

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION			REVISIONS	DATE	

**OKLAHOMA DEPARTMENT OF TRANSPORTATION  
SURVEY DIVISION (405) 521-2621 FAX 405-522-0364**

TO: Mr. Larry D. Reser, Chief of Surveys Date: June 25, 2012  
 FROM: R. Wade Bennett, Professional Land Surveyor  
 SUBJECT: SWO 4707(2) J/P 21899(04) - I-44 Pavement Reconstruction.  
 From Approximately Mayo Road East To Approximately 161<sup>st</sup> East Avenue and Bridge at 145<sup>th</sup> East Avenue, Approximately 0.7 Miles East of the I-244 Junction in Tulsa, Tulsa and Rogers County, Oklahoma.

**HISTORICAL LETTER & WRITTEN REPORT VERSION 2**

**1. GENERAL**

Survey Began: February 27, 2012  
 Survey Completed: June 21, 2012  
 Version 2 Revisions: October 22, 2013

Version 2 revisions per Mapping Branch Request Letter dated Sept. 20, 2013 and signed by Mr. Gregory W. Massey.

The measurement unit for this project will be the U.S Survey Foot.

Personnel on this survey:  
 R. Wade Bennett, PLS  
 R. Wesley Bennett, PLS  
 Dustin K. Morrow, Party Chief  
 Grant Q. Ingram, Party Chief  
 Justin Basse, Party Chief

**2. SURVEY ASSIGNMENT**

This survey, detailed in the Survey Special Provisions dated August 27, 2011, was assigned to Bennett Surveying Inc. as sub-consultant for Garver. This was a full survey that was to be completed by conventional ground survey methods. The field crew, under direct supervision of Mr. R. Wesley Bennett began work on the project February 27, 2012.

**3. PURPOSE OF SURVEY**

The purpose of this survey is to develop plans to widen I-44 and construct a new bridge on 145<sup>th</sup> East Avenue over I-44 in Tulsa. The survey includes the Alignment, Topographic/Planimetric data, Surface Features/DTM data, Land Ties, Utilities, Drainage, and all other pertinent information needed to aid in its design.

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**4. SURVEY LIMITS**

The I-44 survey begins at centerline of I-44 P.C. Sta. 725+88.02 and extends east to P.O.T. Sta. 820+00.00 which = P.C. Sta. 725+87.70 to P.O.T. Sta. 820+00.00 as shown on SWO 2013(1) survey and FAP No. IN-591(19) and FAP No. IN-591(15) S.H. plans (approximate centerline length = 1.78 miles). I-244 survey begins at P.T. Sta. 526+07.84 and extends east to P.O.T. Sta. 570+00.00 on E-W C.R.L. & P.O.T. Sta. 580+00.00 on W-E C.R.L., as established under SWO 2272(3) survey and shown on FAP No. I-244-2 (65) 102 plans (approximate centerline length = 1.02 miles). 145<sup>th</sup> East Avenue survey begins at centerline of East Admiral Place (old S.H. 33) and extends north to EW-58.5 ¼ Section Line (approximate centerline length = 0.63 mile). Survey includes all topography and terrain features within the following described minimum survey limits coverage bandwidths: 400 feet right and left of Centerline of Survey from I-44 project beginning Sta. 725+88.02 to Sta. 770+00.00; thence, 250 feet right and left of the I-44 Centerline of Survey from Sta. 770+00.00 to End of Survey. 400 feet right and left of the I-244 Centerline from Beginning of Survey to the End of Survey. 150 feet right and left of the 145<sup>th</sup> East Ave. Centerline of Survey from the Beginning of Survey to the End of Survey.

**5. ALIGNMENT**

The Centerline of Survey (A001) for this project is along and identical to the centerline of present I-44 as shown on SWO 2013(1) and FAP No. IN-591(19) and FAP No. IN-591(15) S.H. plans except for a station equation at I-44 and 145<sup>th</sup> East Avenue due to matching the ending station of 780+58.22 on SWO 4348 survey at the identical P.O.T. Note equation Sta. 780+58.22 on SWO 4707(2) and SWO 4348(1) = Sta. 780+57.90 on SWO 2013(1) and FAP No. IN-591(15). The Centerline of Survey (A002) (A003) (A004) for this project are along and identical to the centerline of present I-244 as shown on FAP No. I-244-2 (65) 102 plans and SWO 2272(3). Note current construction was in progress during the survey of SWO 4707(2) on the West bound lane of I-244 which could affect the current alignment and the construction area was noted in the Topo dgn file. The Centerline of Survey (A005) for this project was created from a line drawn from the intersection of 145<sup>th</sup> East Avenue and Admiral Place extending north to the EW-58.5 ¼ Section Line (west ¼ of sec 34) and matches identical line on SWO 4348(1). A combination of these documents and field work was used to establish Centerlines of Survey. Existing O.D.O.T. monuments were field located within acceptable tolerance and held for control as further verification for establishing alignment for this project as well as a few Right-of-Way markers. In addition, City of Tulsa ADS Monuments were found and held to control that also matched with precision to data obtained from SWO 4348(1).

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**6. STATIONING**

Stationing for this survey was taken from SWO 2013(1) - (A001), SWO 4348(1) - (A001), SWO 2272(3) - (A002, A003, A004), FAP No. IN-591(19) - (A001), FAP No. IN-591(15) - (A001), and FAP No. I-244-2 (65) 102 S.H. plans - (A002, A003, A004). Beginning P.I. station of 100+00.00 was assigned to 145<sup>th</sup> East Avenue (A005) and runs north to End of Survey P.O.T. Sta. 133+26.95.

**7. HORIZONTAL CONTROL**

Horizontal control for this survey is NGS Oklahoma State Plane Coordinate System, NAD83(93), Lambert Projection, North Zone, and was derived from a fully constrained network adjustment using multiple existing O.D.O.T. monuments and City of Tulsa ADS Monuments to check from BM 101 to BM 139. RTK calibration was performed on these points and no horizontal error was greater than 0.02 feet. Secondary Horizontal Control for this survey was set along the project with traverses between main control points.

**8. VERTICAL CONTROL**

Differential levels were run through the extent of this survey for all benchmarks. The project was tied into NAVD88 GPS Control utilizing existing monuments assigned as BM 104, BM 107, BM 121, BM 133, and BM 139.  
 BM 104 = O.D.O.T. Brass Cap with existing O.D.O.T. Station T-72-540.  
 BM 107 = City of Tulsa ADS 7 Reset assigned O.D.O.T. SD-11 Station T-72-1436  
 BM 121 = O.D.O.T. Brass Cap with existing O.D.O.T. Station T-72-207  
 BM 133 = O.D.O.T. ½" Iron Pin with existing O.D.O.T. Station R-66-1077  
 BM 139 = City of Tulsa ADS 8 assigned O.D.O.T. SD-11 Station R-66-1159  
 Further control was established utilizing 1-1/4" bolt found on 145<sup>th</sup> East Avenue bridge and marks O.D.O.T. station R-66-1069, SW Corner Section 34, and tie in intersecting point on SWO 4348(1).

**9. PHOTO CONTROLS**

There are no photo control points on this project.

**10. TOPOGRAPHY**

All topography information was obtained during the course of this survey by conventional field methods (RTK and Total Station) survey and by LIDAR aerial survey.

\$\$\$DATE\$\$\$

PLS	RWA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	GAA	
CHECKED	AKB	
APPROVED	BAP	
CREW	CHOUTEAU	
<b>SURVEY DATA SHEET</b>		
SWO 4707 (2) PROJECT NO. 21899(04) SHEET NO. S-2		