

SEC. 13, T. 22 S., R. 10 W., AND  
SEC. 7, 8, & 18, T. 22 S., R. 9 W., W.M.

SURVEY NARRATIVE

THE PURPOSE OF THIS METRIC SURVEY WAS TO ESTABLISH HORIZONTAL CONTROL FOR THE OREGON DEPARTMENT OF TRANSPORTATION PROJECTS CALLED "UMPOUA RIVER BRIDGE (SCOTTSBURG)" AND "WELLS CREEK BRIDGE" ALONG THE UMPQUA HIGHWAY BETWEEN MILE POINTS 16.2 AND 20.0. PRIMARY TRAVERSE 1, SECONDARY TRAVERSE 2, SECONDARY TRAVERSE 5, SECONDARY TRAVERSE 6, AND SECONDARY TRAVERSE 7, WERE CONDUCTED BY AN OREGON DEPARTMENT OF TRANSPORTATION (ODOT) SURVEY CREW IN ROSEBURG FROM MAY 1991 TO JULY 1992. THE CONTROL NETWORK AT WELLS CREEK WAS CONDUCTED BY AN ODOT SURVEY CREW IN ROSEBURG FROM APRIL TO MAY, 2000, HOLDING AS FIXED TRAVERSE POINTS 16, 17, 18, AND 19 FROM PRIMARY TRAVERSE 1. THE ORIGINAL FIELD NOTES FOR UMPQUA RIVER BRIDGE (SCOTTSBURG) ARE ARCHIVED IN SALEM AS BOOK #3751 AND NOTES FOR WELLS CREEK BRIDGE ARE IN BOOK #3752.

THE BASIS OF BEARING OF N 30°50'05" E WAS CALCULATED BETWEEN TWO FOUND MONUMENTS FROM A PREVIOUS ODOT PHOTOGRAMMETRY SURVEY. THESE TWO POINTS ARE "SCOTT" (TRAVERSE POINT #35) AND "SB-6" (TRAVERSE POINT #50); RECORD DISTANCE BEING 1948.119 FEET (593.797 M) AND MEASURED DISTANCE BEING 593.786 M. THE COORDINATES (MEASURED BY A CONSULTANT USING GPS) FOR "SCOTT" WERE HELD AND ALSO THE RECORD BEARING BACK TO POINT "SB-6" WAS HELD. COORDINATES FOR POINT "SB-6" WERE CALCULATED USING THE RECORD BEARING AND MEASURED DISTANCE FROM "SCOTT". (SEE SKETCH ON SHEET 4 OF 13)

THE COORDINATES ARE ON A LOCAL DATUM PLANE (LDP) WHICH WAS DERIVED FROM THE 1983 SOUTH ZONE COORDINATE SYSTEM. LDP COORDINATES REPRESENT TRUE GROUND DISTANCES. TO CONVERT LDP COORDINATES TO 1983 SOUTH ZONE COORDINATE SYSTEM GRID COORDINATES MULTIPLY BY 0.99991323. TO CONVERT METRIC COORDINATES TO ENGLISH DIVIDE BY 0.3048.

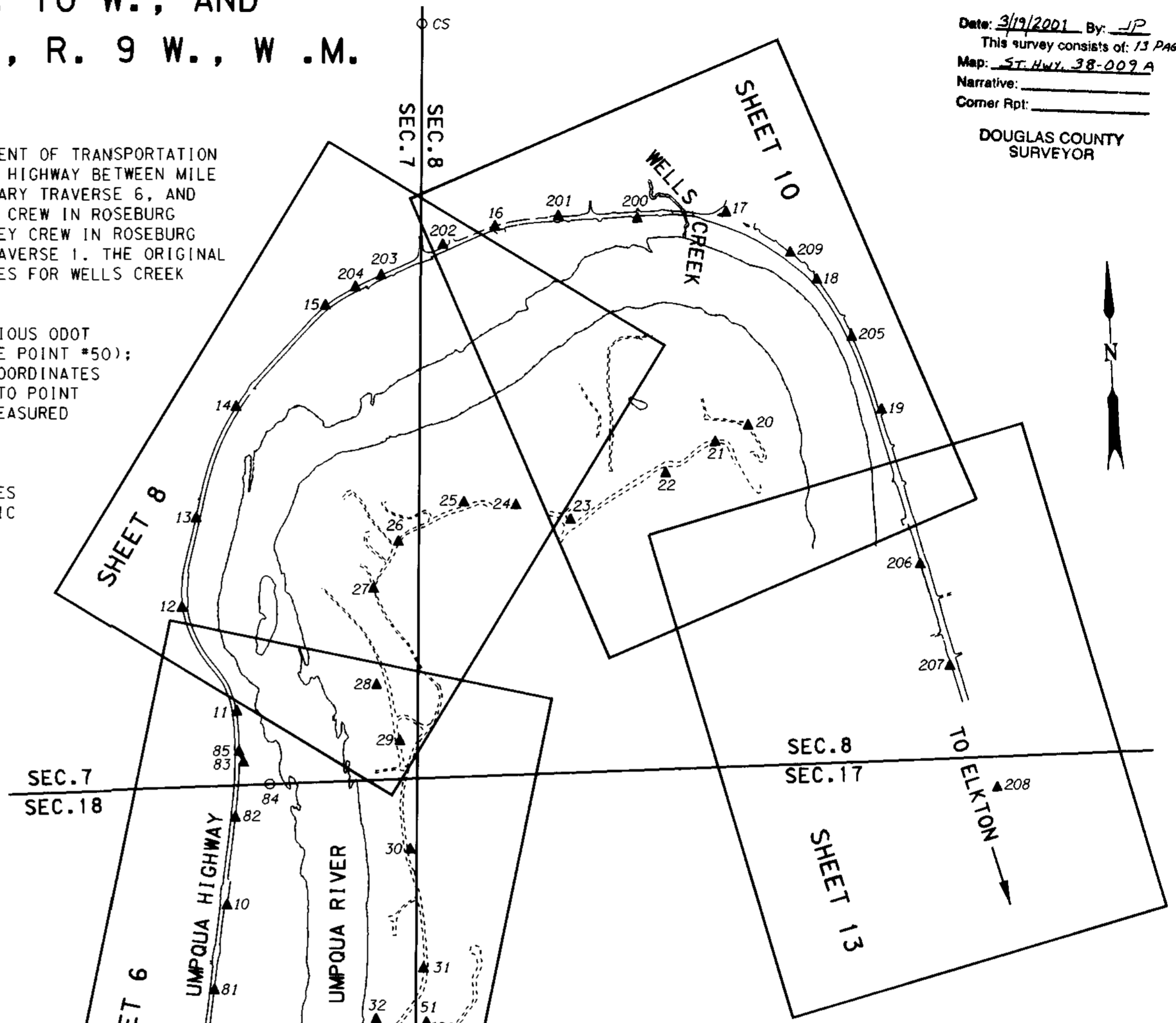
SET POINTS HAVE HAD THEIR POINT NUMBERS STAMPED ON THE CAPS IN THE FIELD, O.D.O.T. ORANGE CARSONITE POSTS WERE USED TO MARK THE LOCATIONS OF SET POINTS.

A WILD T2000 THEODOLITE, DI-5 EDM, AND A GRE-3 DATA COLLECTOR WERE USED TO COMPLETE THE TRAVERSE WORK FOR UMPQUA RIVER BRIDGE (SCOTTSBURG) SURVEY. THE WILD T2000 THEODOLITE AND DI-5 EDM HAVE THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR OF +/- 0.5 SECOND, AND A STANDARD DISTANCE ERROR OF +/- 3 MM, +/- 2 PPM. A LEICA "TCA 1800" TOTAL STATION (SERIAL NUMBER 418939) WAS USED TO MAKE THE NETWORK OBSERVATIONS FOR WELLS CREEK BRIDGE SURVEY. THE LEICA "TCA 1800" HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR OF +/- 1 SECOND, AND A STANDARD DISTANCE ERROR OF +/- 2 MM, +/- 2 PPM.

PRIMARY TRAVERSE 1 HAS CLOSURE ERROR OF 1:99,000 AND AN ANGULAR ERROR OF 8 SECONDS. SECONDARY TRAVERSE 2 HAS CLOSURE ERROR OF 1:78,200 AND AN ANGULAR ERROR OF 19 SECONDS. SECONDARY TRAVERSE 5 HAS CLOSURE ERROR OF 1:171,000 AND AN ANGULAR ERROR OF 2 SECONDS. SECONDARY TRAVERSE 6 HAS CLOSURE ERROR OF 1:79,800 AND AN ANGULAR ERROR OF 29 SECONDS. SECONDARY TRAVERSE 7 HAS CLOSURE ERROR OF 1:488,300 AND AN ANGULAR ERROR OF 6 SECONDS. THE NETWORK AT WELLS CREEK BRIDGE WAS ADJUSTED USING A LEAST SQUARES ROUTINE. THIS ADJUSTMENT PRODUCED ANGULAR AND DISTANCE RESIDUALS (THE AMOUNT THE FIELD OBSERVED MEASUREMENTS WERE CHANGED DUE TO THE ADJUSTMENT). 88% OF THE ANGULAR RESIDUALS WERE WITHIN THE 3 SECONDS, AND 100% OF THEM WERE WITHIN 5 SECONDS. 88% OF THE DISTANCE RESIDUALS WERE WITHIN 5 MM AND 100% WERE WITHIN 14 MM. THERE IS A 95% PROBABILITY THAT THE FINAL POSITIONS OF THE NETWORK POINTS ARE WITHIN THE ERROR ELLIPSES AS SHOWN ON THE "CONFIDENCE LEVEL LIMITS" TABLE, SHEET 2.

NOTE : SEE SHEET 10 OF 13 FOR THE CENTERLINE RETRACEMENT NARRATIVE.

FILED  
Date: 3/19/2001 By: JP  
This survey consists of: 13 Pages  
Map: ST. HWY. 38-009A  
Narrative:  
Comer Rpt:  
DOUGLAS COUNTY SURVEYOR



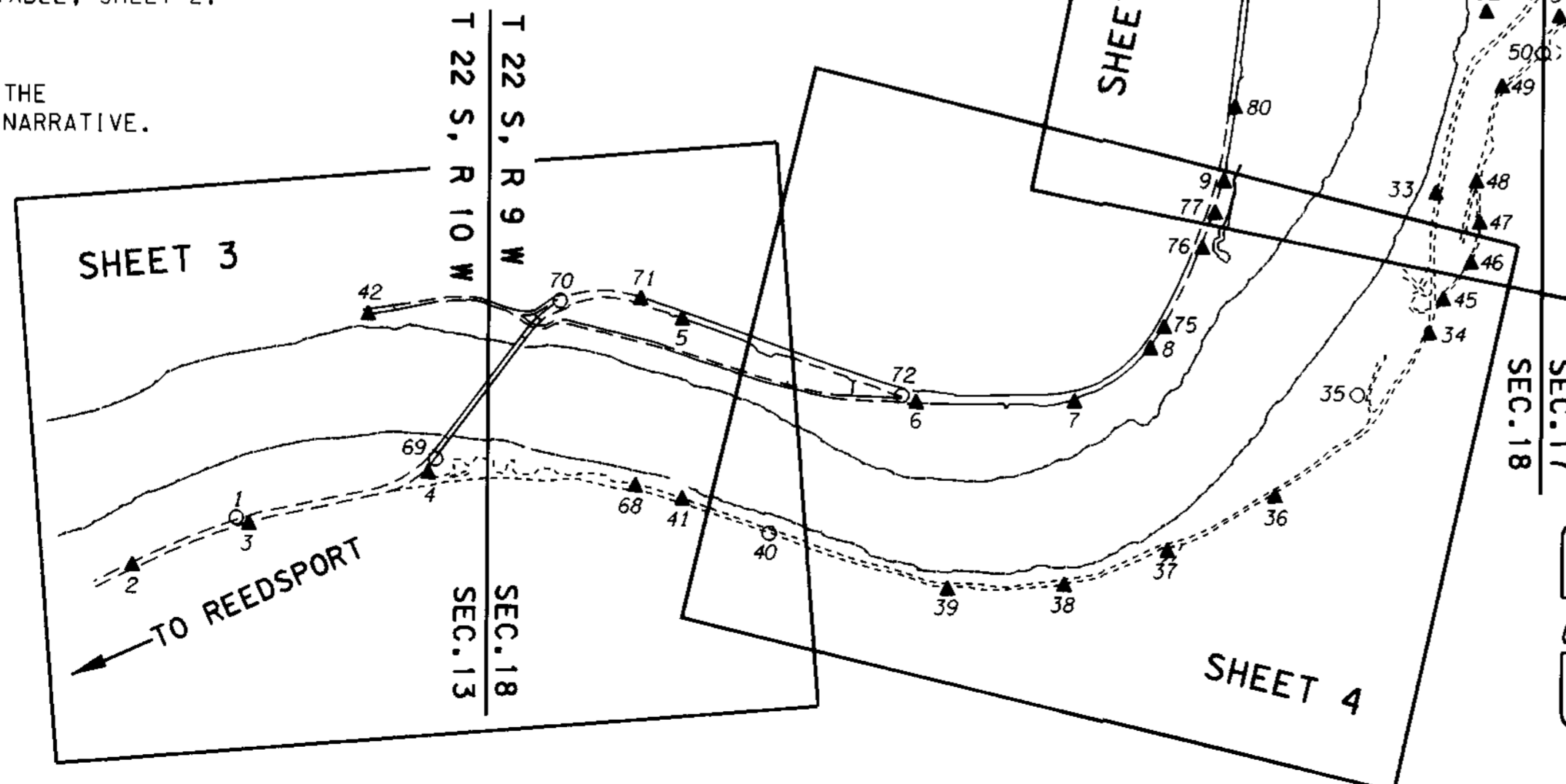
SHEET LAYOUT DIAGRAM

NOT TO SCALE



TO CONVERT METERS TO FEET DIVIDE BY 0.3048

LEGEND	
▲	SET MONUMENT
○	FOUND MONUMENT
---	EDGE OF PAVEMENT
----	EDGE OF GRAVEL
~~~~~	EDGE OF RIVER
—	SECTION LINE



REGISTERED PROFESSIONAL LAND SURVEYOR  
Christine V. Blavin  
OREGON JULY 18, 1994  
CHRISTINE V. BLAVIN 2000  
EXPIRES: DEC. 31, 2001

OREGON DEPARTMENT OF TRANSPORTATION  
HORIZONTAL CONTROL, RECOVERY,  
AND RETRACEMENT MAP  
SCOTTSBURG - WELLS CREEK SECTION  
UMPOUA HIGHWAY  
DOUGLAS COUNTY  
3500 STEWART PARKWAY, SUITE 140  
ROSEBURG, OREGON 97470

MARCH 12, 2001  
PROJECT KEY #09075