

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FILE NO.	STAKE	PROJ. NO.	SHEET NO.	TOTAL SHEETS	
DESCRIPTION			REVISION	DATE	

Oklahoma Department of Transportation
Survey Division (405) 521-2621

Date
To: Mr. Larry D. Reser, PLS, Chief of Surveys
From: Shawn Smith, Professional Land Surveyor
Subject: SWO 4664(1) - PP 28036(04) - U.S. 277 - Cotton County
Bridge over Deep Red Creek and Two Overflows, 2.9 Miles North of U.S. 70 at Randlett

I. GENERAL:

Survey Began: December 16, 2011
Survey Completed: May 23, 2012

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

II. SURVEY ASSIGNMENT:

This survey was assigned to Lemkin Land Surveying, Inc. (LLS) under Engineering Contract Number 1360-L.

III. PURPOSE OF SURVEY:

The purpose of this survey was to develop plans to construct new bridges over Deep Red Creek and two overflows north of Randlett.

IV. SURVEY LIMITS:

Survey began at EW-193.5 1/4 Section Line as shown on FAP No. E-284 "B" plans and extended north to EW-192 Section Line as shown on FAP No. 284-C (2) plans.

V. ALIGNMENT:

The centerline referenced and shown in FAP No. E-284 "B" plans and FAP No. 284-C (2) plans was re-established by using historical geometric information, section data, existing box culverts, and the existing bridges. It was determined that a PI was necessary at EW 193 in order to fit existing conditions and evidence. The centerline alignment does not coincide with the section line as shown on the previous plans.

VI. STATIONING:

As directed by the Special Provisions, the stationing was established using FAP No. E-284 "B" plans and in FAP No. 284-C (2) plans. The stationing was re-established using multiple box culverts, right-of-way markers and the bridges between stations 540+51.500 and 646+36.753.

VII. HORIZONTAL CONTROL:

Horizontal control for this survey was established by static GPS methods using NGS OPUS solutions. These points were occupied multiple times using a minimum of 6 hour static GPS sessions. Base stations used in the OPUS solutions were OKAL, TXWF, AND OKDN. NGS monument "Randlett Reset" was found and used to verify horizontal control. Coordinates shown on this survey are NGS Oklahoma State Plane Coordinate System NAD83(CORS96) Lambert Projection South Zone. The distances and coordinates shown on this survey are in U.S. Survey Feet. All angles and bearings are shown in degrees, minutes, and seconds. Secondary control points were established by multiple observations using RTK and by Robotic Total Stations.

VIII. VERTICAL CONTROL:

- A. Vertical control for this survey is NAVD83.
- B. Two benchmarks from FAP No. 284-C (2) plans were found. The elevations were found to be approximately 22" different than OPUS solutions. There were no NGS vertical control monuments within the near vicinity of the project. Horizontal NGS control monument "Randlett Reset" shows an elevation taken from GPS observations to the nearest foot. This elevation was within .02' of observations taken during current control survey, therefore, the OPUS solutions were held. Differential leveling techniques were used to establish elevations for the new survey vertical control.
- C. A benchmark list depicting newly established benchmarks as well as the results of the leveling has been placed on the Survey Data Sheets.

IX. PHOTO CONTROLS:

No Photo Controls were used on this project.

X. TOPOGRAPHY AND DTM:

Topographic data was collected by conventional field methods.

DTM data was collected out to 250' right and left of centerline of survey from the beginning of survey to the end of survey.

XI. LAND TIES:

- A. Complete land tie information was obtained by conventional field methods as per the Survey Special Provisions within the following sections or partial sections:
In T-4-S, R-12-W, LM, Sections 9, 10, 15 and 16.
The following is a detailed explanation of how each corner was re-established:

NW Corner of Section 9, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using existing improvements. There was no corner record on file.

N/4 Corner of Section 9, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established by proportionate measurement. There was no corner record on file.

NE Corner of Section 9, T-4-S, R-12-W, LM.
Found and accepted #3 rebar as shown on corner record filed by Dennis J. Hightower.

W/4 Corner of Section 9, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established by proportionate measurement. There was no corner record on file.

E/4 Corner of Section 9, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using old highway plans and is in harmony with existing improvements. There was no corner file on record.

SW Corner of Section 9, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using existing improvements and fits GLO distances to surrounding corners. Also found #4 rebar 11.0' south and 14.5' east of corner as shown on corner record by Roy F. Woodman. This corner was not accepted due to method used.

S/4 Corner of Section 9, T-4-S, R-12-W, LM.
Found and accepted #3 rebar with unreadable cap. This monument fits well with existing improvements. There was no corner record on file.

SE Corner of Section 9, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using old highway plans and fits well with GLO distances. Also found #4 rebar 10.9' north and 9.4' east of corner as shown on corner record filed by Albert C. McDonald, Jr.

N/4 Corner of Section 10, T-4-S, R-12-W, LM.
Found and accepted #4 rebar as shown on corner record filed by Dennis J. Hightower.

NE Corner of Section 10, T-4-S, R-12-W, LM.
Found and accepted #5 rebar as shown on corner record filed by Randy Wayne Musley.

E/4 Corner of Section 10, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using existing improvements. There was no corner record on file.

S/4 Corner of Section 10, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established by single proportion. There was no corner record on file.

SE Corner of Section 10, T-4-S, R-12-W, LM.
Found and accepted #4 rebar. This corner fits well with existing improvements. There was no corner record on file.

W/4 Corner of Section 15, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using old highway plans and fits well with existing improvements. Also found P.K. nail 11.7' north and 4.7' east as shown on corner record filed by Albert C. McDonald, Jr.

E/4 Corner of Section 15, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using existing improvements. There was no corner record on file.

SW Corner of Section 15, T-4-S, R-12-W, LM.
Found and accepted #4 rebar as shown on corner record filed by Albert C. McDonald, Jr.

S/4 Corner of Section 15, T-4-S, R-12-W, LM.
Found and accepted 60d nail. This monument fits existing improvements. There was no corner record on file.

SE Corner of Section 15, T-4-S, R-12-W, LM.
Found and accepted #3 rebar. This monument fits existing improvements. There was no corner record on file.

W/4 Corner of Section 16, T-4-S, R-12-W, LM.
Set #4 rebar with cap stamped CA 2054. This corner was re-established using existing improvements. Also found #4 rebar with cap stamped PLS 1337 14' east of corner as shown on corner record filed by Roy F. Woodman. This corner was not accepted due to method used.

SW Corner of Section 16, T-4-S, R-12-W, LM.
Found and accepted #4 rebar with cap stamped PLS 1337 as shown on corner record filed by Roy F. Woodman. This monument fits existing improvements.

S/4 Corner of Section 16, T-4-S, R-12-W, LM.
Found and accepted #3 rebar with unreadable cap. This monument appears to be at the location shown on corner record filed by Albert C. McDonald, Jr. and fits existing improvements.

PLS	SS	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	SK	
CHECKED	SS	
APPROVED	SS	
CREW	JH, TK	
		SURVEY DATA SHEET
		SWO 4664 (1) PROJECT NO. 28036(04) SHEET NO. 52