

FILED

Date: 9/24/2009 By: JL  
This survey consists of:  
Map: Sr HWY 15-023A-M  
Narrative:  
Corner Rpt:

DOUGLAS COUNTY  
SURVEYOR

NARRATIVE

PURPOSE:

THE PURPOSE OF THIS SURVEY WAS TO GATHER TOPOGRAPHICAL DATA, LOCATE EXISTING RIGHT-OF-WAY MONUMENTS, TIE ANY GOVERNMENT CORNERS, FOUND MONUMENTS AND SET NETWORK CONTROL MONUMENTS FOR A PROJECT NAMED "I-5 SUTHERLIN HILL TRUCK CLIMBING LANE". SURVEY FIELD WORK WAS PERFORMED BETWEEN NOVEMBER 2008 AND FEBRUARY OF 2009 BY THE ODOT SURVEY CREW 3660 OF REGION 3 HEADQUARTERS, ROSEBURG, OREGON. THE ORIGINAL FIELD NOTES FOR HORIZONTAL CONTROL, VERTICAL CONTROL, AND RECOVERED MONUMENTS ARE IN FIELD BOOK # 4447 AND IS AVAILABLE UPON REQUEST FROM THE SALEM MAP AND PLAN CENTER.

COORDINATES & BASIS OF BEARING:

THE BEARINGS ARE BASED ON THE OREGON COORDINATE SYSTEM (OCS) OF 1983 (2007 ADJUSTMENT) SOUTH ZONE. THIS SURVEY UTILIZES A LOCAL DATUM PLANE (LDP) THIS IS RELATIVE TO THE OCS, WITH RESPECT TO THE LOCAL LATITUDE AND GROUND ELEVATION. THE LDP COORDINATES DEFINE TRUE GROUND DISTANCES AND TO CONVERT LDP COORDINATES TO THE OCS, MULTIPLY THE COORDINATES BY THE LDP CONVERSION FACTOR OF 0.99988135354.

HORIZONTAL CONTROL:

"LEE" WAS USED AS THE PRIMARY CONTROL FOR THE PROJECT IT IS A 3/4" BRASS DISK SET IN CONCRETE BY NATIONAL GEODETIC SURVEY 1993. A GPS BASE STATION OCCUPIED THE PRIMARY CONTROL POINTS FOR REAL TIME KINEMATIC (RTK) GPS WORK. THIS WORK CONSISTED OF OCCUPYING STRATEGIC POINTS AND EXISTING MONUMENTS TWICE, WITH AT LEAST THIRTY MINUTES BETWEEN OCCUPATIONS WITH A GPS RTK ROVER. MONUMENTS THAT COULD NOT BE OCCUPIED BY RTK GPS METHOD WERE OBSERVED WITH A TOTAL STATION USING BACKSITES FROM PREVIOUSLY OCCUPIED MONUMENTS WITH RTK GPS.

HORIZONTAL CONTROL EQUIPMENT:

A LEICA GX1230 DUAL FREQUENCY GPS RECEIVER WITH AN AX1202 ANTENNA WAS USED FOR GPS OBSERVATIONS. IT HAS 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.

A LEICA TCRP1201 TOTAL STATION USED HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2MM, +/- 2 PPM.

VERTICAL CONTROL:

THE VERTICAL DATUM USED FOR THIS PROJECT IS NAVD 1988. THE ELEVATION WAS DERIVED BY OBSERVING THE BENCH MARK U666 WITH THE RTK GPS METHOD. THE ELEVATION ESTABLISHED ON U666 IS INTENDED FOR USE ON THIS PROJECT ONLY. TWO DIFFERENTIAL LEVEL CIRCUITS WERE RAN TO ESTABLISH ELEVATIONS ON THE SET CONTROL POINTS. THE FIRST CIRCUIT WAS FROM BENCH MARK U666 NORTH TO THE BEGINING OF THE PROJECT AND THE SECOND CIRCUIT WAS FROM BENCH MARK U666 SOUTH TO THE END OF THE PROJECT.

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.

RIGHT-OF-WAY RESOLUTION:

A DILIGENT SEARCH FOR EXISTING RIGHT-OF-WAY MONUMENTS WAS CONDUCTED AND MANY WERE RECOVERED AND IDENTIFIED BY USING THE EXISTING RIGHT-OF-WAY DRAWINGS 7B-12-18, 8B-26-6, 7B-12-4 AND 1R-4-17.

THE FOUND MONUMENT 1001 WAS HELD AT RECORD DISTANCE TO CENTERLINE AS WELL AS A SPLIT OF THE MONUMENTS 1015 AND 1016 TO ESTABLISH THE NORTH TANGENT. THE SOUTH TANGENT WAS ESTABLISHED BY SPLITTING THE FOUND MONUMENTS 1020 AND 1021 AND HOLDING THE FOUND MONUMENT 1043 AT RECORD DISTANCE TO THE CENTERLINE. THE TANGENTS WERE THEN EXTENDED TO ESTABLISH A POINT OF INTERSECTION (PI). THEN THE RECORD CURVE DATA AND RECORD SPIRAL LENGTHS WERE APPLIED TO ESTABLISH THE RIGHT-OF-WAY CENTERLINE. STATIONING WAS ESTABLISHED BY USING THE RECORD STATIONS THAT WERE HELD AT THE SOUTH AND THE NORTH END OF THE PROJECT AND APPLYING TO THE LENGTH OF THE RIGHT-OF-WAY ALIGNMENT.

NO ATTEMPT WAS MADE TO RESOLVE PRIVATE PROPERTY BOUNDARIES ON THIS SURVEY.

THE POINTS WITH ELEVATIONS SHOWN ON THEM SHOULD BE FIELD VERIFIED PRIOR TO USE.

ALL RESEARCH DATA IS LISTED ON EACH INDIVIDUAL SHEET OF THIS SURVEY.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR  
*James M. Stanley*  
OREGON  
JULY 11, 2000  
JAMES M. STANLEY  
49863LS

EXPIRES 06/30/2010

**SI FEET** OREGON DEPARTMENT OF TRANSPORTATION  
HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT MAP  
I-5: N OAKLAND INTCHGE - SUTHERLIN INTCHGE SEC  
I-5: SUTHERLIN HILL TRUCK CLIMBING LANE  
PACIFIC HIGHWAY  
DOUGLAS COUNTY  
File: 14492RW.dgn

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

SEPTEMBER, 2009  
SCALE: 1" = 100'  
SHEET 2 OF 13

ST. HWY. 15 -023 B