

FILED  
Date: 4/8/2010 By: JC  
This survey consists of:  
Map: ST HWY 138-012 A-c  
Name: \_\_\_\_\_  
Corner: \_\_\_\_\_  
DOUGLAS COUNTY  
SURVEYOR

NARRATIVE

PURPOSE:

THE PURPOSE OF THIS SURVEY WAS TO GATHER TOPOGRAPHICAL DATA, LOCATE EXISTING RIGHT-OF-WAY MONUMENTS, TIE GOVERNMENT CORNERS, FOUND MONUMENTS AND SET NETWORK CONTROL MONUMENTS FOR A PROJECT NAMED "TIOGA WAYSIDE & NORTH UMPQUA TRAIL ACCESS BRIDGE". SURVEY FIELD WORK WAS PERFORMED BETWEEN JUNE 16, 2009 AND JULY 23, 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 4461 AND ARE AVAILABLE UPON REQUEST FROM THE SALEM MAP AND PLAN CENTER.

COORDINATES & BASIS OF BEARING:

TWO GPS POINTS WERE ESTABLISHED NAMED "GPS1" AND "GPS2" USING OPUS-RS. THEY WERE STABILIZED IN CONCRETE AND ARE THE BASIS OF BEARING FOR THIS PROJECT.

THE BEARINGS ARE BASED ON THE OREGON COORDINATE SYSTEM (OCS) OF 1983, (CORS 96) (EPOCH: 2002), SOUTH ZONE. THIS SURVEY UTILIZES A LOCAL DATUM PLANE (LDP) WHICH IS RELATIVE TO THE SAID OCS, WITH RESPECT TO THE LOCAL LATITUDE AND GROUND ELEVATION. THE LDP COORDINATES DEFINE TRUE GROUND DISTANCES. TO CONVERT LDP COORDINATES TO THE OCS, MULTIPLY THE COORDINATES BY 0.99985716235.

HORIZONTAL CONTROL:

GPS POINTS "GPS1" AND "GPS2" WERE HELD FOR THE CONTROL NETWORK FOR THIS PROJECT. NETWORK CONTROL POINTS 3-11 WERE SET AND ARE LISTED ON THE CONTROL MONUMENT TABLES ON SHEET 1.

HORIZONTAL CONTROL EQUIPMENT:

A LEICA TCRP 1201 TOTAL STATION WAS USED FOR GATHERING HORIZONTAL NETWORK CONTROL AND TOPOGRAPHIC DATA. IT HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2MM, + 2 PPM.

A LEICA GX1230 DUAL FREQUENCY GPS RECEIVER 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.

VERTICAL CONTROL:

"GPS2" NAVD 1988 DATUM ELEVATION WAS DERIVED FROM THE OPUS-RS SOLUTIONS AND WAS HELD FOR VERTICAL CONTROL ON THIS PROJECT. A LEVEL CIRCUIT WAS COMPLETED TO ESTABLISH ELEVATIONS ON POINTS 9 -13. A LEAST SQUARES ADJUSTMENT WAS APPLIED ON THE POINTS AND ALL WERE AT THE 95% CONFIDENCE LEVEL AS REQUIRED.

VERTICAL CONTROL EQUIPMENT:


A LEICA NA 2002 LEVEL AND A LEICA GBNL4C ALUMINUM LEVEL ROD WAS USED TO COMPLETE THE LEVEL CIRCUITS. THIS INSTRUMENT HAS A STANDARD DEVIATION OF 1.5 MM IN A 1 KILOMETER DOUBLE-RUN LEVEL CIRCUIT. ELEVATIONS SHOWN ON NETWORK POINTS WERE VALID AT THE TIME OF THE SURVEY AND SHOULD BE FIELD VERIFIED BEFORE USING.

RETRACEMENT:

A DILIGENT SEARCH WAS MADE FOR EXISTING MONUMENTS TO HELP DETERMINE THE RIGHT OF WAY. ONE MONUMENT WAS LOCATED AND WAS USED AS A CHECK FOR RW WIDTH (PT1002). THE ROADWAY WAS HELD AS THE MONUMENT AND RIGHT OF WAY MAP 10B-20-21 WAS USED AS REFERENCE. A LOCATED 18" CULVERT PIPE OULET END WAS FOUND TO BE AT STATION 300+00 ON THE REFERENCE MAP. THIS WAS HELD FOR STATIONING. A CHECK LATER FOUND THAT IT WAS A CLOSE FIT TO THE REFERENCE MAP PT. AND PS. STATIONS. A SPLIT OF THE ROADWAY EDGE OF PAVEMENT AT RECORD STATION 298+97.33 P.S. AND STATION 304+27.71 P.T. ESTABLISHED THE CENTER LINE OF RIGHT OF WAY. THE TANGENTS WERE THEN LOCATED TO THE EAST AND WEST FROM THESE POINTS AS PER THE DRAWING 10B-20-21. THEY WERE THEN PROJECTED TO POINTS OF INTERSECTION (PI). THE CURVE AND SPIRAL LENGTHS WERE ADJUSTED TO PROVIDE THE BEST FIT CURVE TO MATCH THE CENTER OF THE EXISTING ROADWAY. STATIONING WAS ADJUSTED TO THE NEW CURVE DATA. THE CURVE DATA ON DRAWING 10B-20-21 DOES NOT MATCH AND THERE IS NO EVIDENCE THAT THE HIGHWAY WAS CONSTRUCTED AS SHOWN ON THE MAP.

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  
TIOGA WAYSIDE & NORTH UMPQUA TRAIL ACCESS BRIDGE  
NORTH UMPQUA HWY. 138, OR138E,  
M.P. 27.90 TO M.P. 28.10  
DOUGLAS COUNTY  
FILE: 16381RW.DGN  
FOR ODOT REGION 3  
3500 NW, STEWART PKWY.  
ROSEBURG, OR. 97470  
APRIL 6, 2010  
SHEET 2 OF 3

ST. HWY. 138-012 B