

FILED

Date: 10-3-2006 By: JC
This survey consists of:
Map: ST HWY 138-008A-H
Narrative:
Corner File:
DOUGLAS COUNTY SURVEYOR

SEC. 17, 19 & 20, T. 27 S., R. 5 W., W.M.

PURPOSE

THE PURPOSE OF THIS SURVEY IS TO PRODUCE A TOPOGRAPHIC MAP AND RESOLVE THE RIGHT OF WAY AT THE INTERSECTION OF THE NORTH UMPQUA HIGHWAY (ROUTE OR138E) AND RIFLE RANGE ROAD (PREVIOUSLY NAMED HOWE ROAD) FOR A SIGNAL PROJECT NAMED "OR138E @ RIFLE RANGE ROAD (ROSEBURG)". THE FIELD WORK WAS PERFORMED BETWEEN AUGUST 2005 AND APRIL 2006. THE FIELD NOTES FOR THIS SURVEY ARE ARCHIVED IN SALEM AT THE ODOT MAP AND PLAN CENTER IN FIELD BOOK 4314

HORIZONTAL CONTROL & BASIS OF BEARING

THE BASIS OF BEARING AND COORDINATES FOR THIS PROJECT ARE TAKEN FROM COUNTY SURVEY ST. HWY. 138-006. THE NETWORK FOR BOTH SURVEYS HELD THE SAME TWO CITY OF ROSEBURG BRASS DISKS, 5701 AND 5002. THE COORDINATES OF THE POINTS ARE AT LOCAL DATUM PLANE IN U.S. SURVEY FEET CONVERTED FROM NAD1927 SOUTH ZONE, STATE PLANE COORDINATES.

HORIZONTAL LEAST SQUARES ADJUSTMENT

HORIZONTAL LEAST SQUARES ADJUSTMENT REPORTS PRODUCED THE FOLLOWING RESIDUALS (THE AMOUNT THAT FIELD OBSERVED ANGLES AND DISTANCES WERE CHANGED DUE TO ADJUSTMENT). ODOT STANDARD STATES THAT 67% OF THE RESIDUALS SHOULD BE LESS THAN THE ALLOWABLE ERROR TOLERANCE AND THAT 100% OF THE RESIDUALS SHOULD BE LESS THAN 3 TIMES THE ALLOWABLE ERROR TOLERANCE. ALL OF THE POINTS SHOWN IN THIS SURVEY ARE WITHIN THE TOLERANCE STATED IN O.R.S. 92.050 (2).

ANGULAR RESIDUALS

79% OF THE ANGULAR RESIDUALS ARE WITHIN 3 SECONDS (ODOT ALLOWABLE ERROR TOLERANCE IS 3 SECONDS) AND 96% ARE WITHIN 9 SECONDS. 3 ANGLES WERE GREATER THAN 9 SECONDS WITH THE WORST BEING 16 SECONDS.

DISTANCE RESIDUALS

98% OF THE DISTANCE RESIDUALS WERE WITHIN 0.008 FEET (ODOT ALLOWABLE ERROR TOLERANCE IS 0.02 FEET +/- 2 PPM), 100% OF THE RESIDUALS WERE WITHIN 0.040 FEET. THE DISTANCE RESIDUALS WERE WITHIN ODOT STANDARD.

HORIZONTAL CONTROL EQUIPMENT

A LEICA TCA 1800 TOTAL STATION THEODOLITE WAS USED TO MAKE NETWORK OBSERVATIONS. THIS INSTRUMENT HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR OF +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2 MM, +/- 2 PPM.

VERTICAL CONTROL

TWO DOUGLAS COUNTY MONUMENTS WERE HELD FOR VERTICAL CONTROL "KOW" AND "KOW RM2". THESE MONUMENTS HAVE NGVD 1929 THIRD ORDER ELEVATIONS ESTABLISHED ON THEM. A LEVEL CIRCUIT WAS RUN THROUGH NETWORK POINTS 109 - 113 AND ON STRATEGIC POINT 501.

VERTICAL LEAST SQUARES ADJUSTMENT

A VERTICAL LEAST SQUARE ADJUSTMENT PRODUCED THE FOLLOWING ELEVATION RESIDUALS (THE AMOUNT FIELD ELEVATIONS ARE CHANGED DUE TO ADJUSTMENT). 100% OF THE VERTICAL RESIDUALS ARE WITHIN 0.001 FEET.

VERTICAL CONTROL EQUIPMENT

A LEICA NA2002 DIGITAL LEVEL AND GBNL4C FIBERGLASS LEVEL ROD WERE USED ON THE PROJECT. THIS INSTRUMENT HAS A STANDARD DEVIATION OF 1.5MM IN A 1 KILOMETER DOUBLE-RUN LEVEL CIRCUIT.

RESOLUTION OF RIGHT OF WAY

THE EXISTING HIGHWAY RIGHT OF WAY WAS RESOLVED USING ODOT LOCATED LINE RIGHT-OF-DRAWING (DRG) 5B-13-22 AND DOUGLAS COUNTY ROAD DEPT. PLANS (CO. RD. PLAN) FOR DIAMOND LAKE BLVD., RD. 4, DATED JUNE 1968, SHEET 7 OF 8 & 8 OF 8 AND ALSO DOUGLAS COUNTY ROAD DEPT. PLANS FOR DIAMOND LAKE BLVD., RD. 4, DATED APRIL 1969, SHEET 4 OF 14. THE EXISTING RIGHT OF WAY OF RIFLE RANGE ROAD (FORMERLY HOWE ROAD) WAS RESOLVED USING THE SUBDIVISION PLAT OF "FIRST ADDITION OF BROOKSIDE TO ROSEBURG". ALL OTHER REFERENCE DOCUMENTS SHOWN IN THE TABLES ARE SURVEYS RECORDED AT THE DOUGLAS COUNTY SURVEYORS OFFICE.

HIGHWAY CENTER LINE

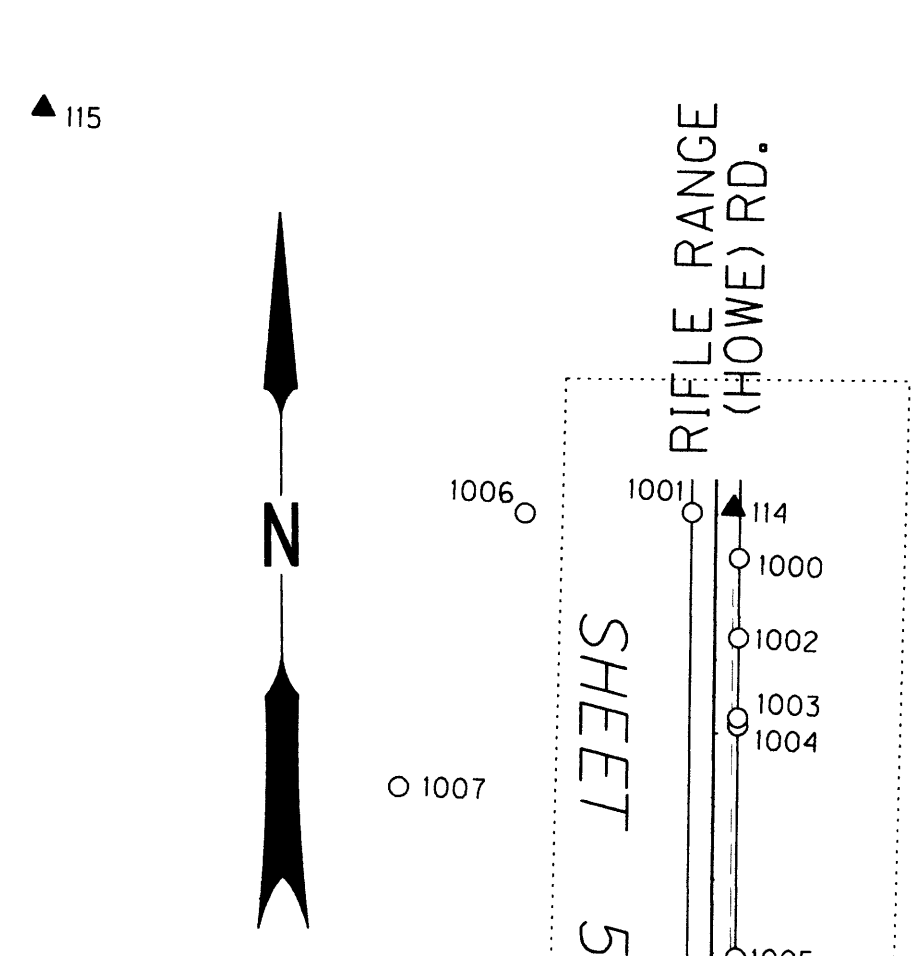
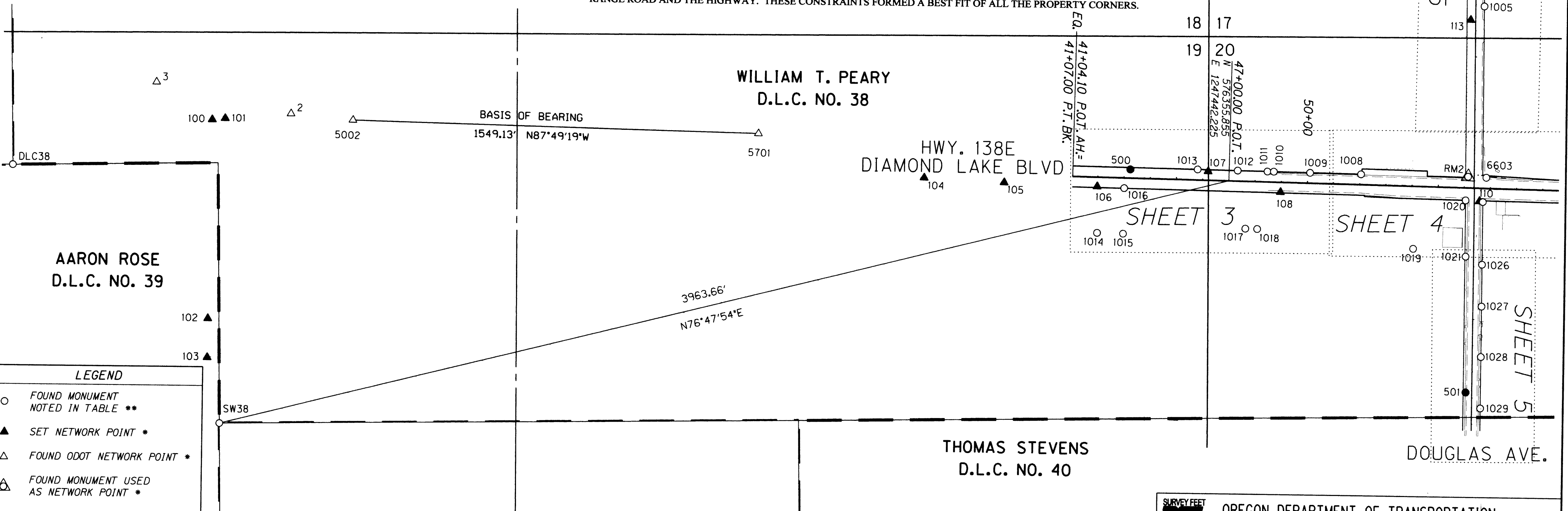
TO RESOLVE THE HIGHWAY CENTER LINE TANGENT THE RECORD RIGHT OF WAY WIDTH WAS HELD FROM POINTS 1013 AND 1015. RECORD RIGHT OF WAY STATIONING WAS HELD ON 1035. THESE CONSTRAINTS FORMED A BEST FIT OF ALL THE RIGHT OF WAY MONUMENTS AND PROPERTY CORNERS.

"NR" CENTER LINE

TO RESOLVE THE "NR" CENTER LINE TANGENT THE RECORD RIGHT OF WAY WIDTH WAS HELD FROM POINT 1005 AND POINTS 1000 AND 1001 WERE SPLIT. STATION "NR"20+00 WAS ASSUMED AT THE INTERSECTION OF RIFLE RANGE ROAD AND THE HIGHWAY. THESE CONSTRAINTS FORMED A BEST FIT OF ALL THE PROPERTY CORNERS.

"SR" CENTER LINE

TO RESOLVE THE "SR" CENTER LINE TANGENT THE RECORD RIGHT OF WAY WIDTH WAS HELD FROM POINT 1029 AND POINTS 1020 AND 1025 WERE SPLIT. STATION "SR"20+00 WAS ASSUMED AT THE INTERSECTION OF RIFLE RANGE ROAD AND THE HIGHWAY. THESE CONSTRAINTS FORMED A BEST FIT OF ALL THE PROPERTY CORNERS.



LEGEND	
○	FOUND MONUMENT NOTED IN TABLE **
▲	SET NETWORK POINT *
△	FOUND ODOT NETWORK POINT *
△	FOUND MONUMENT USED AS NETWORK POINT *
●	SET STRATEGIC POINT *
—	ODOT RIGHT-OF-WAY
—	STREET RIGHT-OF-WAY
*	FOR CONTROL MONUMENT TABLE SEE SHEET 2
**	FOR FOUND MONUMENTS NOT SHOWN ON INDIVIDUAL SHEETS SEE TABLE SHEET 2

BASIS OF BEARING AND CONTROL NETWORK SCHEMATIC
NOT TO SCALE

REGISTERED PROFESSIONAL LAND SURVEYOR
Marshall R. Wagstaff
OREGON
JANUARY 9, 2001
MARSHALL R. WAGSTAFF
49476LS
EXPIRES 06/30/08

OREGON DEPARTMENT OF TRANSPORTATION
HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT MAP
OR138E @ RIFLE RANGE ROAD (ROSEBURG)
NORTH UMPQUA HWY.
DOUGLAS COUNTY
KEY NO. 14473

FOR ODOT REGION 3
3500 NW. STEWART PKWY.
ROSEBURG, OR. 97470

OCTOBER 3, 2006
SHEET 1 OF 8