

NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO GATHER TOPOGRAPHICAL DATA, LOCATE EXISTING RIGHT-OF-WAY MONUMENTS, LOCATE GOVERNMENT CORNERS, SET NETWORK CONTROL MONUMENTS AND RESOLVE RIGHT-OF-WAY FOR A PROJECT NAMED "OR138: DODGE CREEK BRIDGES REPLACEMENT". BECAUSE OF THE CLOSE PROXIMITY OF ANOTHER ODOT PROJECT NAMED "OR138: CALAPOOYA CREEK BRIDGE", IT WAS DECIDED TO COMBINE BOTH PROJECTS ON THIS SURVEY. THE SURVEY FOR DODGE CREEK BRIDGES WAS PERFORMED BETWEEN OCTOBER 15 AND NOVEMBER 14 OF 2008 AND THE SURVEY WORK FOR THE CALAPOOYA CREEK BRIDGE WAS PERFORMED IN MARCH OF 2007 BY THE ODOT SURVEY CREW 3660 OF REGION 3 HEADQUARTERS, ROSEBURG, OREGON.

THE BASIS OF BEARING IS BASED ON THE OREGON COORDINATE SYSTEM (OCS) OF NAD 83 (1998), SOUTH ZONE. THIS SURVEY UTILIZES A LOCAL DATUM PLANE (LDP) WHICH IS RELATIVE TO THE OCS, WITH RESPECT TO THE LOCAL LATITUDE AND GROUND ELEVATION. THE LDP COORDINATES DEFINE TRUE GROUND DISTANCES. TO CONVERT LDP COORDINATES TO THE OREGON COORDINATE SYSTEM MULTIPLY THE COORDINATES BY 0.99988768624.

HORIZONTAL CONTROL

A NATIONAL GEODETIC SURVEY GPS MONUMENT NAMED "LEE" (PID AA5130) WAS HELD AS THE PRIMARY CONTROL FOR THIS PROJECT. THE MONUMENT IS A 3/4" BRASS DISK SET ON A 8" DIAMETER CONCRETE PEDESTAL STAMPED "HORIZONTAL CONTROL MARK LEE 1993 FOR INFORMATION TO REPORT DAMAGE WRITE WASHINGTON D.C. THE DIRECTOR NATIONAL GEODETIC SURVEY". THE MONUMENT IS 0.2' ABOVE THE SURFACE AND IN GOOD CONDITION ON GREEN VALLEY ROAD NORTH OF SUTHERLIN, OREGON AS DESCRIBED ON THE DATA SHEET.

A GPS BASE STATION WAS SETUP AT "LEE" AND A SECOND GPS RTK ROVER WAS USED TO DOUBLE OCCUPY EACH SET OR FOUND MONUMENT THAT HAD GOOD SATELLITE VISIBILITY. MONUMENT OCCUPATION TIMES WERE A MINIMUM OF ONE HALF HOUR (1/2 HOUR) APART. MONUMENTS THAT HAD A LOW SATELLITE VISIBILITY WERE TIED WITH A LEICA 1201 TOTAL STATION FOR THE DODGE BRIDGE PROJECT AND A LEICA 1800 TOTAL STATION FOR THE CALAPOOYA BRIDGE PROJECT. THESE MONUMENTS WERE LOCATED BY OCCUPYING THE PREVIOUSLY RTK TIED MONUMENTS.

EQUIPMENT

LEICA GX1230 DUAL FREQUENCY GPS RECEIVER WITH AX1202 ANTENNA, DIFFERENTIAL PHASE: STATIC HORIZONTAL ERROR OF 5 MM + 0.5 PPM, STATIC VERTICAL ERROR OF 10 MM + 0.5 PPM; KINEMATIC HORIZONTAL ERROR OF 10 MM + 1 PPM, STATIC VERTICAL ERROR OF 20 MM + 1 PPM.

THE LEICA TCRP 1201 TOTAL STATION WAS USED FOR THE DODGE CREEK BRIDGES AND HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2MM, + 2 PPM.

A LEICA TCA 1800 TOTAL STATION WAS USED FOR THE CALAPOOYA CREEK BRIDGE AND HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR OF +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2MM; +/- 2PPM.

VERTICAL CONTROL

THE LEVEL CIRCUIT FOR THIS PROJECT WAS BASED ON NATIONAL GEODETIC SURVEY NAVD 88 ELEVATION OF BENCHMARK B 335. THIS WAS USED TO ESTABLISH ELEVATIONS FOR THE VERTICAL CONTROL OF THE CALAPOOYA CREEK BRIDGE PROJECT AND FOR THE DODGE CREEK BRIDGES PROJECT. THE LEVEL CIRCUITS WERE ADJUSTED BY THE LEAST SQUARES ADJUSTMENT METHOD.

VERTICAL CONTROL EQUIPMENT

A LEICA NA2002 DIGITAL LEVEL AND A LEICA GBNL4C ALUMINUM/FIBERGLASS LEVEL ROD WERE USED FOR ESTABLISHING ELEVATIONS ON SET AND FOUND MONUMENTS. THIS INSTRUMENT HAS A STANDARD DEVIATION OF 1.5 MM IN A 1 KILOMETER DOUBLE-RUN LEVEL CIRCUIT. THE ELEVATIONS SHOWN SHOULD BE FIELD VERIFIED BEFORE USE.

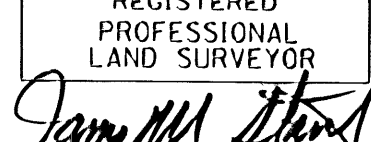
THE ORIGINAL FIELD NOTES FOR HORIZONTAL CONTROL, VERTICAL CONTROL, AND RECOVERED MONUMENT TIES ARE IN FIELD BOOK 4442 WHICH IS AVAILABLE UPON REQUEST FROM THE ODOT MAPS AND PLANS CENTER IN SALEM.

RETRACEMENT


THE RECOVERED RIGHT-OF-WAY CENTER LINE ALIGNMENT IS A COMBINED ALIGNMENT FROM DODGE CREEK BRIDGES AND THE CALAPOOYA BRIDGE PROJECT. THE RIGHT-OF-WAY CENTER LINE WAS RESOLVED BY HOLDING RECORD DISTANCE FROM FOUND MONUMENTS 1006 AND 1004. THE REMAINING FOUND MONUMENTS 1003, 1008 AND 1009 WERE SPLIT AT THE WESTERLY END OF THE PROJECT.

AT THE EASTERLY END OF THE PROJECT FOUND MONUMENTS 1017 AND 1018, 1025, 1026, C1012, AND C1013 WERE SPLIT AND EXTENDED TO FORM INTERSECTING TANGENTS (P.I.). THE RECORD DEGREE OF CURVE AND SPIRAL LENGTHS WERE TAKEN FROM ODOT DRAWINGS. DRAWING 6B-24-16 WAS USED FOR THE WESTERLY END OF THE PROJECT AND 7B-12-4 WAS USED FOR THE EASTERLY END OF THE PROJECT.

STATIONING WAS A BEST FIT OF EXISTING RIGHT-OF-WAY MONUMENTS TAKEN FROM THE PREVIOUSLY MENTIONED ODOT DRAWINGS AND THE FOLLOWING ODOT DEEDS WITH FILE NUMBERS: 18873, 18875, 18876, 18878, 19406 AND 13959.

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

EXPIRES 06/30/2010

SI FEET  
  
 OREGON DEPARTMENT OF TRANSPORTATION  
 HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT MAP  
 OR 138: DODGE CR. BRIDGES (#07158 & 07159)  
 OR 138: CALAPOOYA CR. (ROCHESTER) BRIDGE #07338  
 ELKTON- SUTHERLIN HWY(138W)  
 DOUGLAS COUNTY  
 FILE: 15970RW.DGN  
 FOR ODOT REGION 3  
 3500 NW. STEWART PKWY.  
 ROSEBURG, OR. 97470  
 MAY 6, 2009  
 SHEET 3 OF 12