

HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT MAP

FOR THE OREGON DEPARTMENT OF TRANSPORTATION

LOCATED IN SEC. 20, 21, 28, 32, 33, T. 29 S., R. 5. W., SEC. 5, 6, 7, 17, 18, 19, 20, 21, 27, 28, 34, T. 30 S., R. 5 W., W.M. DOUGLAS COUNTY

FILED
Date: 4-29-1999 By: J.P.
This survey consists of
Map: M 129-39A 11 86
Narrative:
Corner Rpt: (CS 65/19-1)
(previously filed control reports)
DOUGLAS COUNTY
SURVEYOR

CONTROL AND RECOVERY NARRATIVE:

THE PURPOSE OF THIS SURVEY WAS TO ESTABLISH CONTROL FOR A HIGHWAY CONSTRUCTION PROJECT NAMED "MYRTLE CREEK-CANYONVILLE SECTION" ON THE PACIFIC HIGHWAY (INTERSTATE 5). THE CONTROL SURVEY WORK WAS COMPLETED NOV. 14, 1997. THE ORIGINAL FIELD NOTES ARE CONTAINED IN BOOK 3595, ARCHIVED IN THE ROADWAY ENGINEERING SECTION IN SALEM, OREGON.

BASIS OF BEARING WAS ESTABLISHED BY HOLDING THE COORDINATES ON EIGHT MONUMENTS CALLED "POST1", "POST2", "R565", "W565", "BUCK", "LINDA", "CHRIS" AND "LYNNE" (SHOWN HERE ON PAGE 1 SCHEMATIC). A GEODETIC SURVEY WAS RUN ON THESE EIGHT MONUMENTS BY ODOT GEOMETRONICS SECTION BASED IN SALEM, AND FILED WITH DOUGLAS COUNTY SURVEYORS OFFICE AS "CS 65/19-1". THE REMAINDER OF THE HORIZONTAL CONTROL NETWORK CONSISTS OF OTHER FOUND MONUMENTS AND ADDITIONAL SET MONUMENTS DESCRIBED HEREIN. THE COORDINATES WERE DERIVED FROM STATE PLANE COORDINATES (NAD 83 (1991)) ESTABLISHED ON THE GEODETIC MONUMENTS; THESE COORDINATES WERE THEN CONVERTED TO LOCAL DATUM PLANE COORDINATES USING A CONVERSION FACTOR OF 0.99986780.

THIS MAP IS METRIC. TO CONVERT TO ENGLISH UNITS, DIVIDE BY 0.3048.

A WILD T1610 ELECTRONIC THEODOLITE AND DI1600 DISTOMAT WERE USED TO MAKE ALL OBSERVATIONS. THE T1610 THEODOLITE HAS A STANDARD ANGULAR ERROR OF +/- 1.5 SECONDS AND THE DI1600 HAS A STANDARD DISTANCE ERROR OF +/- 3MM, +/- 2 PPM.

CLOSED LOOP LEVEL CIRCUITS FROM ESTABLISHED BENCH MARKS, THROUGH THE HORIZONTAL CONTROL POINTS, WERE MADE USING A LEICA NA2002 LEVEL. BENCH MARKS E565, M565, N565, U565, W565, X565, Y565, P353, L499, O560 AND K615 WERE USED AS VERTICAL CONTROL AND COME FROM THE NATIONAL GEODETIC VERTICAL DATUM OF 1929. THE STANDARD DEVIATION FOR A WILD NA2002 IS 0.9 MM IN A 1 KM DOUBLE RUN LEVEL CIRCUIT.

THE LEAST SQUARES ADJUSTMENT PRODUCED: ANGULAR RESIDUALS (THE AMOUNT THE FIELD OBSERVED ANGLES WERE CHANGED DUE TO THE ADJUSTMENT) AVERAGING 2.38 SECONDS AND NO GREATER THAN 16 SECONDS; DISTANCE RESIDUALS (THE AMOUNTS THE FIELD OBSERVED DISTANCES WERE CHANGED DUE TO THE ADJUSTMENT) AVERAGING LESS THAN 1 MM AND NO GREATER THAN 6 MM.

THERE IS A 95% PROBABILITY THAT THE FINAL POSITIONS OF THE CONTROL POINTS ARE WITHIN THE ERROR ELLIPSES AS SHOWN IN THE TABLES ON PAGE 2 OF 11.

RETRACEMENT NARRATIVE:

THE PRIMARY INTENT OF THIS RETRACEMENT IS TO ESTABLISH THE EXISTING RIGHT-OF-WAY CENTERLINE BETWEEN CHADWICK LANE AND PRUNER RD. NEW RIGHT-OF-WAY WAS PURCHASED ONLY AT CHADWICK LANE DUE TO RAISING OF THE STRUCTURE.

THE FOLLOWING R/W MAPS WERE USED TO RETRACE THE R/W ALIGNMENT: 7B-22-19, 6B-34-18, 7B-27-5, 8B-30-24, 8B-29-20, AND 7B-32-14.

THE NORTH PART OF THE R/W ALIGNMENT WAS RETRACED USING THE DELTAS AND THE TANGENTS FROM R/W MAPS 7B-22-19 AND 8B-29-20 FOR THE "L2REV" CENTERLINE. THE R/W CENTERLINE WAS RUN FROM THE TANGENT NORTH OF WEAVER RD. INTERCHANGE IN A NORTHERLY DIRECTION. THE CENTERLINE WAS ADJUSTED ON THE VERY NORTH END TO HAVE THE CORRECT RELATIONSHIP WITH THE TWO "L" LINE P.O.S.T. MONUMENTS (POST1 AND POST2) AND RUN IN A SOUTHERLY DIRECTION. THE ERROR BETWEEN RUNNING IN A NORTHERLY AND A SOUTHERLY DIRECTION WAS TAKEN UP IN THE MYRTLE CREEK CURVE (THE DELTA WAS CHANGED).

FROM THE TANGENT SOUTH OF WEAVER RD INTERCHANGE THROUGH THE CURVE SOUTH OF RIDDLE INTERCHANGE, TIED MONUMENTS (10, X565, 1007, 1015, 1024, AND 1026) WERE USED TO DEVELOP THE TANGENTS AND THE EXISTING CURVE INFORMATION (EXCLUDING DELTA) AS SHOWN ON R/W MAPS 7B-22-19 AND 7B-32-14.

THE DELTA FOR THE CURVE BEFORE GAZLEY INTERCHANGE WAS TAKEN FROM R/W MAP 7B-32-14. TWO MONUMENTS WERE HELD ON THE BACK TANGENT, ONE ON THE P.T. (POINT 1036), AND THE OTHER WAS THE PROJECTED X POINT (POINT ON SEMI-TANGENT) ON THE P.C.S. (POINT 1035). THE FORWARD TANGENT WAS ADJUSTED TO BE 5 FEET (1.524 M) EAST OF THE EXISTING BARRIER AT THE MIDPOINT OF THE TANGENT.

THE FORWARD TANGENT OF THE CURVE AT GAZLEY INTERCHANGE WAS DEVELOPED FROM A SPLIT BETWEEN THE MONUMENTS AT THE PT AT 125 FT. (38.10 M) RIGHT AND LEFT (1037 AND 1038) AND A POT AT ENGLISH STATION 400+00 175 FT. (53.340 M) RIGHT (1044).

THE REMAINING PORTION OF THE R/W ALIGNMENT WAS RETRACED FROM THE SOUTH END OF THE PROJECT WORKING IN A NORTHERLY DIRECTION. SOUTH OF THE 5TH STREET OVER CROSSING, MONUMENT POINTS (1049, 1050, 1051, AND 1052) WERE SPLIT TO FORM A TANGENT. FROM THAT TANGENT, WORKING IN A NORTHERLY DIRECTION, THE DELTAS WERE TAKEN FROM R/W MAP 6B-34-18 AND THE TANGENTS WERE FORCED TO PASSED THROUGH THE CENTERLINE POINTS PROJECTED FROM THE MONUMENTS (1045, 1046, 1047, AND 1048).

STATIONING WAS CONVERTED FROM ENGLISH TO METRIC BY MULTIPLYING BY A FACTOR OF 0.3048. THE BEGINNING OF PROJECT STATIONING WAS ADJUSTED UNTIL THE STATIONING OF THE EQUATION AT ENGLISH STATION 3361+84.75 P.S. BK. AND 3361+99.52 P.O.T. AH. CAME OUT CORRECT WHEN CONVERTED TO METRIC.

THE NEXT EQUATION IS AT ENGLISH STATION 3459+02.94 P.T. BK. AND 65+81.35 P.O.T. AH. WHICH WAS ADJUSTED TO FALL AT THE P.T. AND TO MATCH THE MONUMENT (R565) AT ENGLISH STATION 65+93.08 OR METRIC STATION 2+009.571 P.O.T. IT WAS FOUND THAT SOME OF THE MONUMENTS WERE OFF A LITTLE MORE THAN 0.3 METERS ON THEIR STATIONING, BUT MONUMENTS WERE BACK ON STATIONING BEFORE THE NEXT EQUATION WAS REACHED. THE MONUMENT AT ENGLISH STATION 274+78.74 P.T. (POINT 1036) WAS FOUND TO BE ONLY 0.004 METERS OFF.

THE NEXT EQUATION IS AT ENGLISH STATION 279+23.44 P.O.T. BK. AND 280+25.74 P.S. AH. BOTH AHEAD AND BACK STATIONS WERE ADJUSTED EQUALLY TO MAKE THE EQUATION FALL ON THE P.S.

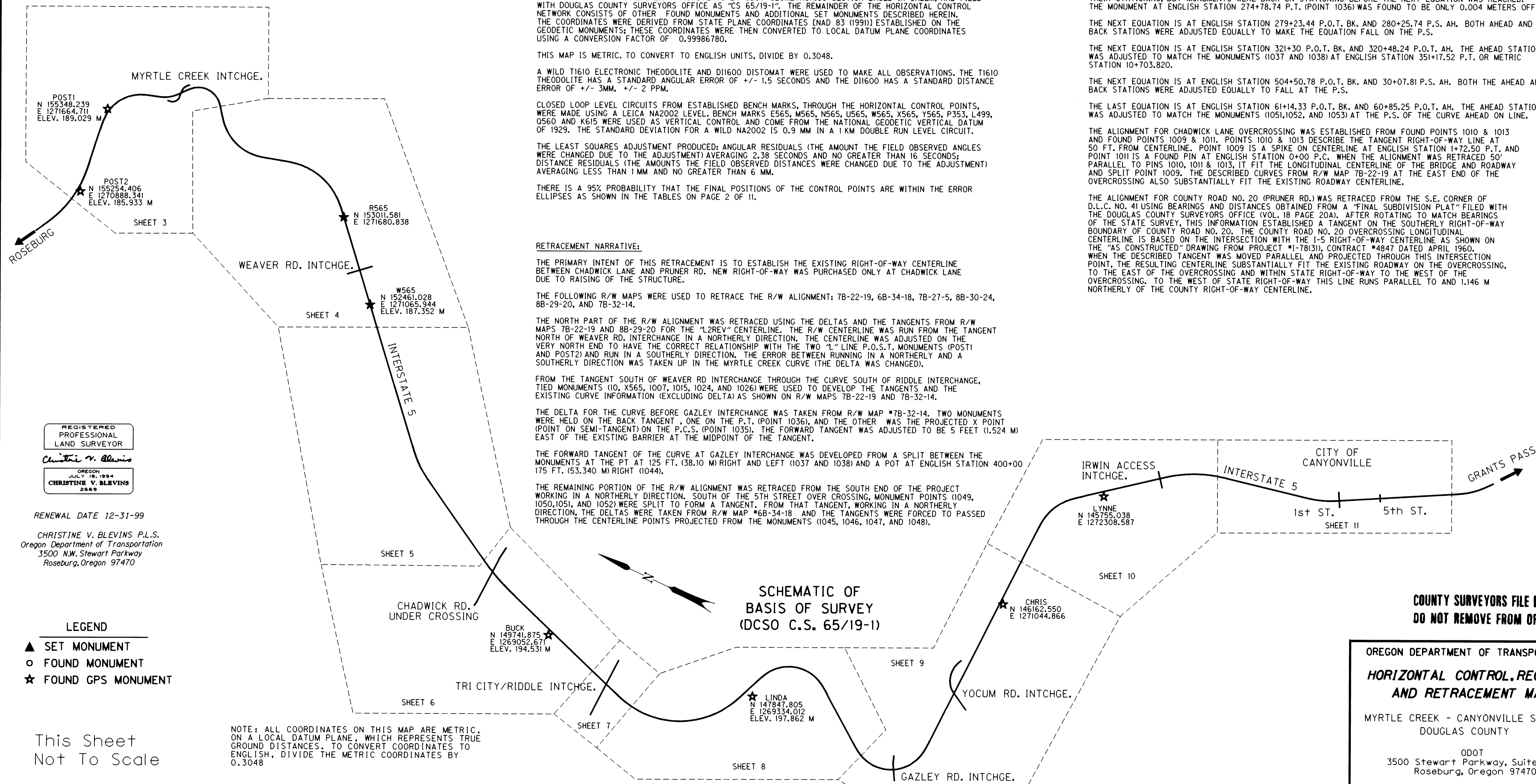
THE NEXT EQUATION IS AT ENGLISH STATION 321+30 P.O.T. BK. AND 320+48.24 P.O.T. AH. THE AHEAD STATION WAS ADJUSTED TO MATCH THE MONUMENTS (1037 AND 1038) AT ENGLISH STATION 351+17.52 P.T. OR METRIC STATION 10+703.820.

THE NEXT EQUATION IS AT ENGLISH STATION 504+50.78 P.O.T. BK. AND 30+07.81 P.S. AH. BOTH THE AHEAD AND BACK STATIONS WERE ADJUSTED EQUALLY TO FALL AT THE P.S.

THE LAST EQUATION IS AT ENGLISH STATION 61+14.33 P.O.T. BK. AND 60+85.25 P.O.T. AH. THE AHEAD STATION WAS ADJUSTED TO MATCH THE MONUMENTS (1051, 1052, AND 1053) AT THE P.S. OF THE CURVE AHEAD ON LINE.

THE ALIGNMENT FOR CHADWICK LANE OVERCROSSING WAS ESTABLISHED FROM FOUND POINTS 1010 & 1013 AND FOUND POINTS 1009 & 1011. POINTS 1010 & 1013 DESCRIBE THE TANGENT RIGHT-OF-WAY LINE AT 50 FT. FROM CENTERLINE. POINT 1009 IS A SPIKE ON CENTERLINE AT ENGLISH STATION 1+72.50 P.T. AND POINT 1011 IS A FOUND PIN AT ENGLISH STATION 0+00 P.C. WHEN THE ALIGNMENT WAS RETRACED 50' PARALLEL TO PINS 1010, 1011 & 1013, IT FIT THE LONGITUDINAL CENTERLINE OF THE BRIDGE AND ROADWAY AND SPLIT POINT 1009. THE DESCRIBED CURVES FROM R/W MAP 7B-22-19 AT THE EAST END OF THE OVERCROSSING ALSO SUBSTANTIALLY FIT THE EXISTING ROADWAY CENTERLINE.

THE ALIGNMENT FOR COUNTY ROAD NO. 20 (PRUNER RD.) WAS RETRACED FROM THE S.E. CORNER OF D.L.C. NO. 41 USING BEARINGS AND DISTANCES OBTAINED FROM A "FINAL SUBDIVISION PLAT" FILED WITH THE DOUGLAS COUNTY SURVEYORS OFFICE (VOL. 18 PAGE 20A). AFTER ROTATING TO MATCH BEARINGS OF THE STATE SURVEY, THIS INFORMATION ESTABLISHED A TANGENT TO THE SOUTHERLY RIGHT-OF-WAY BOUNDARY OF COUNTY ROAD NO. 20. THE COUNTY ROAD NO. 20 OVERCROSSING LONGITUDINAL CENTERLINE IS BASED ON THE INTERSECTION WITH THE I-5 RIGHT-OF-WAY CENTERLINE AS SHOWN ON THE "AS CONSTRUCTED" DRAWING FROM PROJECT #1-78(31), CONTRACT #4847 DATED APRIL 1960. WHEN THE DESCRIBED TANGENT WAS MOVED PARALLEL AND PROJECTED THROUGH THIS INTERSECTION POINT, THE RESULTING CENTERLINE SUBSTANTIALLY FIT THE EXISTING ROADWAY ON THE OVERCROSSING, TO THE EAST OF THE OVERCROSSING AND WITHIN STATE RIGHT-OF-WAY TO THE WEST OF THE OVERCROSSING. TO THE WEST OF STATE RIGHT-OF-WAY THIS LINE RUNS PARALLEL TO AND 1.146 M NORTHERLY OF THE COUNTY RIGHT-OF-WAY CENTERLINE.



REGISTERED PROFESSIONAL LAND SURVEYOR
Christine V. Blewins
OREGON JULY 19, 1994
CHRISTINE W. BLEWINS
2669

RENEWAL DATE 12-31-99
CHRISTINE V. BLEWINS P.L.S.
Oregon Department of Transportation
3500 N.W. Stewart Parkway
Roseburg, Oregon 97470

- LEGEND
- ▲ SET MONUMENT
- FOUND MONUMENT
- ★ FOUND GPS MONUMENT

This Sheet Not To Scale

NOTE: ALL COORDINATES ON THIS MAP ARE METRIC, ON A LOCAL DATUM PLANE, WHICH REPRESENTS TRUE GROUND DISTANCES. TO CONVERT COORDINATES TO ENGLISH, DIVIDE THE METRIC COORDINATES BY 0.3048

COUNTY SURVEYORS FILE DATA DO NOT REMOVE FROM OFFICE

OREGON DEPARTMENT OF TRANSPORTATION
HORIZONTAL CONTROL, RECOVERY, AND RETRACEMENT MAP
MYRTLE CREEK - CANYONVILLE SEC. (1-5)
DOUGLAS COUNTY
ODOT
3500 Stewart Parkway, Suite 140
Roseburg, Oregon 97470