

Date: 4-1-2015 By: JC

This survey consist of:

Map: IS-028A-14

Narrative: _____

Corner Rpt: _____
DOUGLAS COUNTY
SURVEYOR

PURPOSE

THE PURPOSE OF THIS SURVEY WAS TO MONUMENT THE NEWLY ACQUIRED RIGHT OF WAY SHOWN ON RIGHT OF WAY DRAWING (DRG) 1A-24-2 FOR AN OREGON DEPARTMENT OF TRANSPORTATION (ODOT) PROJECT NAMED "15:DEL RIO ROAD / WINCHESTER INTERCHANGE". SURVEY FIELD WORK WAS PERFORMED BETWEEN DECEMBER OF 2014 AND FEBRUARY OF 2015. ORIGINAL FIELD NOTES OF HORIZONTAL CONTROL, VERTICAL CONTROL, RECOVERED AND SET MONUMENTS ARE ARCHIVED IN SALEM IN FIELD BOOK NUMBER 4073.

BASIS OF BEARING AND COORDINATE SYSTEM

THE COORDINATES FOR THIS SURVEY COME FROM FILED SURVEYS ST.HWY.15-016 AND ST.HWY.15-026 WHICH USED BEARINGS BASED ON THE OREGON COORDINATE SYSTEM (OCS) OF 1983 (91 ADJUSTMENT), SOUTH ZONE. THIS SURVEY UTILIZES LOCAL DATUM PLANE COORDINATES (LDPC) WHICH ARE RELATIVE TO THE SAID OCS, WITH RESPECT TO THE LOCAL LATITUDE AND GROUND ELEVATION. THE LDPC COORDINATES DEFINE TRUE GROUND DISTANCES. TO CONVERT LDPC COORDINATES TO THE OCS, MULTIPLY THE COORDINATES BY 0.99987087. THE LDPC COORDINATE SYSTEM AND LDPC SCALE FACTOR MATCH A PREVIOUS ODOT PROJECT NAMED "1-5:EXIT 129 / N.UMPQUA RIVER (WINCHESTER) BRIDGES". THE VERTICAL DATUM IS NAVD 1988.

HORIZONTAL CONTROL

THE ORIGINAL TOTAL STATION NETWORKS AND REAL TIME KINEMATIC (RTK) GPS CONTROL WERE TIED TO OR HELD POINTS 11851-1, 11851-2, 11851-3, AND AKIN2. IN ORDER TO SET THE RIGHT OF WAY MONUMENTS REQUIRED ON DRG 1A-24-2 POINTS 11851-2, 11851-3, 625, AND NU7 WERE REOCCUPIED IN RAPID STATIC MODE AND WERE PROCESSED HOLDING CURRENT OREGON REAL-TIME GPS NETWORK (ORGN) STATIONS REED, RSBG, AND YONC. A CALIBRATION/TRANSFORMATION WAS COMPLETED HOLDING THE RECORD POSITIONS OF 11851-2, 11851-3, 625, AND NU7 FROM FILED SURVEYS ST HWY 15-016 AND 15-026 AND THE NEW WGS84 POSITIONS. THE REPORTED ERROR RESIDUALS WHEN PROCESSING THE CALIBRATION/TRANSFORMATION WERE WITHIN 0.028 FEET FOR 11851-2, 11851-3, 625, AND NU7. THIS CALIBRATION/TRANSFORMATION ALLOWED THE GPS EQUIPMENT TO USE THE ORGN WITH REAL-TIME KINEMATIC (RTK) GPS METHODS AND WORK DIRECTLY IN LDPC COORDINATES WITH IMPROVED HORIZONTAL AND VERTICAL ACCURACY. THIS WORK CONSISTED OF SETTING RIGHT OF WAY MONUMENTS USING RTK AND THEN CHECKING THE POSITION AT LEAST 30 MINUTES LATER USING SAID METHOD. MONUMENTS THAT COULD NOT BE SET BY RTK GPS METHODS WERE SET BY TOTAL STATION. A 3 POINT RESECTION OF EXISTING MONUMENTS WAS USED BY THE TOTAL STATION TO SET THESE REMAINING RIGHT OF WAY MONUMENTS.

HORIZONTAL CONTROL EQUIPMENT

LEICA GS14 AND GX1230 DUAL FREQUENCY GPS RECEIVERS WERE USED FOR GPS OBSERVATIONS AND REAL TIME KINEMATIC (RTK) STAKEOUT AND POSITION CHECK. THEY HAVE THE FOLLOWING ACCURACY: PHASED DIFFERENTIAL STATIC METHOD HORIZONTAL ERROR OF 5 MM + 0.5 PPM, AND A VERTICAL ERROR OF 10 MM, + 0.5 PPM; PHASED DIFFERENTIAL RTK METHOD HORIZONTAL ERROR OF 10 MM + 1 PPM, AND A VERTICAL ERROR OF 20 MM, + 1 PPM. USE OF A CALIBRATION/TRANSFORMATION REDUCES THIS ERROR BY AS MUCH AS 70%.

A LEICA MS50 MULTI STATION WAS USED WHEN GPS METHODS DIDN'T WORK; STANDARD ANGULAR ERROR OF +/- 1 SECOND, STANDARD DISTANCE ERROR OF +/- 1 MM, + 1.5 PPM.

VERTICAL CONTROL

BENCH MARKS E749, F749, AA267, AND R554 WERE HELD AS VERTICAL CONTROL FOR THE PROJECT. LEVEL CIRCUITS WERE RUN TO ESTABLISH ELEVATIONS ON CONTROL POINTS USED FOR THE TOPOGRAPHY WORK.

VERTICAL CONTROL EQUIPMENT

A LEICA NA2002 DIGITAL LEVEL AND A LEICA GBNL4C ALUMINUM LEVEL ROD WAS USED TO COMPLETE THE LEVEL CIRCUITS. THIS INSTRUMENT HAS THE FOLLOWING STANDARD DEVIATION OF 1.5MM IN A 1 KILOMETER DOUBLE RUN LEVEL CIRCUIT.

PENDING

JURISDICTIONAL TRANSFER AGREEMENT JT 798 INCLUDED IN MC & A 26313 BETWEEN ODOT AND THE MUNICIPALITY OF DOUGLAS COUNTY HAS BEEN ACCEPTED BY BOTH PARTIES, BUT IS SUBJECT TO MINOR CHANGE DURING LEGAL REVIEW (MOST LIKELY UNRELATED TO THE BOUNDARIES). THE SALE/TRANSFER OR DISPOSAL OF SURPLUS PROPERTY FROM ODOT TO DOUGLAS COUNTY, INC. (THE LUMBER MILL) HAS BEEN AGREED TO AND A DEED WILL SOON BE SIGNED AND EVENTUALLY RECORDED.

BOUNDARY LINE LEGEND	
EXISTING HIGHWAY RIGHT OF WAY ACCESS CONTROLLED	NOT CONTROLLED
NEW HIGHWAY RIGHT OF WAY ACCESS CONTROLLED	NOT CONTROLLED
NEW PERMANENT EASEMENT FOR HIGHWAY RIGHT OF WAY PURPOSES	
EXISTING STREET RIGHT OF WAY	
DONATION LAND CLAIM (THIS SIDE)	
DONATION LAND CLAIM (BOTH SIDES)	
TOWNSHIP	
SECTION	
1/4 SECTION	
1/16 SECTION OR GOVERNMENT LOT	

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Marshall R. Wagstaff

OREGON
JANUARY 9, 2001
MARSHALL R. WAGSTAFF
49476LS

RENEWS: JUNE 30, 2016

SI FEET

OREGON DEPARTMENT OF TRANSPORTATION
RIGHT-OF-WAY BOUNDARY MONUMENTATION MAP
15: DEL RIO ROAD / WINCHESTER INTERCHANGE
PACIFIC HIGHWAY NO. 1, I-5, M.P. 128.26 - 130.53
& OAKLAND - SHADY HIGHWAY, OR99
DOUGLAS COUNTY
FILE:15186RW.DGN MODEL: RWM

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

MAR. 30, 2015
SHEET 2 OF 8

ST. HWY 15-028 B