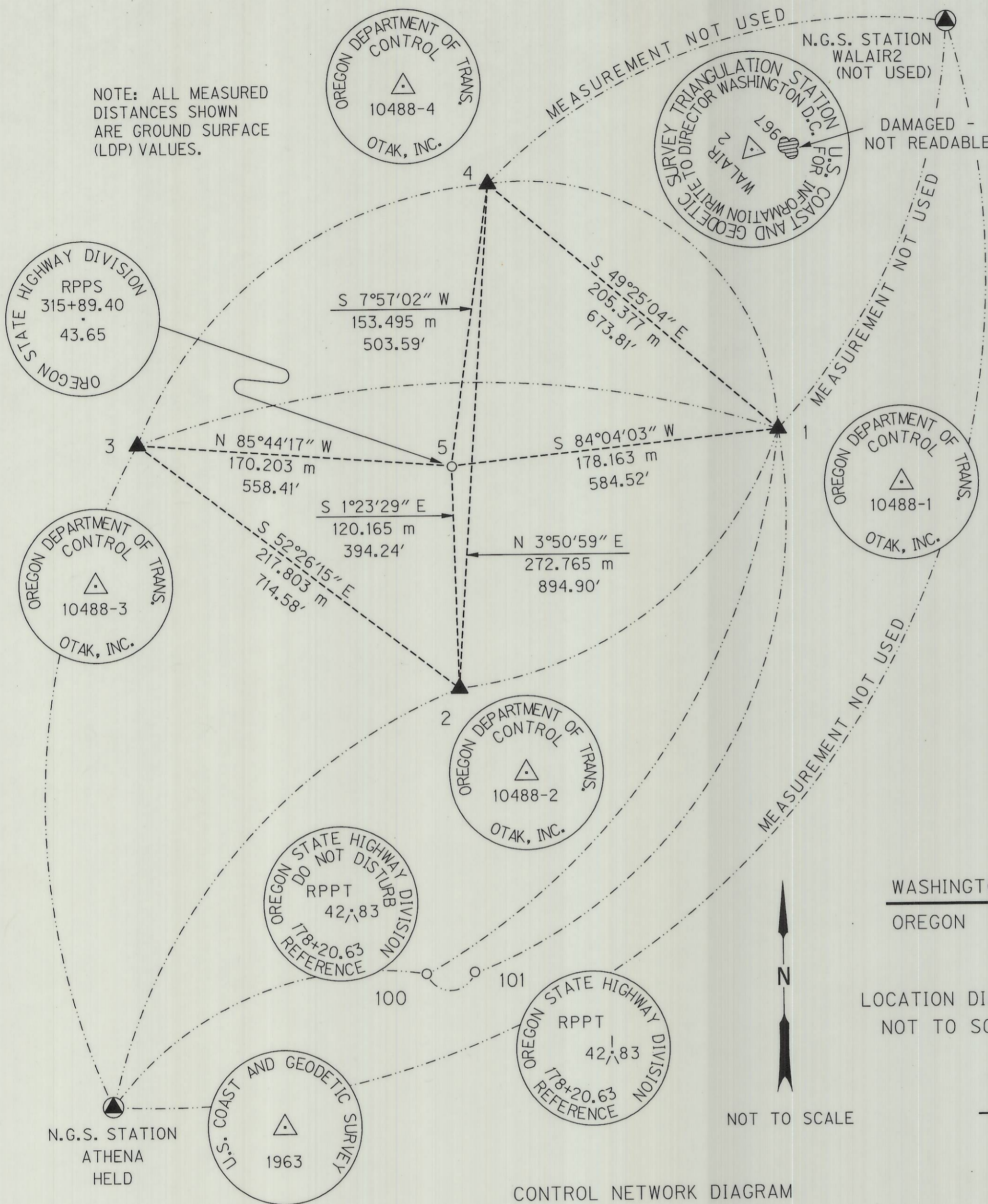


N.W. 1/4 OF SEC. 13, T.6N. R.35E. W.M.

NOTE: ALL MEASURED DISTANCES SHOWN ARE GROUND SURFACE (LDP) VALUES.



NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO:

- 1) ESTABLISH HORIZONTAL AND VERTICAL CONTROL FOR AN OREGON DEPARTMENT OF TRANSPORTATION (ODOT) SIGNALIZATION PROJECT;
- 2) DETERMINE THE CENTERLINES AND RIGHTS-OF-WAY OF STATE LINE ROAD AND OREGON STATE HIGHWAY NO. 11;
- 3) RECOVER AND LOCATE ALL EXISTING MONUMENTATION SUBJECT TO DISTURBANCE OR REMOVAL IN CONFORMANCE WITH ORS 209.155(b).

THE BASIS OF BEARINGS AND COORDINATES FOR THIS SURVEY IS THE OREGON STATE COORDINATE SYSTEM OF 1983, NORTH ZONE, BASED ON GPS OBSERVATIONS AT NGS STATION "ATHENA". BEARINGS SHOWN ON THIS SURVEY ARE GRID.

MEASUREMENTS TO THE CONTROL POINTS AND RECOVERED MONUMENTS WERE ACCOMPLISHED USING A COMBINATION OF GPS AND TERRESTRIAL EQUIPMENT AND PROCEDURES. GPS MEASUREMENTS WERE MADE USING THREE LEICA SYSTEM 300 RECEIVERS, AND TERRESTRIAL MEASUREMENTS WERE MADE USING A GEODIMETER SYSTEM 610 SERVO-DRIVEN TOTAL STATION (+/- 3" ANGULAR PRECISION, 2MM +/- 2PPM EDM). ALL SIDESHOT POINTS WERE "DOUBLE-TIED" USING STANDARD ODOT PROCEDURES.

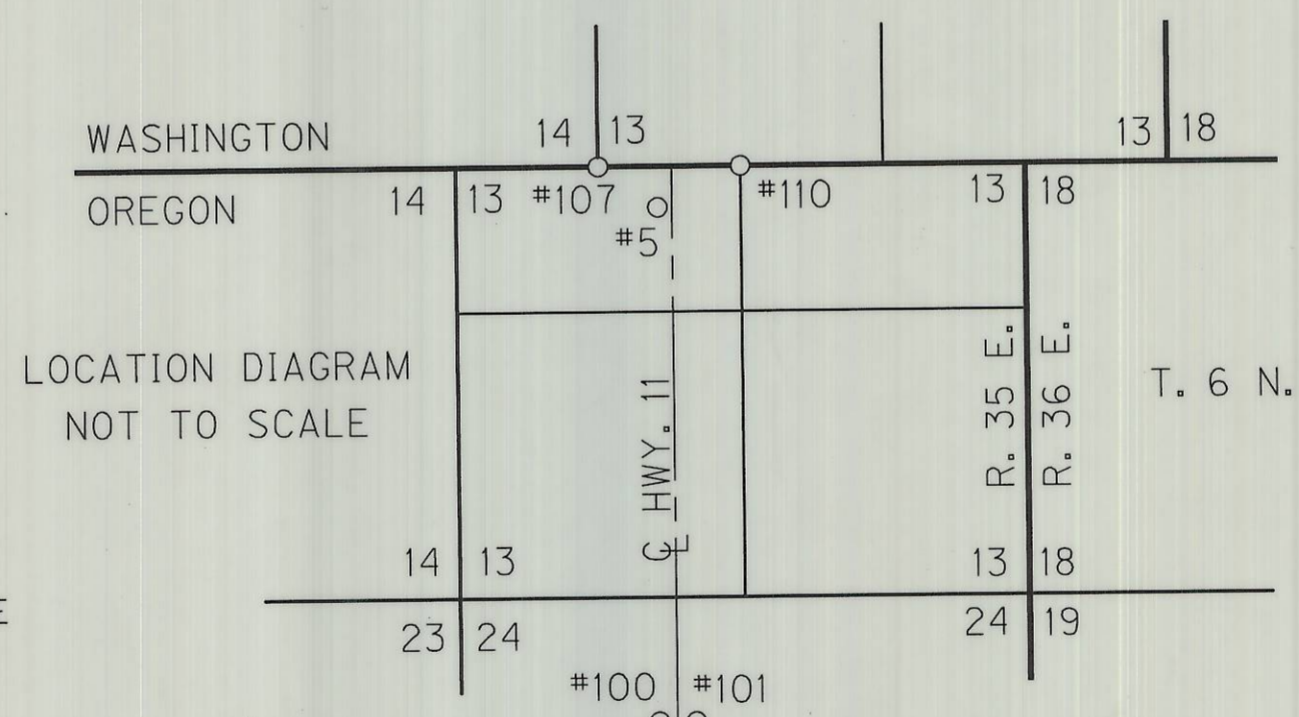
THE PROJECT CONTROL NETWORK IS SHOWN ON SHEET 1 OF THIS SURVEY. MEASUREMENTS WERE MADE TO STATION "WALAIR2" BUT BECAUSE OF THE UNSATISFACTORY RANGE OF RESIDUAL MEASUREMENT VALUES TO THE STATION, NONE OF THE MEASUREMENTS OR DATA RELATING TO THE STATION WERE USED IN THE NETWORK ANALYSIS. THE GPS AND TERRESTRIAL MEASUREMENT DATA WERE SIMULTANEOUSLY ADJUSTED USING "STAR*NET" BRAND LEAST SQUARES ADJUSTMENT SOFTWARE, AND THE ADJUSTMENT WAS CONSTRAINED TO THE PUBLISHED 1983(91) COORDINATE VALUE OF STATION "ATHENA". THE MAXIMUM 95% CONFIDENCE REGION ERRORS OF ANY CONTROL POINT WERE +/- 0.01 METERS WITH RESPECT TO THE CONSTRAINED POINT. ELEVATIONS WERE BASED ON ODOT BENCH MARK "R435" (RECOVERED MONUMENT NO. 106), ELEVATION = 818.607 FEET. ELEVATIONS TO CONTROL POINTS 1-5 WERE DIFFERENTIALLY LEVELLED AND CONVERTED FROM NGVD 29(47) U.S. SURVEY FOOT VALUES TO NAVD 88 METRIC VALUES USING CORPSCON V. 5.11.04. THE ELEVATIONS WERE HELD IN THE NETWORK ADJUSTMENT. ELEVATIONS SHOWN FOR POINTS 100, 101 AND "ATHENA" ARE GPS-DERIVED. ELLIPSOIDAL HEIGHTS WERE DETERMINED USING "GEOID99".

IN ORDER TO REPRESENT GROUND SURFACE VS. STATE PLANE GRID VALUES, A LOCAL DATUM PLANE (LDP) SCALE FACTOR WAS DERIVED FOR THIS PROJECT, AND IS THE MEAN OF THE COMBINED (GRID AND ELEVATION) SCALE FACTORS OF CONTROL POINTS 1-5. TO CONVERT LDP COORDINATES TO OREGON STATE PLANE - NORTH ZONE VALUES, MULTIPLY THE LDP COORDINATE VALUES BY THE SCALE FACTOR VALUE OF 0.99996431.

THE CENTERLINES AND RIGHTS-OF-WAY OF STATE LINE ROAD AND HIGHWAY 11 WERE DETERMINED AS FOLLOWS:

STATE LINE ROAD
HELD THE MONUMENTED SOUTHWEST CORNER OF FRACTIONAL SECTION 13-STATE OF WASHINGTON (POINT NO. 107) AND THE MONUMENTED NORTH 1/4 CORNER OF FRACTIONAL SECTION 13-STATE OF OREGON (POINT NO. 110) PER C.S. 96-56-B. THE SOUTHERLY RIGHT-OF-WAY OF THE ROAD WAS PLACED AS PARALLEL TO AND 10 FEET SOUTHERLY OF, WHEN MEASURED AT RIGHT ANGLES TO, THE ABOVE-DESCRIBED LINE PER THE PLAT OF "GRANDVIEW ORCHARD TRACT". THE WSDOT CENTERLINE OF STATE LINE ROAD WAS DETERMINED BY HOLDING THE RECORD WSDOT INFORMATION SHOWN IN THE DETAIL ON SHEET 2.

OREGON STATE HIGHWAY NO. 11
HELD THE CENTERLINE AS BEING AT THE MIDPOINT BETWEEN THE RECOVERED MONUMENTS REFERENCING STATION 178+20.63 (POINT NOS. 100 AND 101), AND AS 50' RIGHT OF THE MONUMENT REFERENCING STATION 315+89.40 (POINT NO. 106) PER ODOT DRG. 9B-8-20. THE RIGHT-OF-WAY WIDTH IS 50 FEET ON EACH SIDE OF THE ABOVE-DETERMINED CENTERLINE PER DEEDS 160/621 AND 160/623, UMATILLA COUNTY RECORDS. THE ADDITIONAL 30' BY 30' RIGHT-OF-WAY ACQUISITIONS AT STATE LINE ROAD ARE PER DEEDS 329/49 AND 333/527.



LEGEND

- FOUND N.G.S. STATION
- ▲ SET 5/8" IRON ROD W/3" BRASS CAP IN CONCRETE, 0.4' DEEP
- FOUND MONUMENT AS SHOWN
- G.P.S. VECTOR
- TERRESTRIAL MEASUREMENT
- OCS OREGON COORDINATE SYSTEM OF 1983
- LDP LOCAL DATUM PLANE
- m METERS

REGISTERED PROFESSIONAL LAND SURVEYOR
John A. Carlson
OREGON JULY 15, 1983
JOHN A. CARLSON 2044
RENEWS 12-31-2001

TO CONVERT METERS TO FEET DIVIDE BY 0.3048

CONTROL PT. #	LAT. '83(91)	LONG. '83(91)	ELLIP. HEIGHT	OCS NORTH ZONE NORTHING (m)	OCS NORTH ZONE EASTING (m)	ORTHO ELEV.	LDP NORTHING (m)	LDP EASTING (m)
1	46°00'02".740653	118°23'06".862345	227.19 m	261523.196	2663795.401	247.856 m	261532.530	2663890.475
2	45°59'58".402794	118°23'15".127674	229.98 m	261384.657	2663621.116	250.654 m	261393.986	2663716.184
3	46°00'02".847761	118°23'22".987086	227.11 m	261517.431	2663448.473	247.792 m	261526.765	2663543.534
4	46°00'07".198418	118°23'13".946236	229.26 m	261656.797	2663639.428	249.938 m	261666.136	2663734.497
5	46°00'02".294608	118°23'15".117291	229.81 m	261504.783	2663618.198	250.483 m	261514.116	2663713.266
100	45°57'46".395157	118°23'14".481270	260.67 m	257310.662	2663741.587	281.26 m	257319.846	2663836.660
101	45°57'46".398250	118°23'13".269144	260.69 m	257311.440	2663767.675	281.27 m	257320.624	2663862.748
ATHENA	45°48'45".209110	118°28'15".168840	551.10 m	240441.448	2657688.983	571.35 m	240450.030	2657783.839

PROJECT CONTROL NETWORK, CENTERLINE RECOVERY, AND PRECONSTRUCTION SURVEY FOR
OREGON DEPT. OF TRANSPORTATION REGION 5
HWY. 11 AT STATE LINE RD.
MILTON - FREEWATER
LOCATED IN THE N.W.1/4 OF SECTION 13, T.6N., R.35E., W.M.
UMATILLA COUNTY, OREGON

RECEIVED BY
Umatilla County Surveyor
Date 5-2000
Drawn By JK
00-111-B

otak 17355 SW Boones Ferry Rd.
Lake Oswego, Oregon 97035
Phone: (503) 635-3618
FAX: (503) 635-5395

MAY 8, 2000
SHEET 1 OF 2

SURVEY REGION 5

N.W. 1/4 OF SEC. 13, T.6N. R.35E. W.M.

FOUND 5/8" IRON ROD IN GRAVEL DRIVE AT CL-CL OF STATE LINE RD. AND TUMALUM RD. 0.2' DEEP. HELD AS N. 1/4 COR. SEC. 13. (C.S. 90-074-B)

HELD PER PLAT OF "GRANDVIEW ORCHARD TRACT"

FOUND RAILROAD SPIKE. FLUSH W/ A/C. (C.S. 91-15-A)

STA. 315+89.40 PER ODOT DRG. NO. 9B-8-20 - HELD FOR BASIS OF STATIONING [9+628.449]

LDP NORTHING = 857987.242 (FT)
LDP EASTING = 8739260.392 (FT)
LDP NORTHING = 261514.511 (m)
LDP EASTING = 2663726.567 (m)

STA. 316+14.20 MS. [9+636.008]

LDP NORTHING = 858012.032 (FT)
LDP EASTING = 8739259.664 (FT)
LDP NORTHING = 261522.067 (m)
LDP EASTING = 2663726.346 (m)

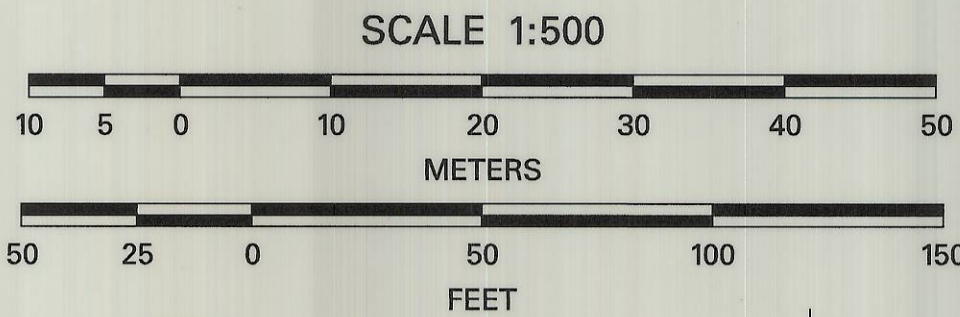
IN WASH. DOT MON. BOX, FOUND BUTT END OF SHELL CASING IN CONCRETE-FILLED 2" IRON PIPE 0.5' BELOW A/C.

TO STATE 329/49

NOTE: #109 AND #111 NOT SHOWN. SAME DESCRIPTIONS AS #108, EXCEPT 0.8' BELOW A/C.

HELD PER PLAT OF "GRANDVIEW ORCHARD TRACT"

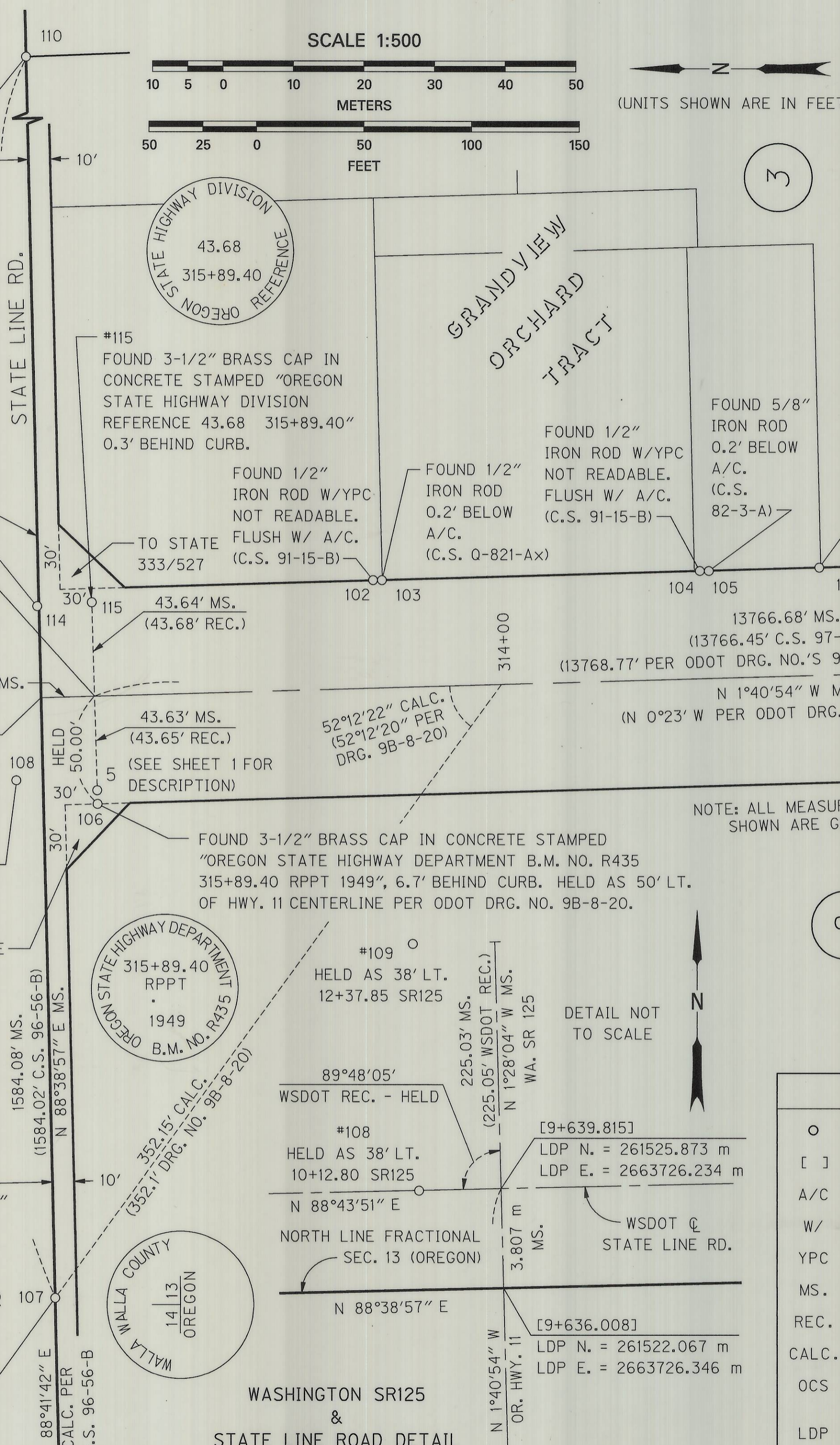
FOUND 3-1/2" BRASS DISK IN PARTIALLY BROKEN MONUMENT BOX AT SOUTH EDGE OF PAVEMENT, 2.0' BELOW A/C. HELD.



(UNITS SHOWN ARE IN FEET)

RECOVERED MONUMENT TABLE

PT. #	LDP NORTHING (FT)	LDP EASTING (FT)	LDP NORTHING (m)	LDP EASTING (m)	OCS NORTHING (m)	OCS EASTING (m)
5	857985.945	8739216.752	261514.116	2663713.266	261504.783	2663618.198
100	844225.216	8739621.588	257319.846	2663836.660	257310.662	2663741.587
101	844227.769	8739707.178	257320.624	2663862.748	257311.440	2663767.675
102	857854.216	8739314.236	261473.965	2663742.979	261464.633	2663647.910
103	857853.396	8739314.337	261473.715	2663743.010	261464.384	2663647.942
104	857704.144	8739318.652	261428.223	2663744.325	261418.893	2663649.256
105	857703.366	8739318.720	261427.986	2663744.346	261418.656	2663649.277
106	857985.774	8739210.413	261514.064	2663711.334	261504.730	2663616.266
107	858005.472	8738981.457	261520.068	2663641.548	261510.734	2663546.482
108	858023.553	8739221.316	261525.579	2663714.657	261516.245	2663619.589
109	858248.510	8739215.551	261594.146	2663712.900	261584.810	2663617.832
110	858042.812	8740565.056	261531.449	2664124.229	261522.115	2664029.146
111	859036.831	8739028.117	261834.426	2663655.770	261825.081	2663560.704
112	857650.325	8739320.240	261411.819	2663744.809	261402.490	2663649.740
113	857357.139	8739338.294	261322.456	2663750.312	261313.129	2663655.242
114	858013.858	8739302.178	261522.624	2663739.304	261513.290	2663644.236
115	857988.510	8739304.012	261514.898	2663739.863	261505.564	2663644.794



OREGON STATE HIGHWAY DIVISION REFERENCE 43.68 315+89.40

OREGON STATE HIGHWAY DEPARTMENT 315+89.40 RPPT 1949 B.M. NO. R435

MALLA WALLA COUNTY OREGON 14 13

3

2

6

7

NOTE: ALL MEASURED AND CALCULATED DISTANCES SHOWN ARE GROUND SURFACE (LDP) VALUES.

SET CENTERLINE AT MIDPOINT OF RECOVERED MONUMENT NO.'S 100 AND 101.
LDP NORTHING = 844226.493 (FT)
LDP EASTING = 8739664.383 (FT)
LDP NORTHING = 257320.235 (m)
LDP EASTING = 2663849.704 (m)

LEGEND

- FOUND MONUMENT AS SHOWN
- [] METRIC EQUIVALENT STATION
- A/C ASPHALTIC CONCRETE
- W/ WITH
- YPC YELLOW PLASTIC CAP
- MS. MEASURED GROUND VALUE
- REC. RECORD VALUE
- CALC. CALCULATED VALUE
- OCS OREGON COORDINATE SYSTEM OF 1983
- LDP LOCAL DATUM PLANE

REGISTERED PROFESSIONAL LAND SURVEYOR
JOL A. CL
OREGON JULY 16, 1983 JOHN A. CARLSON 2044
RENEWS 12-31-2001

RECEIVED BY
Umatilla County Surveyor
Date 5-2000
Rec'd By KK
No. 00-111-B

TO CONVERT FEET TO METERS MULTIPLY BY 0.3048

PROJECT CONTROL NETWORK, CENTERLINE RECOVERY, AND PRECONSTRUCTION SURVEY FOR
OREGON DEPT. OF TRANSPORTATION
REGION 5
HWY. 11 AT STATE LINE RD.
MILTON - FREEWATER
LOCATED IN THE N.W.1/4 OF SECTION 13, T.6N., R.35E., W.M.
UMATILLA COUNTY, OREGON

otak 17355 SW Boones Ferry Rd. Lake Oswego, Oregon 97035
Phone: (503) 635-3618
FAX: (503) 635-5395

MAY 8, 2000
SHEET 2 OF 2

SURVEY REGION 5