

WORK AUTHORIZATION

WORK AUTHORIZATION NO. 4

PROJECT: Design survey services along River Road and along Old Windmill Road

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Surveying Services, being dated February 9, 2015 and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and Surveying and Mapping (SAM) LLC (the "Surveyor").

Part 1. The Surveyor will provide the following Surveying Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is \$43,104.80.

Part 3. Payment to the Surveyor for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on January 31, 2017. The Surveying Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Surveyor understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Surveyor that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Surveyor.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

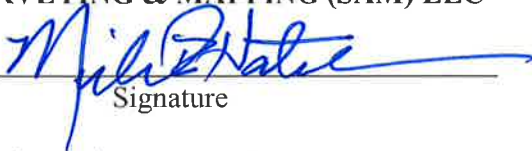
EXECUTED this ____ day of _____, 20__.

SURVEYOR:

COUNTY:

SURVEYING & MAPPING (SAM) LLC

Williamson County, Texas

By: 
Signature

By: _____
Signature

Michael R. Hatcher
Printed Name

Dan Gattis
Printed Name

Principal / Senior Vice President
Title

County Judge
Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Surveyor

Attachment C - Work Schedule

Attachment D - Fee Schedule

Attachment A
Services to be Provided by County

The County shall:

- A. Provide the specification requirements for all surveys.
- B. Provide timely reviews and decisions necessary to enable the Surveyor to maintain an agreed upon project schedule as developed in Attachment C.
- C. Designate a project manager to serve at the County's point of contact with the Surveyor.
- D. The Horizontal datum, as provided by Williamson County for this project, will be NAD83 (2011) Epoch 2010, and will be projected to Texas Coordinate System, Central Zone using a combined scale factor of 0.99985472.
- E. The Vertical Datum, as provided by Williamson County for this project, will be based on the orthometric height, (GEOID 03), using GPS vectors from point GPS-40, a subterranean concrete monument with a 3-1/4 inch diameter aluminum cap flush with the natural ground surface located on the northerly right-of-way of Remuda Drive, approximately 200 feet west of the intersection with Lariat Circle, Liberty Hill, Texas, and stamped "Williamson County GPS Monument" "GPS-40" "2007-40" Elevation: 902.36.
- F. Primary Control Points provided by Williamson County will be recovered and held for this effort.
- G. It is assumed that Right-Of-Entry (ROE) will not be required during the Work Authorization. If ROE is required, Williamson County will coordinate with the Property Owners prior to the Surveyor entering private property.

Attachment B

Services to be Provided by Surveyor

SURVEY LIMITS:

Design survey limits shall be along River Road from Remuda Drive to San Gabriel Ranch Road (approximately 1.15 miles), and along Old Windmill Road from San Gabriel Ranch Road to River Road (approximately 0.3 miles).

Design survey limits shall be within an arm length outside of the existing and apparent occupied lines of River Road and Old Windmill Road, being approximately 50 feet in width centered along the existing physical roadway centerline.

See Exhibit "A" below for a graphic representation (depicted by bold red lines) of the design survey limits.

PROJECT CONTROL

SAM shall recover existing primary survey control utilized in the previous work authorization for San Gabriel Ranch Road boundary survey. The primary survey control, as provided by Williamson County, consists of a subterranean concrete monument with a 3-1/4 inch diameter aluminum cap flush with the natural ground surface on the northerly right-of-way of Remuda Drive, approximately 200 feet west of the intersection with Lariat Circle, Liberty Hill, Texas, and stamped "Williamson County GPS Monument" "GPS-40" "2007-40" Elevation: 902.36.

SAM shall establish up to 8 secondary control points (5/8" iron rods with "SAM Control" plastic caps) and tie to the above described primary control. Vertical values will be verified with differential level runs and will be represented in US Survey Feet.

Horizontal datum, as provided by Williamson County for this project, will be NAD83 (2011) Epoch 2010, and will be projected to Texas Coordinate System, Central Zone using a combined scale factor of 0.99985472. Vertical Datum, as provided by Williamson County for this project, will be based on the orthometric height, (GEOID 03).

RIGHT-OF-ENTRY (ROE)

It is assumed that all work performed under with work authorization shall be performed within existing public right-of-way and the no ROE shall be required.

TEXAS ONE-CALL

SAM will contact Texas One-Call (DIGTESS) to facilitate the markings of underground utilities within the project limits. SAM will locate only the paint marks and/or pin flags, if any, as established by One-Call.

DESIGN SURVEY

SAM will utilize conventional survey methods or Global Positioning Systems to collect cross-sections and break lines at approximate 50-foot intervals within the above described project limits. Major grade-break lines necessary to produce a one-foot interval contour DTM will be collected, as well as any visible improvements including driveways (with type noted), driveway pipes, drainage structures (noting size, material and flowline elevation), edge of pavement, edge (shoulder) line, crown (physical centerline), guardrail, fences, signs (with text) and mailboxes, visible utilities and visible evidence of underground utilities. Trees, 8-inches and larger in diameter, within the design limits will be located and tagged (noting size and species).

RIGHT-OF-WAY (ROW) DELINEATION

SAM will conduct research in the Williamson County Appraisal District offices to confirm property ownership for the approximately ninety (90) subdivision lots within the design survey limits. Concurrently, the existing plat record for San Gabriel River Ranch shall be obtained from the Williamson County Clerks' records. SAM shall locate the existing front corner monumentation, if any, and other physical evidence of the existing ROW or limits of county maintenance for a prescriptive ROW easement found within the above described projects limits and tie to the project control. Locating rear property corners or any evidence of rear property lines is outside of the scope of services.

DELIVERABLES

- a. 2D planimetrics and 3D DTM (Microstation V8i)
- b. Gpk and TIN file
- c. Word doc file of surveyed points
- d. PDF file of One-Call response tickets
- e. PDF file of scanned field book copies

ADDITIONAL SERVICES

In addition to the services outlined above, SAM can provide additional services as requested on a time and materials basis. If requested, a scope of work and estimated fee

will be provided in writing prior to SAM proceeding with any additional service. These additional services include, but are not limited to, the following:

- ROW or Boundary surveying and mapping services beyond that scoped herein.
- Design surveying services beyond that scoped herein.
- Obtaining right of entry from the adjoining landowners.
- Records research to abstract title, easements and other encumbrances of record beyond the scoped herein.
- Preparing of descriptions and plats for temporary construction easements and surveying to stake such easements if required.
- Aerial or Geospatial services.
- Subsurface Utility Engineering (SUE) services.
- Construction staking.
- Any other services not specifically outlined above.



Attachment C

Work Schedule

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Recover and Establish Horizontal and Vertical Survey Control*									
Collect Design Survey and Tree Survey*									
Contact One-Call and Locate Markings, if any									
Locate Apparent Existing Right Of Way*									
QA/QC and Prepare Final Deliverables (includes site check)									
Williamson County Review									

* Weather Dependent

SAM, LLC has sufficient office & field staff available to accommodate accelerated work schedules that may become necessary during the course of the project. Please contact us immediately upon becoming aware of this situation to discuss compressing the schedule, along with associated fees, to deliver the final product to meet the new deadline.

Attachment D

Fee Schedule

SAM, LLC STANDARD AUSTIN RATE SCHEDULE

Effective October 16, 2014

SURVEY FIELD CREW SERVICES:

Two (2) Person Survey Field Crew	\$130.00 per hour
Three (3) Person Survey Field Crew	\$160.00 per hour
Additional Rodperson, Chainperson or Flagperson	\$32.00 per hour
1 Person Crew with Receiver or Robotic Total Station	\$105.00 per hour
GPS Receiver	\$25.00 per hour
Field Coordinator	\$85.00 per hour
ATV or Utility Vehicle	\$75.00 per day

Field crews are equipped with a four-wheel drive vehicle. There is mileage charge for survey crew vehicles computed at the current I.R.S. mileage allowance.

SURVEY OFFICE PERSONNEL SERVICES:

Principal	\$170.00 per hour
Associate/Senior Project Manager	\$145.00 per hour
Project Manager	\$125.00 per hour
Staff Surveyor	\$110.00 per hour
GPS/HDS Coordinator	\$105.00 per hour
Surveyor-In-Training (SIT)	\$90.00 per hour
Senior Survey Technician	\$90.00 per hour
Survey Technician	\$80.00 per hour
Administration / Clerical Support	\$60.00 per hour

All surveying services are regulated under the Texas Board of Professional Land Surveying. The Board can be contacted at 12100 Park 35 Circle, Bldg A, Suite 156 Austin, Texas 78753.

GEOSPATIAL SERVICES:

Principal	\$170.00 per hour
Senior Project Manager	\$155.00 per hour
Project Manager	\$140.00 per hour
Acquisition Manager	\$125.00 per hour
Pilot	\$125.00 per hour
Photogrammetrist / Project Lead	\$105.00 per hour
Acquisition / Calibration / Aerial Triangulation Technician	\$95.00 per hour
LiDAR / Photogrammetry Technician	\$92.50 per hour
HDS Laser Scanning Technician	\$95.00 per hour

EQUIPMENT:

Aerial LiDAR System (Equipment Only)	\$6,500.00 per day
Mobile Mapping System (Equipment Only)	\$6,000.00 per day
Mobile Mapping Equipment Stand-by Fee (Equipment Only)	\$3,000.00 per day
HDS Laser Scanner	\$850.00 per day
High Rail Equipped Vehicle	\$100.00 per day
Weather Station	\$100.00 per day
Oblique Camera System	\$250.00 per day
Video Camera System	\$50.00 per day
Helicopter (Turbine Engine Powered)	\$1,450.00 per hour
Helicopter (Reciprocal Engine Powered)	\$850.00 per hour
GPS Receiver (Unmanned)	\$ 25.00 per hour
Geospatial Work Station	\$ 15.00 per hour
Aerial Film Scanning	\$ 10.00 per frame

**ATTACHMENT D
TIME AND MATERIALS PAYMENT BASIS
DESIGN SURVEY SERVICES**

Project: River Road Road Design Survey
Date: September 14, 2016
Proposal Number: P2016-1752

TASK DESCRIPTION	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	GPS HDS COORDINATOR	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS & COSTS
FIELD SURVEYING AND MAPPING (FC 150)										
Recover Primary Control, Establish Additional Secondary Control (up to 8), Digital Levels		2	6	4		20	15			\$6,110.00
Contact One-Call and Locate Markings, if any		1		2						\$285.00
Design Survey		2	26	16		80				\$14,270.00
Locate Trees (8" in diameter and larger)		1	4	4		25				\$4,065.00
ROW Delimitation		4	24	24		35				\$9,130.00
QA/QC Prepare Final Deliverables	2	6	20	6						\$3,320.00
FC 150 SUB-TOTALS	2	16	80	56	0	160	15	0	0	\$37,170.00
HOURS SUB-TOTALS	2	16	80	56	0	160	15	0	0	37170
CONTRACT RATE PER HOUR	\$145.00	\$125.00	\$90.00	\$80.00	\$105.00	\$130.00	\$160.00	\$85.00	\$60.00	
TOTAL LABOR COSTS	\$290.00	\$2,000.00	\$7,200.00	\$4,480.00	\$0.00	\$20,800.00	\$2,400.00	\$0.00	\$0.00	\$37,170.00

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT								
Mileage (number x current state rate)	1720	\$0.54								\$928.80
GPS RTK	200	\$25.00								\$5,000.00
Droid Copies	6	\$1.00								\$6.00
SUBTOTAL DIRECT EXPENSES										\$5,934.80

SUMMARY	LABOR COSTS	\$37,170.00
	NON-SALARY (OTHER DIRECT EXPENSES)	\$5,934.80
	TOTAL SAM SURVEY	\$43,104.80