LEFT ON RD # 4360 AND PROCEED SOUTH 0.14 MI TO THE STATION ON THE RIGHT.

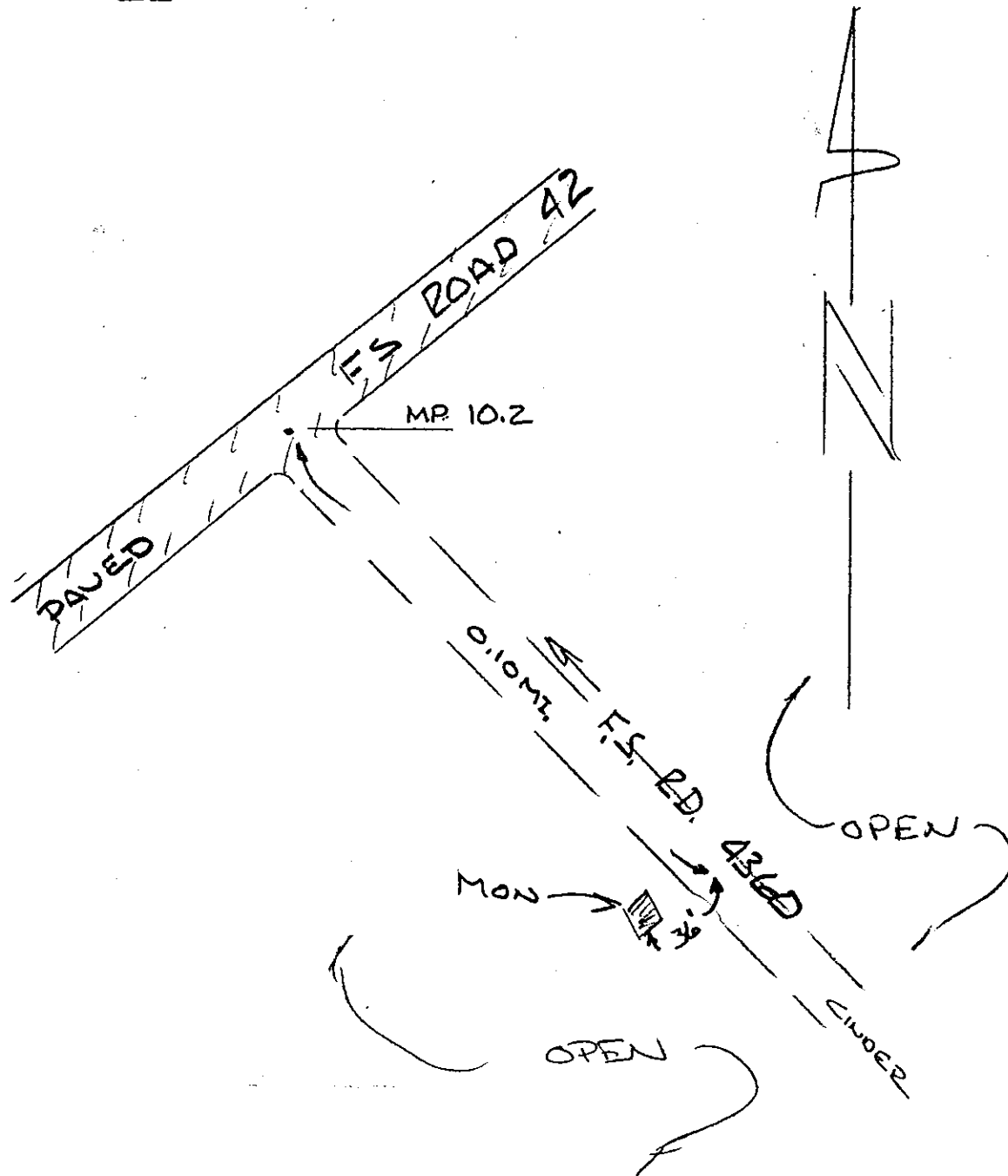
THE STATION MARK IS A 2 1/2 IN. DISK IN A MASS OF CONCRETE 0.1 FEET ABOVE GROUND LEVEL.

26 FEET SOUTHWESTERLY OF SOUTH EDGE OF ROAD
1 FOOT NORTHEASTERLY FROM A WITNESS POST.

Location and reference sketch:

Name: GIS 69

GIS #: 69

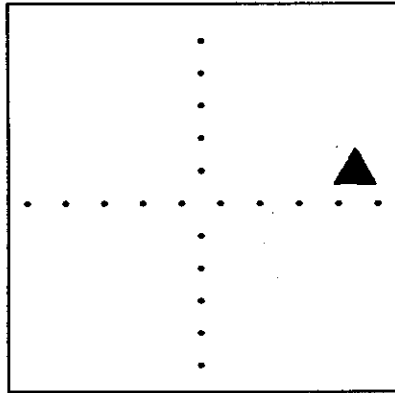


DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: GIS 0070
GIS # 0070
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 23 S.- R. 13 E., SEC.20

LATITUDE: 43° 33' 58.48657" N
LONGITUDE: 121° 10' 34.83013" W

----- EC CARTESIAN -----
X: -2396810.318 METERS
Y: -3961294.737 METERS
Z: +4374382.011 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1573.295 METERS
NGVD 29 : 1592.308 METERS
NAVD 88 : 1593.536 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 211232.980±.010 METERS
EAST: 1445364.610±.008 METERS

SCALE FACTOR: 0.999918657
CONVERGENCE: - 0° 27' 45.78 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - GIS 0042 1990
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 18 MILES EASTERLY OF LAPINE

TO REACH THE STATION FROM LAPINE, START AT THE INTERSECTION OF US HWY 97 AND FINLEY BUTTE ROAD (FOREST RD. 22) AND PROCEED EASTERLY ON FOREST ROAD 22 FOR 20.5 MI. TO FOREST ROAD 2230, TURN LEFT AND PROCEED NORTH FOR 260 FEET TO THE STATION ON THE LEFT.

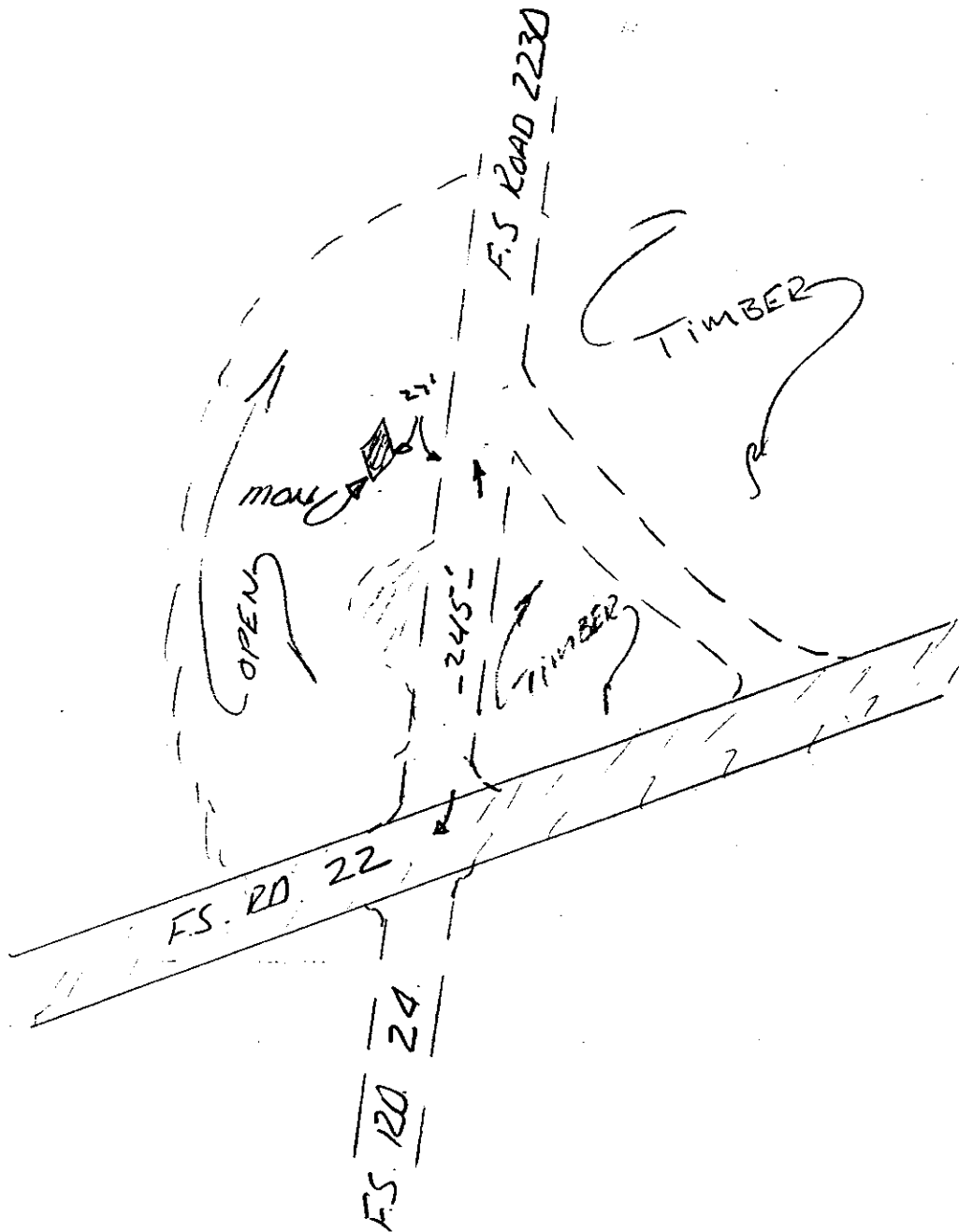
THE STATION MARK IS A 3 1/2 IN. ALUM CAP ON A IRON PIPE IN A MASS OF CONCREET AT GROUND LEVEL.
42 FEET WEST OF THE CENTER OF ROAD 2230
1 FOOT SOUTH OF A WITNESS POST
4 FEET BELOW ROAD LEVEL

DESCHUTES COUNTY SURVEYOR'S OFFICE
61150 S.E. 27th St.
Bend, Oregon. 97702
(503) 383-4395

Location and reference sketch:

Name: GIS 70

GIS #: 70

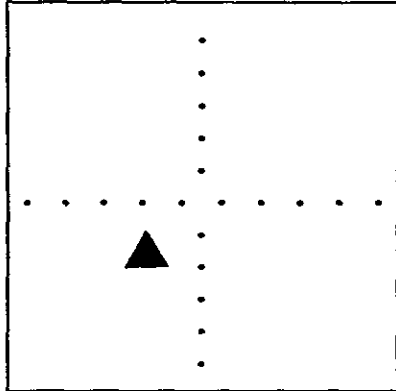


DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION

NAME: 6-DPB-1978
GIS # 0071
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 20 S.- R. 16 E., SEC.31

LATITUDE: 43° 42' 29.47485" N
LONGITUDE: 120° 50' 48.40016" W

----- EC CARTESIAN -----
X: -2368371.571 METERS
Y: -3965615.483 METERS
Z: +4385737.858 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1485.908 METERS
NGVD 29 : 1504.749 METERS
NAVD 88 : 1505.964 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 226839.493±.011 METERS
EAST: 1472052.100±.008 METERS

SCALE FACTOR: 0.999938926
CONVERGENCE: - 0° 14' 14.09 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by GPS.

SURFACE MARKER:
MARK IS STAMPED - 6 DPB 1978 4937
AGENCY INSCRIPTION - US DEPT INTERIOR GEOLOGICAL SURVEY
THE STATION IS LOCATED ABOUT 11 MI. SOUTH OF MILLICAN.

TO REACH THE STATION FROM MILLICAN, GO WESTERLY ON HWY 20 FOR 3.7 MI., TURN LEFT ON SPENCER WELLS ROAD (FOREST ROAD 23) PROCEED SOUTH & SOUTHEASTERLY FOR 18.9 MI. (AT 5.9 MI. RD 25), (AT 18.9 MI. BPA POWER LINE & SUBSTATION) TO THE INTERSECTION WITH FOREST 22, TURN RIGHT TO THE STATION ON THE RIGHT.

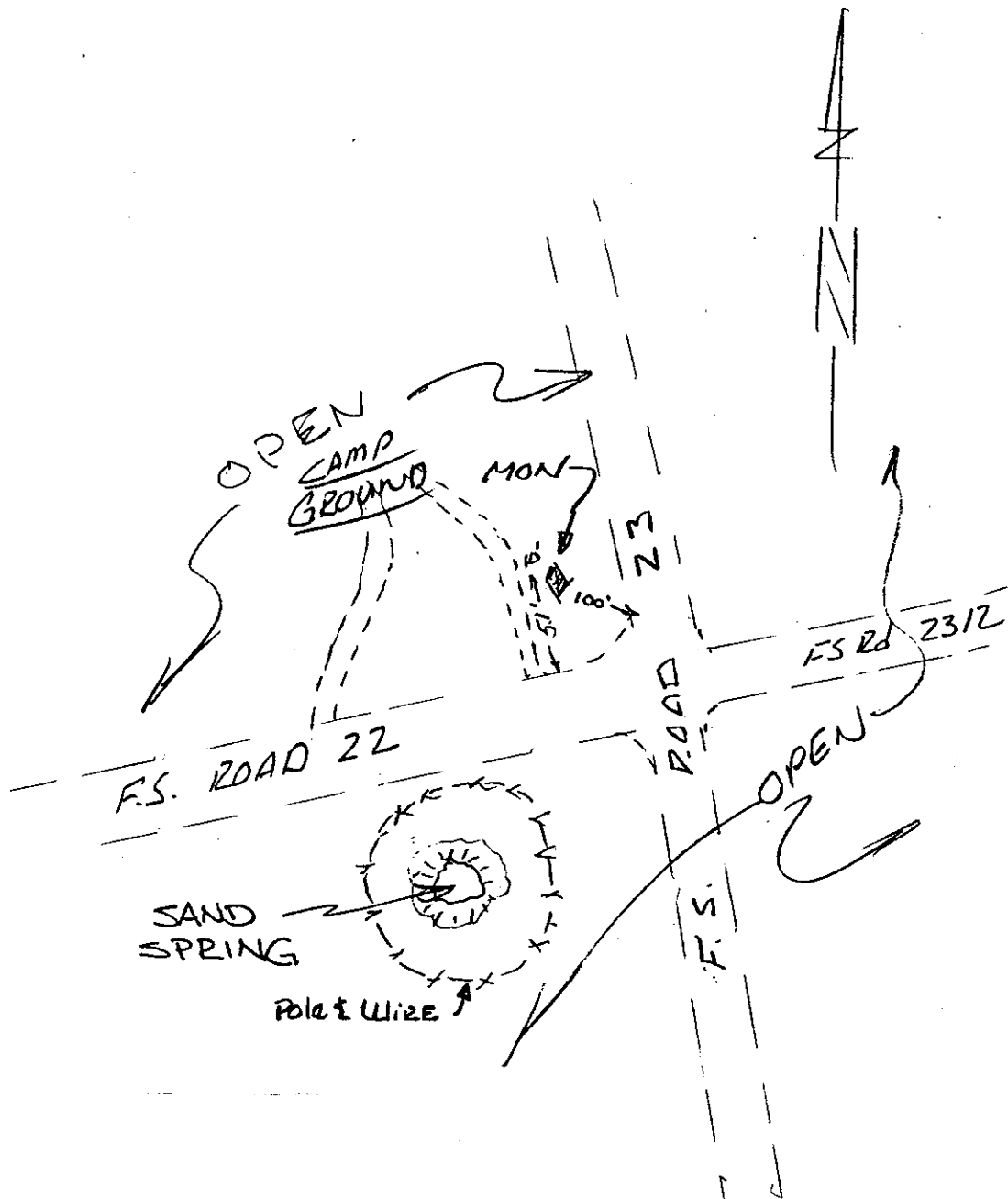
NOTE:ELEV 4937.183 FROM FIELD BOOK SUMMARY MAY NOT BE ADJUSTED.

THE STATION MARK IS A 3 1/2 IN. BRASS CAP ON A COPER-COATED ROD IN A 8 IN. PVC PIPE, CAP IS ABOUT 2 IN ABOVE GROUND LEVEL. N 80 W 66 FEET FROM RD. INTERSECTION. 10 FEET EAST OF DIRT ROAD. 1 FEET SOUTH OF A WITNESS POST.

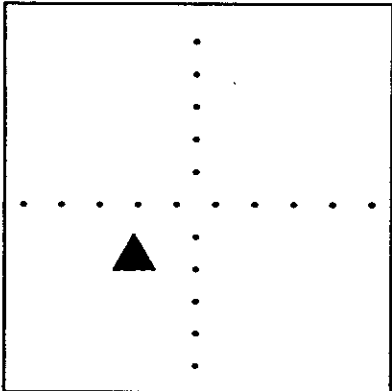
Location and reference sketch:

Name: 6 DPB 1978

GIS #: 71



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: GIS 0072 GIS # 0072 ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 22 S.- R. 14 E., SEC.04</p>	<p>LATITUDE: 43° 41' 44.65967" N LONGITUDE: 121° 03' 59.01391" W</p> <p>----- EC CARTESIAN ----- X: -2384092.898 METERS Y: -3957402.337 METERS Z: +4384821.586 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1607.332 METERS NGVD 29 : 1626.121 METERS NAVD 88 : 1627.329 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 225552.979±.009 METERS EAST: 1454343.515±.008 METERS</p> <p>SCALE FACTOR: 0.999936902 CONVERGENCE: - 0° 23' 14.99 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - GIS 0072
AGENCY INSCRIPTION - DESCHUTES COUNTY SURVEYORS OFFICE
THE STATION IS LOCATED ABOUT 14 MI. SOUTHWEST OF MILLICAN.

TO REACH THE STATION FROM MILLICAN, GO WESTERLY ON HWY 20 FOR 3.7 MI., TURN LEFT ON SPENCER WELLS ROAD (FOREST ROAD 23) PROCEED SOUTH FOR 5.9 MI. TO FOREST RD 25, TURN RIGHT ON RD. 25 AND PROCEED SOUTH & WEST FOR 4.8 MI. TO THE INTERSECTION WITH FOREST ROAD 18. TURN LEFT ON RD 18 AND PROCEED SOUTH FOR 7.7 MI. TO THE JUNCTION WITH FOREST ROAD 21. TURN RIGHT ON RD.21 AND PROCEED WEST FOR 0.7 MI. TO THE STATION ON THE LEFT.

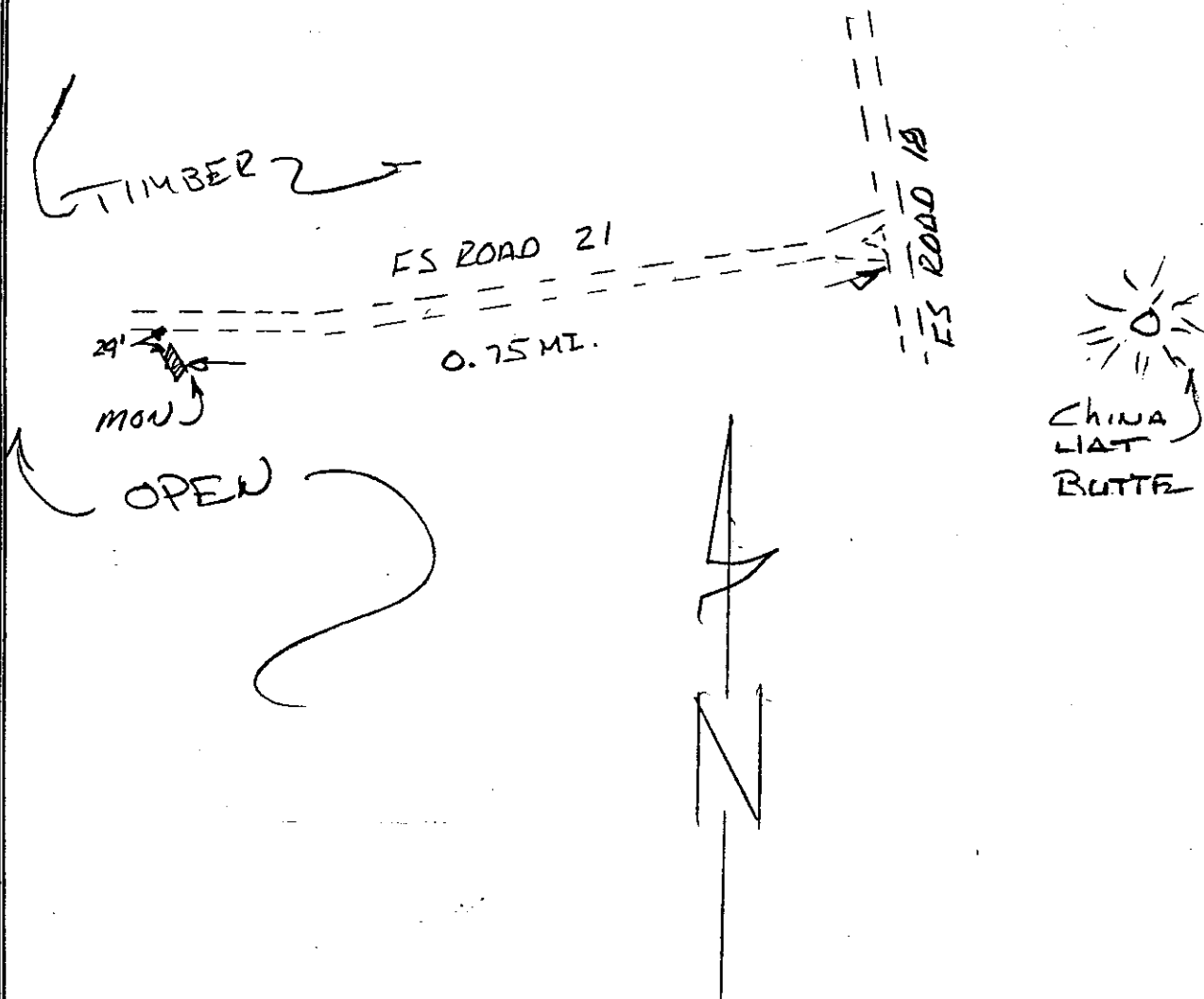
THE STATION MARK IS A 3 1/2 IN. STANDARD CAP ON A IRON PIPE IN A MASS OF CONCRETE ABOUT 2 IN ABOVE GROUND LEVEL.

15 FEET SOUTH OF ROAD EDGE.
1 FEET NORTH OF A WITNESS POST.

Location and reference sketch:

Name: GIS 72

GIS #: 72

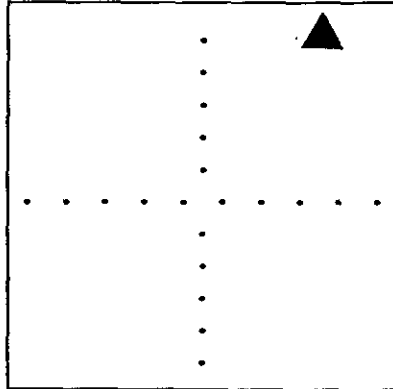


**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

NAME: B004 ODOT 1990
GIS # NONE
ORDER C-1st. (GPS)

HORIZONTAL DATUM: NAD 83 (1991)
VERT. DATUM: NGVD 29 & NAVD 88

STATION LOCATION



T. 17 S.- R. 12 E., SEC.32

LATITUDE: 44° 03' 57.08173" N
LONGITUDE: 121° 18' 23.36057" W

----- EC CARTESIAN -----
X: -2385645.695 METERS
Y: -3922696.988 METERS
Z: +4414108.786 METERS

----- HEIGHT -----
ELLIPSOIDAL: 1087.536 METERS
NGVD 29 : 1107.173 METERS
NAVD 88 : 1108.360 METERS
---- SPC -- OREGON SOUTH ----
NORTH: 266832.319±.004 METERS
EAST: 1435386.050±.003 METERS

SCALE FACTOR: 1.000017405
CONVERGENCE: - 0° 33' 06.33 "

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - B004 1990
AGENCY INSCRIPTION - OREGON HIGHWAY DEPARTMENT
THE STATION IS LOCATED ABOUT (IN BEND)

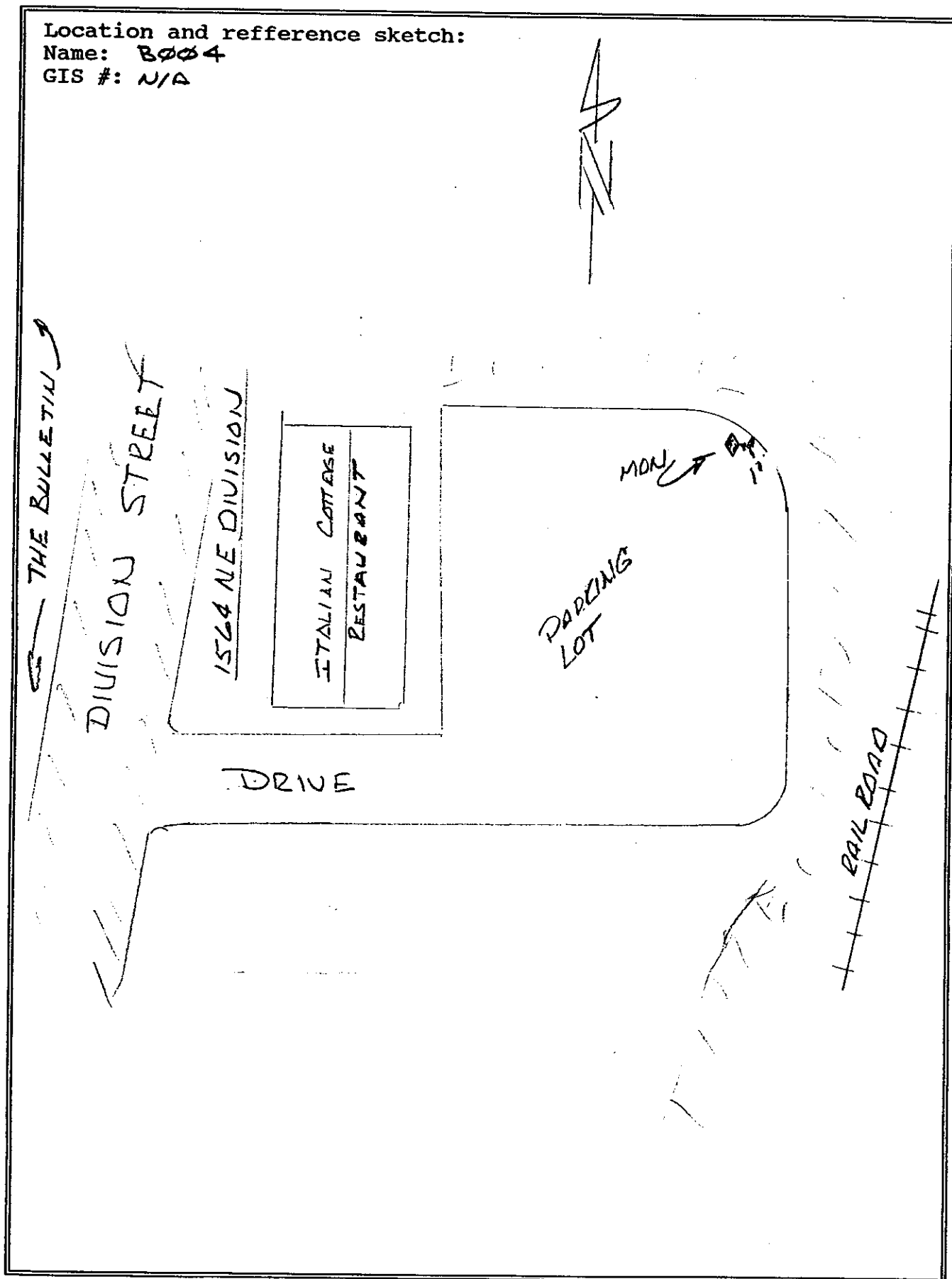
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED NORTH ON HWY 97 FOR 1.45 MI., TURN LEFT ON REVER STREET AND PROCEED WEST FOR 0.44 MI. TO DIVISION STREET AND TURN LEFT AND PROCEED SOUTH FOR 0.45 MI AND TURN LEFT AT DRIVE WAY TO PARKING LOT IN BACK OF ITALIAN COTTAGE RESTAURANT

THE STATION MARK IS A STANDARD HIGHWAY BRASS CAP IN CONCRETE IN A 6 IN. DIA. PIPE MON. BOX 1.0 FEET BELOW ASPHALT SURFACE IN NORTHEAST CORNER OF THE PARKING LOT.
134.5 FEET EAST OF NORTHEAST OF RESTAURANT
53.1 FEET SOUTH OF YARD LIGHT POLE

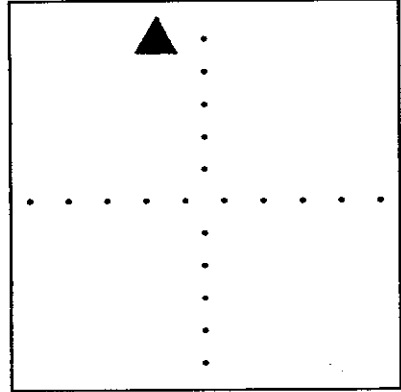
Location and reference sketch:

Name: B004

GIS #: N/A



**DESCHUTES COUNTY PRIME CONTROL NETWORK
CONTROL STATION DESCRIPTION**

<p>NAME: STEVENS GIS # NONE ORDER C-1st. (GPS)</p>	<p>HORIZONTAL DATUM: NAD 83 (1991) VERT. DATUM: NGVD 29 & NAVD 88</p>
<p align="center">STATION LOCATION</p>  <p>T. 18 S.- R. 12 E., SEC.11</p>	<p>LATITUDE: 44° 02' 12.88309" N LONGITUDE: 121° 15' 27.11712" W</p> <p>----- EC CARTESIAN ----- X: -2383461.676 METERS Y: -3926659.215 METERS Z: +4411812.060 METERS</p> <p>----- HEIGHT ----- ELLIPSOIDAL: 1109.274 METERS NGVD 29 : 1128.816 METERS NAVD 88 : 1129.980 METERS ---- SPC -- OREGON SOUTH ---- NORTH: 263579.713±.003 METERS EAST: 1439279.126±.003 METERS</p> <p>SCALE FACTOR: 1.000009591 CONVERGENCE: - 0° 31' 05.75 "</p>

The horizontal coordinates & ellipsoidal height was determined by GPS observations constrained by Oregon High Percision Network. Adjusted by Deschutes Co. Surveyor's Office in July 1991. The orthometric height was determined by differential leveling.

SURFACE MARKER:
MARK IS STAMPED - STEVENS 1978
AGENCY INSCRIPTION - DESCHUTES COUNTY CONTROL SURVEY
THE STATION IS LOCATED ABOUT 2.6 MILES SOUTHEAST OF BEND

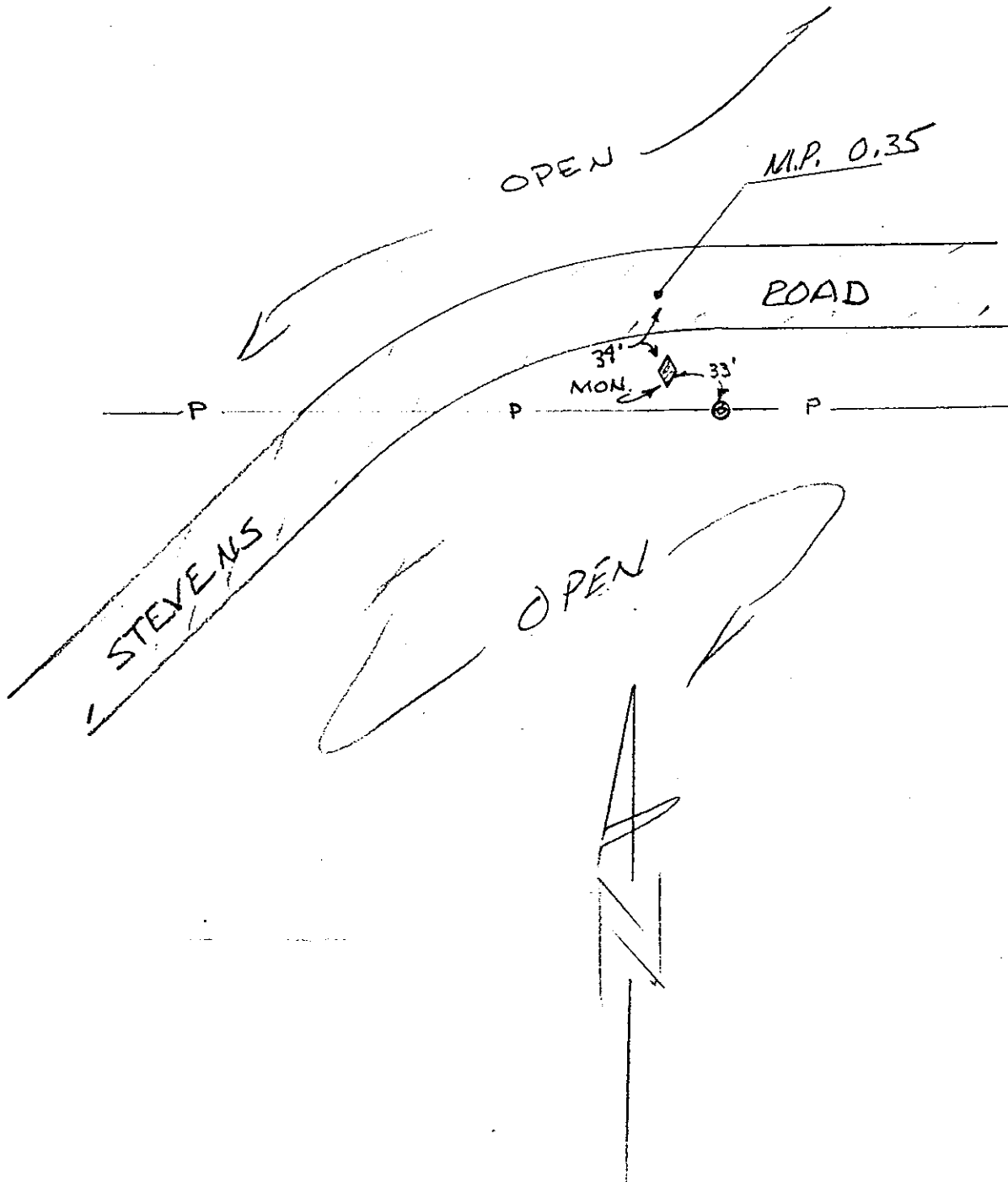
TO REACH THE STATION FROM BEND, START AT THE INTERSECTION OF US HWY 20 (GREENWOOD AV.) & US HWY 97 (3RD ST.), PROCEED EAST ON HWY 20 FOR 2.04 MI., TURN RIGHT ON SE 27TH STREET & PROCEED SOUTH FOR 1.35 MI., TURN LEFT AT STEVENS ROAD AND PROCEED FOR 0.3 MI. TO THE STATION ON THE RIGHT.

THE STATION MARK IS A 3 1/2 IN. STANDARD DESCHUTES COUNTY ALUMINUM DISK GROUTED IN BEDROCK AT GROUND LEVEL.
27.34 FEET SOUTH OF THE SOUTH EDGE OF PAVEMENT OF STEVENS RD.
39.6 FEET WESTERLY OF A POWER POLE.
9.0 FEET SOUTH OF A WITNESS POST.

Location and reference sketch:

Name: STEVENS 1978

GIS #: N/A



DESCHUTES
COUNTY
PLANE
COORDINATES

DESCHUTES COUNTY PLANE COORDINATES

Geodetic and Mapping Coordinates & Heights

Datum = NAD-83(1991) & NGVD-29
 Projection: Transverse Mercator
 Zone = NONE
 Central Meridian = W 121°17'00.000000"
 Latitude of Origin = N 43°00'00.000000"
 Origin Northing= 0.00 Easting= 3300000.00
 Scale along Central Meridian = 1.000160000000
 Linear units = International Foot

GIS NUMBER	STATION NAME	DATA	ONE SIGMA ERROR	
GIS 13	GIS 13	Latitude	N 44°02'39.713240"	
		Longitude	W 121°19'25.050791"	
		Scale Factor	1.000160128220	
		Convergence	-0°01'40.8415"	
		Northing(y)	380745.8354	0.006528F
		Easting (x)	3289403.6533	0.006279F
		Ellipsoid Height	3595.6887	0.013351F
		Orthometric Height	3659.9252	0.037254F
		Geoid Height	-64.2366	0.037311F
GIS 14	GIS 14	Latitude	N 44°13'05.764211"	
		Longitude	W 121°28'22.863454"	
		Scale Factor	1.000162825005	
		Convergence	-0°07'56.2255"	
		Northing(y)	444207.1439	0.012236F
		Easting (x)	3250261.1674	0.010488F
		Ellipsoid Height	3201.4196	0.026921F
		Orthometric Height	3266.9227	0.061720F
		Geoid Height	-65.5031	0.059021F
GIS 15	GIS 15	Latitude	N 44°17'28.467768"	
		Longitude	W 121°33'59.467770"	
		Scale Factor	1.000166280845	
		Convergence	-0°11'51.9033"	
		Northing(y)	470884.9210	0.011216F
		Easting (x)	3225835.1409	0.010236F
		Ellipsoid Height	3131.1647	0.019459F
		Orthometric Height	3196.9488	FIXED
		Geoid Height	-65.7841	0.019459F
GIS 16	GIS 16	Latitude	N 44°09'39.459570"	
		Longitude	W 121°24'13.397769"	
		Scale Factor	1.000161140176	
		Convergence	-0°05'01.9383"	
		Northing(y)	423278.0923	0.010550F
		Easting (x)	3268401.3027	0.010048F
		Ellipsoid Height	3355.4900	0.021965F
		Orthometric Height	3420.6837	0.065090F
		Geoid Height	-65.1937	0.063633F
GIS 17	GIS 17	Latitude	N 44°17'28.244964"	
		Longitude	W 121°27'11.774871"	
		Scale Factor	1.000162261799	
		Convergence	-0°07'07.2062"	
		Northing(y)	470780.4575	0.012147F
		Easting (x)	3255494.1874	0.011505F
		Ellipsoid Height	3021.4624	0.024662F
		Orthometric Height	3087.5361	FIXED
		Geoid Height	-66.0737	0.024662F

GIS 18	GIS 18	Latitude	N 44°17'32.850725"	
		Longitude	W 121°19'52.756796"	
		Scale Factor	1.000160180352	
		Convergence	-0°02'00.6397"	
		Northing(y)	471204.5285	0.014370F
		Easting (x)	3287432.4449	0.013268F
		Ellipsoid Height	2976.6437	0.026460F
		Orthometric Height	3042.5919	FIXED
		Geoid Height	-65.9482	0.026460F
GIS 19	14120604	Latitude	N 44°22'42.082033"	
		Longitude	W 121°20'30.795647"	
		Scale Factor	1.000160267730	
		Convergence	-0°02'27.4291"	
		Northing(y)	502526.4146	0.008954F
		Easting (x)	3284687.5980	0.009474F
		Ellipsoid Height	2701.4029	0.018197F
		Orthometric Height	2767.7069	0.077088F
		Geoid Height	-66.3040	0.076389F
GIS 20	14120188	Latitude	N 44°23'34.795294"	
		Longitude	W 121°13'45.481152"	
		Scale Factor	1.000160227866	
		Convergence	+0°02'16.0807"	
		Northing(y)	507864.6431	0.009904F
		Easting (x)	3314126.5174	0.012679F
		Ellipsoid Height	2699.9186	0.021709F
		Orthometric Height	2765.5990	0.083171F
		Geoid Height	-65.6804	0.081523F
GIS 21	GIS 21	Latitude	N 44°21'01.231337"	
		Longitude	W 121°10'16.763538"	
		Scale Factor	1.000160980643	
		Convergence	+0°04'41.8802"	
		Northing(y)	492326.3837	0.011739F
		Easting (x)	3329305.4540	0.012417F
		Ellipsoid Height	2801.8941	0.025877F
		Orthometric Height	2867.1384	0.057599F
		Geoid Height	-65.2443	0.060072F
GIS 22	GIS 22	Latitude	N 44°17'28.648219"	
		Longitude	W 121°12'33.565460"	
		Scale Factor	1.000160428992	
		Convergence	+0°03'06.0530"	
		Northing(y)	470783.9528	0.011313F
		Easting (x)	3319382.7229	0.011415F
		Ellipsoid Height	2883.8511	0.024602F
		Orthometric Height	2949.3465	0.052199F
		Geoid Height	-65.4955	0.053945F
GIS 23	GIS 23	Latitude	N 44°13'06.655067"	
		Longitude	W 121°13'48.386981"	
		Scale Factor	1.000160222432	
		Convergence	+0°02'13.6303"	
		Northing(y)	444244.4736	0.010264F
		Easting (x)	3313956.7690	0.010186F
		Ellipsoid Height	3060.3033	0.022980F
		Orthometric Height	3125.5964	0.052569F
		Geoid Height	-65.2931	0.053479F
GIS 24	GIS 24	Latitude	N 44°07'28.469351"	
		Longitude	W 121°01'37.719324"	
		Scale Factor	1.000165169674	
		Convergence	+0°10'42.1132"	
		Northing(y)	410092.9702	0.014900F
		Easting (x)	3367284.0923	0.013413F
		Ellipsoid Height	3274.2439	0.032829F
		Orthometric Height	3337.9924	0.070729F
		Geoid Height	-63.7485	0.068854F

GIS 25	GIS 25	Latitude	N 43°58'43.242774"	
		Longitude	W 121°13'28.434985"	
		Scale Factor	1.000160273382	
		Convergence	+0°02'26.9088"	
		Northing(y)	356799.5163	0.009917F
		Easting (x)	3315472.4556	0.008847F
		Ellipsoid Height	3886.9292	0.020080F
		Orthometric Height	3950.4954	0.052791F
		Geoid Height	-63.5662	0.052794F
GIS 26	17142600	Latitude	N 44°03'47.489522"	
		Longitude	W 121°01'37.309081"	
		Scale Factor	1.000165185064	
		Convergence	+0°10'41.6888"	
		Northing(y)	387712.3527	0.014930F
		Easting (x)	3367383.6863	0.013045F
		Ellipsoid Height	3316.0315	0.034003F
		Orthometric Height	3379.7976	0.071364F
		Geoid Height	-63.7662	0.069010F
GIS 27	15131400	Latitude	N 44°15'43.386380"	
		Longitude	W 121°08'54.906147"	
		Scale Factor	1.000161423489	
		Convergence	+0°05'38.5673"	
		Northing(y)	460142.9905	0.012116F
		Easting (x)	3335307.3727	0.012277F
		Ellipsoid Height	2984.8912	0.025650F
		Orthometric Height	3049.9442	FIXED
		Geoid Height	-65.0531	0.025650F
GIS 28	14132500	Latitude	N 44°19'12.052418"	
		Longitude	W 121°07'42.323904"	
		Scale Factor	1.000161877615	
		Convergence	+0°06'29.6294"	
		Northing(y)	481286.6149	0.012538F
		Easting (x)	3340550.3426	0.012575F
		Ellipsoid Height	2890.8469	0.026771F
		Orthometric Height	2955.8071	FIXED
		Geoid Height	-64.9602	0.026771F
GIS 29	16120840	Latitude	N 44°12'11.928362"	
		Longitude	W 121°19'25.721139"	
		Scale Factor	1.000160128711	
		Convergence	-0°01'41.5977"	
		Northing(y)	438699.7658	0.011199F
		Easting (x)	3289383.1876	0.010803F
		Ellipsoid Height	3117.1333	0.024738F
		Orthometric Height	3182.6241	0.058553F
		Geoid Height	-65.4908	0.057078F
GIS 30	E-30 RESET 1969	Latitude	N 44°09'44.118717"	
		Longitude	W 121°15'05.570571"	
		Scale Factor	1.000160079479	
		Convergence	+0°01'19.7221"	
		Northing(y)	423728.4582	0.009879F
		Easting (x)	3308342.7789	0.009509F
		Ellipsoid Height	3212.4264	0.020565F
		Orthometric Height	3277.4606	FIXED
		Geoid Height	-65.0342	0.020565F
GIS 31	PILOT BUTTE 1932	Latitude	N 44°03'37.943010"	
		Longitude	W 121°16'59.648110"	
		Scale Factor	1.000160000001	
		Convergence	+0°00'00.2447"	
		Northing(y)	386640.6780	FIXED
		Easting (x)	3300025.6995	FIXED
		Ellipsoid Height	4073.9731	FIXED
		Orthometric Height	4138.3327	0.033082F
		Geoid Height	-64.3596	0.033082F

GIS 32	CLINE 1971	Latitude	N 44°15'11.461847"	
		Longitude	W 121°18'10.517454"	
		Scale Factor	1.000160030090	
		Convergence	-0°00'49.2092"	
		Northing(y)	456881.2353	0.010993F
		Easting (x)	3294866.6425	0.010876F
		Ellipsoid Height	4031.1835	0.023399F
		Orthometric Height	4096.8096	0.052405F
		Geoid Height	-65.6261	0.052962F
GIS 33	BIG FALLS 1945	Latitude	N 44°23'31.365800"	
		Longitude	W 121°17'46.935270"	
		Scale Factor	1.000160013267	
		Convergence	-0°00'32.8342"	
		Northing(y)	507512.8992	FIXED
		Easting (x)	3296591.3706	FIXED
		Ellipsoid Height	2858.4843	FIXED
		Orthometric Height	2924.6410	0.081858F
		Geoid Height	-66.1567	0.081858F
GIS 34	C-30 1921	Latitude	N 44°06'53.977039"	
		Longitude	W 121°17'27.310596"	
		Scale Factor	1.000160004535	
		Convergence	-0°00'19.0109"	
		Northing(y)	406494.9562	0.008173F
		Easting (x)	3298007.2601	0.007953F
		Ellipsoid Height	3373.5611	0.016808F
		Orthometric Height	3438.3629	FIXED
		Geoid Height	-64.8018	0.016808F
GIS 35	GIS 35	Latitude	N 43°59'27.220586"	
		Longitude	W 121°19'54.795814"	
		Scale Factor	1.000160186537	
		Convergence	-0°02'01.4034"	
		Northing(y)	361251.7283	0.010454F
		Easting (x)	3287219.2200	0.009636F
		Ellipsoid Height	3858.3703	0.020021F
		Orthometric Height	3922.1785	FIXED
		Geoid Height	-63.8082	0.020021F
GIS 36	GIS 36	Latitude	N 44°01'12.534256"	
		Longitude	W 121°22'09.961864"	
		Scale Factor	1.000160585990	
		Convergence	-0°03'35.3961"	
		Northing(y)	371925.7339	0.009305F
		Easting (x)	3277347.2376	0.008650F
		Ellipsoid Height	3816.6981	0.017933F
		Orthometric Height	3880.6759	FIXED
		Geoid Height	-63.9778	0.017933F
GIS 37	GIS 37	Latitude	N 43°58'57.508308"	
		Longitude	W 121°30'16.881301"	
		Scale Factor	1.000163878044	
		Convergence	-0°09'13.3880"	
		Northing(y)	358316.9549	0.016472F
		Easting (x)	3241725.2820	0.016079F
		Ellipsoid Height	5123.3350	0.032321F
		Orthometric Height	5186.2073	FIXED
		Geoid Height	-62.8724	0.032321F
GIS 38	GIS 38	Latitude	N 43°43'37.891940"	
		Longitude	W 121°25'24.370274"	
		Scale Factor	1.000161566959	
		Convergence	-0°05'48.6339"	
		Northing(y)	265135.8088	0.021134F
		Easting (x)	3262958.3863	0.018901F
		Ellipsoid Height	4219.2798	0.040200F
		Orthometric Height	4282.6969	FIXED
		Geoid Height	-63.4171	0.040200F

GIS 39	GIS 39	Latitude	N 43°44'27.991223"	
		Longitude	W 121°36'24.155551"	
		Scale Factor	1.000168344116	
		Convergence	-0°13'24.9028"	
		Northing(y)	270344.9869	0.016820F
		Easting (x)	3214522.6707	0.016068F
		Ellipsoid Height	4189.3192	0.029161F
		Orthometric Height	4253.6844	FIXED
		Geoid Height	-64.3652	0.029161F
GIS 40	GIS 40	Latitude	N 43°59'56.975718"	
		Longitude	W 121°06'58.297748"	
		Scale Factor	1.000162209763	
		Convergence	+0°06'57.9718"	
		Northing(y)	364306.0661	0.013144F
		Easting (x)	3343989.3666	0.010877F
		Ellipsoid Height	3529.3097	0.026385F
		Orthometric Height	3592.9954	FIXED
		Geoid Height	-63.6857	0.026385F
GIS 41	GIS 41	Latitude	N 43°51'45.737538"	
		Longitude	W 121°29'13.454407"	
		Scale Factor	1.000163298593	
		Convergence	-0°08'28.2356"	
		Northing(y)	314576.8286	0.016314F
		Easting (x)	3246255.7315	0.015954F
		Ellipsoid Height	4208.3099	0.029759F
		Orthometric Height	4271.8633	0.057769F
		Geoid Height	-63.5534	0.059703F
GIS 42	GIS 42	Latitude	N 43°50'14.636846"	
		Longitude	W 121°41'16.161633"	
		Scale Factor	1.000173012921	
		Convergence	-0°16'48.5670"	
		Northing(y)	305545.3650	0.024083F
		Easting (x)	3193253.8171	0.017133F
		Ellipsoid Height	4700.9695	0.046947F
		Orthometric Height	4765.0003	0.085169F
		Geoid Height	-64.0308	0.077023F
GIS 43	GIS 43	Latitude	N 44°02'14.188672"	
		Longitude	W 121°09'11.295983"	
		Scale Factor	1.000161339119	
		Convergence	+0°05'25.8087"	
		Northing(y)	378185.2020	0.009957F
		Easting (x)	3334244.1617	0.008534F
		Ellipsoid Height	3486.4362	0.021936F
		Orthometric Height	3550.3896	0.047694F
		Geoid Height	-63.9534	0.048336F
GIS 44	GIS 44	Latitude	N 44°03'29.058246"	
		Longitude	W 121°13'19.406275"	
		Scale Factor	1.000160296416	
		Convergence	+0°02'33.3981"	
		Northing(y)	385746.8309	0.010196F
		Easting (x)	3316111.2431	0.009184F
		Ellipsoid Height	3518.7452	0.021429F
		Orthometric Height	3582.9528	FIXED
		Geoid Height	-64.2076	0.021429F
GIS 45	GIS 45	Latitude	N 44°01'18.861191"	
		Longitude	W 121°15'37.120248"	
		Scale Factor	1.000160041893	
		Convergence	+0°00'57.5959"	
		Northing(y)	372555.5316	0.006540F
		Easting (x)	3306056.8736	0.006024F
		Ellipsoid Height	3656.1930	0.013214F
		Orthometric Height	3720.2133	FIXED
		Geoid Height	-64.0202	0.013214F

GIS 46	BEND AIRPORT	Latitude	N 44°05'37.429820"	
		Longitude	W 121°12'11.983082"	
		Scale Factor	1.000160504692	
		Convergence	+0°03'20.4121"	
		Northing(y)	398752.4073	0.009423F
		Easting (x)	3321022.9229	0.008515F
		Ellipsoid Height	3365.3541	0.019870F
		Orthometric Height	3429.8261	FIXED
		Geoid Height	-64.4720	0.019870F
GIS 47	T 463 1936	Latitude	N 44°10'17.524828"	
		Longitude	W 121°06'08.355788"	
		Scale Factor	1.000162576699	
		Convergence	+0°07'34.0722"	
		Northing(y)	427162.5259	0.013836F
		Easting (x)	3347502.3924	0.013279F
		Ellipsoid Height	3177.9278	0.029157F
		Orthometric Height	3242.2277	FIXED
		Geoid Height	-64.2999	0.029157F
GIS 48	GIS 48	Latitude	N 43°42'12.702199"	
		Longitude	W 121°33'07.426782"	
		Scale Factor	1.000165769530	
		Convergence	-0°11'08.4238"	
		Northing(y)	256592.2794	0.015255F
		Easting (x)	3228922.9368	0.014462F
		Ellipsoid Height	4196.1621	0.027719F
		Orthometric Height	4260.4823	FIXED
		Geoid Height	-64.3202	0.027719F
GIS 49	Y 370 1942	Latitude	N 43°42'12.508212"	
		Longitude	W 121°28'37.470158"	
		Scale Factor	1.000162998854	
		Convergence	-0°08'01.9014"	
		Northing(y)	256517.3279	0.018580F
		Easting (x)	3248756.6690	0.016293F
		Ellipsoid Height	4154.9950	0.035401F
		Orthometric Height	4218.9862	FIXED
		Geoid Height	-63.9912	0.035401F
GIS 50	BEAL RM-1	Latitude	N 43°36'58.733023"	
		Longitude	W 121°32'51.290795"	
		Scale Factor	1.000165594958	
		Convergence	-0°10'56.2273"	
		Northing(y)	224792.2695	0.022488F
		Easting (x)	3230007.2117	0.016877F
		Ellipsoid Height	4202.7044	0.041546F
		Orthometric Height	4267.1850	FIXED
		Geoid Height	-64.4806	0.041546F
GIS 51	WICKIUP	Latitude	N 43°40'56.599810"	
		Longitude	W 121°41'15.576200"	
		Scale Factor	1.000173070249	
		Convergence	-0°16'45.3173"	
		Northing(y)	249030.7554	FIXED
		Easting (x)	3193020.8947	FIXED
		Ellipsoid Height	4289.3996	FIXED
		Orthometric Height	4353.9993	FIXED
		Geoid Height	-64.5997	FIXED
GIS 52	CAREY 1971	Latitude	N 43°45'10.544260"	
		Longitude	W 121°27'40.439641"	
		Scale Factor	1.000162524298	
		Convergence	-0°07'22.8968"	
		Northing(y)	274538.1673	0.016311F
		Easting (x)	3252985.4155	0.014736F
		Ellipsoid Height	4139.2619	0.030726F
		Orthometric Height	4202.9921	FIXED
		Geoid Height	-63.7303	0.030726F

GIS 53	PAULINA PEAK BM USGS 1933	Latitude	N 43°41'21.105732"	
		Longitude	W 121°15'17.600777"	
		Scale Factor	1.000160064670	
		Convergence	+0°01'10.7319"	
		Northing(y)	251253.1092	0.027129F
		Easting (x)	3307525.0848	0.023008F
		Ellipsoid Height	7922.0241	0.058929F
		Orthometric Height	7983.0342	0.088297F
		Geoid Height	-61.0101	0.082736F
GIS 54	BNRR STA 369+48.3 1984	Latitude	N 43°50'14.562183"	
		Longitude	W 121°25'23.654348"	
		Scale Factor	1.000161556744	
		Convergence	-0°05'48.8384"	
		Northing(y)	305308.0476	0.018033F
		Easting (x)	3263078.8370	0.017870F
		Ellipsoid Height	4144.4141	0.031815F
		Orthometric Height	4207.7756	FIXED
		Geoid Height	-63.3615	0.031815F
GIS 55	LAVA BUTTE 1933 1984	Latitude	N 43°55'04.287991"	
		Longitude	W 121°21'21.716538"	
		Scale Factor	1.000160419215	
		Convergence	-0°03'01.5335"	
		Northing(y)	334627.3973	0.014537F
		Easting (x)	3280840.2691	0.019180F
		Ellipsoid Height	4956.2532	0.033529F
		Orthometric Height	5019.4784	0.064776F
		Geoid Height	-63.2252	0.060700F
GIS 56	PINE 1932	Latitude	N 43°49'19.665929"	
		Longitude	W 120°55'50.313718"	
		Scale Factor	1.000169898524	
		Convergence	+0°14'39.1644"	
		Northing(y)	299915.6361	0.022270F
		Easting (x)	3393100.0432	0.017658F
		Ellipsoid Height	6343.9197	0.044479F
		Orthometric Height	6405.6018	0.063828F
		Geoid Height	-61.6821	0.067379F
GIS 57	W-22 1920	Latitude	N 43°52'28.628224"	
		Longitude	W 121°02'50.458523"	
		Scale Factor	1.000164423620	
		Convergence	+0°09'48.8041"	
		Northing(y)	318943.2193	0.018454F
		Easting (x)	3362238.2148	0.017158F
		Ellipsoid Height	4275.6289	0.035826F
		Orthometric Height	4338.2054	FIXED
		Geoid Height	-62.5765	0.035826F
GIS 58	J-372 1943	Latitude	N 43°52'26.954591"	
		Longitude	W 120°59'04.310069"	
		Scale Factor	1.000167092357	
		Convergence	+0°12'25.5392"	
		Northing(y)	318827.3110	0.020692F
		Easting (x)	3378806.6833	0.018585F
		Ellipsoid Height	4164.3251	0.039284F
		Orthometric Height	4226.7913	FIXED
		Geoid Height	-62.4662	0.039284F
GIS 59	P-372 1943	Latitude	N 43°52'16.023753"	
		Longitude	W 120°50'50.065841"	
		Scale Factor	1.000175108674	
		Convergence	+0°18'08.0359"	
		Northing(y)	317881.2295	0.024555F
		Easting (x)	3415021.6324	0.017403F
		Ellipsoid Height	4260.0252	0.046164F
		Orthometric Height	4321.8209	FIXED
		Geoid Height	-61.7956	0.046164F

GIS 60	BROTHERS	Latitude	N 43°48'49.791560"	
		Longitude	W 120°36'01.000600"	
		Scale Factor	1.000197138536	
		Convergence	+0°28'22.4505"	
		Northing(y)	297435.9172	FIXED
		Easting (x)	3480331.8140	FIXED
		Ellipsoid Height	4574.2192	FIXED
		Orthometric Height	4634.9738	FIXED
		Geoid Height	-60.7546	FIXED
GIS 61	STATE HWY PI	Latitude	N 43°56'39.137762"	
		Longitude	W 121°01'44.791382"	
		Scale Factor	1.000165121888	
		Convergence	+0°10'35.1181"	
		Northing(y)	344328.1249	0.015024F
		Easting (x)	3366970.9824	0.013009F
		Ellipsoid Height	3563.2885	0.031140F
		Orthometric Height	3626.4436	FIXED
		Geoid Height	-63.1551	0.031140F
GIS 62	P-35 RESET87	Latitude	N 43°59'36.769431"	
		Longitude	W 121°39'32.431391"	
		Scale Factor	1.000171166016	
		Convergence	-0°15'39.3753"	
		Northing(y)	362440.2187	0.021842F
		Easting (x)	3201116.8384	0.020880F
		Ellipsoid Height	6337.0288	0.043625F
		Orthometric Height	6399.0682	FIXED
		Geoid Height	-62.0395	0.043625F
GIS 63	FIRST 1945	Latitude	N 44°02'28.049861"	
		Longitude	W 121°27'56.093875"	
		Scale Factor	1.000162623600	
		Convergence	-0°07'36.1005"	
		Northing(y)	379614.9904	0.015664F
		Easting (x)	3252067.9797	0.014174F
		Ellipsoid Height	4558.1751	0.032963F
		Orthometric Height	4621.6914	0.061351F
		Geoid Height	-63.5163	0.057534F
GIS 64	DES016 1990	Latitude	N 44°07'04.703208"	
		Longitude	W 121°37'43.728532"	
		Scale Factor	1.000169403443	
		Convergence	-0°14'25.8122"	
		Northing(y)	407771.6633	0.024270F
		Easting (x)	3209254.8786	0.023714F
		Ellipsoid Height	6278.3723	0.048153F
		Orthometric Height	6340.6037	FIXED
		Geoid Height	-62.2314	0.048153F
GIS 65	X-359 1942	Latitude	N 44°13'33.910277"	
		Longitude	W 121°34'23.108422"	
		Scale Factor	1.000166590159	
		Convergence	-0°12'07.5624"	
		Northing(y)	447134.3887	0.014835F
		Easting (x)	3224031.4699	0.011576F
		Ellipsoid Height	3757.8559	0.032382F
		Orthometric Height	3822.8412	FIXED
		Geoid Height	-64.9853	0.032382F
GIS 66	SISTERS	Latitude	N 44°18'20.442120"	
		Longitude	W 121°33'21.221570"	
		Scale Factor	1.000165815550	
		Convergence	-0°11'25.3724"	
		Northing(y)	476139.6198	FIXED
		Easting (x)	3228634.9885	FIXED
		Ellipsoid Height	3108.1004	FIXED
		Orthometric Height	3174.0584	FIXED
		Geoid Height	-65.9580	FIXED

GIS 67	PRINEVILLE	Latitude	N 44°18'04.566910"	
		Longitude	W 120°51'54.057920"	
		Scale Factor	1.000173700647	
		Convergence	+0°17'31.8065"	
		Northing(y)	474692.4438	FIXED
		Easting (x)	3409536.5582	FIXED
		Ellipsoid Height	3125.1312	FIXED
		Orthometric Height	3188.4436	0.115516F
		Geoid Height	-63.3124	0.115516F
GIS 68	GIS 68	Latitude	N 44°06'46.174682"	
		Longitude	W 121°21'44.634370"	
		Scale Factor	1.000160492588	
		Convergence	-0°03'18.1265"	
		Northing(y)	405714.6185	0.012409F
		Easting (x)	3279230.6625	0.012137F
		Ellipsoid Height	3452.6299	0.022335F
		Orthometric Height	3517.4566	0.055987F
		Geoid Height	-64.8267	0.053344F
GIS 69	GIS 69	Latitude	N 43°48'11.055191"	
		Longitude	W 121°32'05.689645"	
		Scale Factor	1.000165039795	
		Convergence	-0°10'26.9041"	
		Northing(y)	292869.6673	0.015607F
		Easting (x)	3233568.9816	0.014505F
		Ellipsoid Height	4161.3035	0.028716F
		Orthometric Height	4225.2906	0.058794F
		Geoid Height	-63.9872	0.060224F
GIS 70	GIS 70	Latitude	N 43°33'58.486561"	
		Longitude	W 121°10'34.830129"	
		Scale Factor	1.000160918752	
		Convergence	+0°04'25.4565"	
		Northing(y)	206445.5398	0.031571F
		Easting (x)	3328363.0066	0.025890F
		Ellipsoid Height	5161.7273	0.066081F
		Orthometric Height	5224.1077	0.109712F
		Geoid Height	-62.3804	0.107643F
GIS 71	6-DPB-1978	Latitude	N 43°42'29.474849"	
		Longitude	W 120°50'48.400158"	
		Scale Factor	1.000175223820	
		Convergence	+0°18'05.9641"	
		Northing(y)	258479.6554	0.036415F
		Easting (x)	3415456.8838	0.027779F
		Ellipsoid Height	4875.0255	0.073967F
		Orthometric Height	4936.8410	0.106569F
		Geoid Height	-61.8155	0.090902F
GIS 72	GIS 72	Latitude	N 43°41'44.659666"	
		Longitude	W 121°03'59.013910"	
		Scale Factor	1.000163761000	
		Convergence	+0°08'59.5289"	
		Northing(y)	253712.2323	0.030975F
		Easting (x)	3357386.6492	0.025976F
		Ellipsoid Height	5273.3995	0.057189F
		Orthometric Height	5335.0427	FIXED
		Geoid Height	-61.6431	0.057189F
NONE	ODOT-B004 1990	Latitude	N 44°03'57.081731"	
		Longitude	W 121°18'23.360565"	
		Scale Factor	1.000160042318	
		Convergence	-0°00'57.9760"	
		Northing(y)	388579.8811	0.011713F
		Easting (x)	3293912.4907	0.011058F
		Ellipsoid Height	3568.0298	0.020064F
		Orthometric Height	3632.4573	FIXED
		Geoid Height	-64.4276	0.020064F

NONE STEVENS

Latitude	N 44°02'12.883094"	
Longitude	W 121°15'27.117116"	
Scale Factor	1.000160052589	
Convergence	+0°01'04.5649"	
Northing(y)	378026.9918	0.011257F
Easting (x)	3306786.1927	0.010694F
Ellipsoid Height	3639.3504	0.019677F
Orthometric Height	3703.4646	FIXED
Geoid Height	-64.1142	0.019677F