ATTACHMENT C

AUTHORIZATION OF CHANGE IN SERVICES
CITY OF SAN MARCOS, TEXAS

PROJECT: **Professional Engineering Services in Connection with 2D Model Enhancement and 2015 Blanco Flood Analysis (Contract #216-076)**
CONSULTANT: **Halff Associates, Inc.**
AUTHORIZATION NO.: 5
ORIGINAL CONTRACT DATE: November 10, 2015
AUTHORIZATION DATE:

WORK TO BE ADDED TO OR DELETED FROM SCOPE OF SERVICES

A change in service is required to update the 30% storm drain system within the TxDOT right-of-way for IH-35 from north of Ranch to Market (RM) 12 (Wonder World Drive) to south of State Highway (SH) 80 (Hopkins Street). TxDOT proposes to improve the frontage roads, ramps, and select locations of the main lanes within the project limits of approximately 2.5 miles. The engineer will update the TxDOT storm drain design plans from the 10-year design to the 25-year design for the betterment.

Previous Change In Services
#2; September 8, 2017; Additional services to support the COSM DMP Update
#3; February 20, 2018; Analysis of storm drain system within TxDOT right-of-way
#4; June 13, 2018; SUE services for Sunset Acres 66" Outfall within TxDOT right-of-way

Previous contract amount:	$ 179,648.00
Net increase/decrease in contract amount:	$ 94,775.00
Revised contract amount:	$ 274,423.00

Requested by:

By: Cindy Engelhardt Date: 11/1/2018

Cindy Engelhardt, PE, CFM, Team Lead
Printed name, title

Approved by:

City of San Marcos: Date:_____

By: _____
Bert Lumbreras, City Manager

ATTACHMENT A:
City of San Marcos Scope and Fee Proposal for IH35 at SH123 Drainage Analysis

November 1, 2018

INTRODUCTION:

The Engineer shall provide engineering services required for the analysis of the storm drain system within the TxDOT right-of-way for IH-35 from north of Ranch to Market (RM) 12 (Wonder World Drive) to south of State Highway (SH) 80 (Hopkins Street) in San Marcos, Hays County, Texas as identified in the TxDOT schematic dated June 2017. TxDOT proposes to improve the frontage roads, ramps, and select locations of the main lanes within the project limits of approximately 2.5 miles. The Engineer will update the 30% plan set from the existing 10-year design to the ultimate 25-year design to correspond with the betterment improvement to the TxDOT storm drain system. These updates will allow offsite runoff of an Ultimate (fully developed) 25-year storm event to safely be conveyed through the TxDOT right-of-way. The following scope of work is provided to perform and document the drainage analysis.

SCOPE:

Task 1 – Project Management:

Perform general Project Management and coordination during the course of the project including the following:

1. Conduct and attend up to two (2) project meetings with the City.
2. Prepare meeting minute summaries for applicable meeting during the project.
3. Create and submit monthly invoices in required city format.
4. Prepare monthly progress reports for submission with the invoices to provide a written account of the progress made to date on the project.

Task 2 - Storm Drain Analysis and Documentation:

The Engineer shall provide the following services:

1. Utilize existing and proposed Infoworks ICM and GeoPAK drainage models developed for TxDOT of the three storm drain systems that include Systems 1, 2, and 3 within the project limits. The Engineer will use these models as best available data.
2. Obtain information regarding existing and proposed drainage from off-site areas outside of the TxDOT right-of-way from the City of San Marcos. This information may include drainage studies for Clairwood Area, Sunset Acres Area, COSM Comprehensive Drainage Master Plan, Cottonwood Creek 2D H&H Analysis, and/or other areas the City may have knowledge about. The Engineer will utilize this off-site information develop by others as part of the analysis for the potential storm drain system upgrade.

3. Modify available hydrologic models for off-site areas draining towards the TxDOT right-of-way within the project limits. Available models and data will be modified as necessary to determine Ultimate (fully developed) 25-year flows. TxDOT hydraulic models will be utilized in areas where roadway improvements are proposed. Storm drain models will be used to route internal roadway drainage and offsite runoff to determine potential betterment upgrade to the drainage system.
4. Analyze and size trunk lines, ditches, and outfalls to safely convey the Ultimate (fully developed) 25-year storm event as non-pressurized flow. Analysis shall minimize the interference with the passage of traffic or incur damage to the highway and local property in accordance with TxDOT's Hydraulic Design Manual, District criteria and any specific guidance provided by TxDOT.
5. Size the inlets to intercept the 25-year storm event. Inlet spacing and spread criteria will be based on the TxDOT 10-Yr design.
6. Structural design of oversize junction box or RCB tee to equalize flow between dual box culverts.
7. Update the 30% plan set the betterment design. The Engineer update the cost estimate for the storm drain design at the 60% submittal.

EXCLUSIONS:

- Available hydrologic and hydraulic models will be utilized for this analysis and no new models will be developed.
- No preparation or coordination of a FEMA C/LOMR are included.
- No environmental permitting preparation or coordination are included.
- No Plans, Specifications, and Estimates (PS&E) are included.

FEE:

Task 1: Project Management	$7,175
Task 2: Storm Drain Analysis & Documentation	$ 87,600
TOTAL ENGINEERING SERVICES	**$ 94,775.00**

SCHEDULE:

Project schedule will follow the schedule developed for the TxDOT IH35 at SH123 PS&E project.

City of San Marcos

Professional Services Fee Estimate

COSM IH35-SH123 Drainage Analysis		Project Principal	Senior Project Manager	Senior Engineer	Project Engineer	Junior Engineer	Graduate Engineer (EIT)	CADD / GIS Tech	Contract Admin Specialist	Admin Assistant	Task Hours	LABOR COSTS	SUB COSTS	DIRECT COSTS	TOTAL
HOURLY RATES		$275.00	$250.00	$195.00	$150.00	$130.00	$110.00	$90.00	$85.00	$65.00					
TASK DESCRIPTIONS															
TASK 1 - Project Management															
1.1	Meeting with City (assume 2)		10		10						20	$4,000.00		$150.00	$4,150.00
1.2	Meeting minutes				4					5	9	$925.00			$925.00
1.3	Progress report and billing		5						10		15	$2,100.00			$2,100.00
												$0.00			$0.00
	TASK I SUBTOTAL	*0*	*15*	*0*	*14*	*0*	*0*	*0*	*10*	*5*	*44*	*$7,025.00*		*$150.00*	*$7,175.00*
TASK 2 - Storm Drain Analysis & Documentation															
2.1	Revise/update P&P sheets (66 total)		18	36	72	162					288	$43,380.00			$43,380.00
2.2	Revise/update H&H calculations and data sheets		15	30	60	135					240	$36,150.00			$36,150.00
2.3	Structural Detail		2	6	8	40					56	$8,070.00			$8,070.00
											0	$0.00			$0.00
											0	$0.00			$0.00
												$0.00			$0.00
	TASK 2 SUBTOTAL	*0*	*35*	*72*	*140*	*337*	*0*	*0*	*0*	*0*	*584*	*$87,600.00*	*$0.00*	*$0.00*	*$87,600.00*
	TOTAL Estimated Hours	**0**	**50**	**72**	**154**	**337**	**0**	**0**	**10**	**5**	**628**				
	TOTAL Estimated Fee	**$ -**	**$ 12,500.00**	**$ 14,040.00**	**$ 23,100.00**	**$ 43,810.00**	**$ -**	**$ -**	**$ 850.00**	**$ 325.00**		**$94,625.00**	**$0.00**	**$150.00**	**$94,775.00**