



SUPPLEMENTAL WORK AUTHORIZATION NO. 1
TO
WORK AUTHORIZATION NO. 1

WILLIAMSON COUNTY ROAD BOND PROJECT:
GREAT OAKS BRIDGE AT BRUSHY CREEK

This Supplemental Work Authorization No.1 to Work Authorization No.1 is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated May 9, 2017 ("Contract") and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and P.E. Structural Consultants, Inc. (the "Engineer").

WHEREAS, the County and the Engineer executed Work Authorization No.1 dated effective May 9, 2017 (the "Work Authorization");

WHEREAS, pursuant to Article 14 of the Contract, amendments, changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization; and

WHEREAS, it has become necessary to amend, change and modify the Work Authorization.

AGREEMENT

NOW, THEREFORE, premises considered, the County and the Engineer agree that the Work Authorization shall be amended, changed and modified as follows:

- I. The Services to be Provided by the Engineer that were set out in the original Attachment "B" of the Work Authorization are hereby amended, changed and modified as shown in the attached revised Attachment "B".
- II. The Work Authorization shall terminate on October 31, 2019. The Services to be Provided by the Engineer shall be fully completed on or before said date unless extended by an additional Supplemental Work Authorization. The revised Work Schedule is attached hereto as Attachment "C".
- III. The maximum amount payable for services under the Work Authorization is hereby increased from \$976,000.00 to \$1,351,000.00. The Fee Schedule for these additional services is attached hereto as Attachment "D".


Except as otherwise amended by prior or future Supplemental Work Authorizations, all other terms of the Work Authorization are unchanged and will remain in full force and effect.

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

IN WITNESS WHEREOF, the County and the Engineer have executed this Supplemental Work Authorization, in duplicate, to be effective as of the date of the last party's execution below.

ENGINEER:

COUNTY:

By: 
Signature

By: _____
Signature

Joelle S. Rosentswieg, P.E.
Printed Name

Printed Name

Vice President
Title

Title

April 17, 2018
Date

Date

OK
4/17/18

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County (*N/A – see original Work Authorization*)

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedules

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
DESIGN SERVICES FOR Great Oaks Bridge at Brushy Creek
Supplemental No.1 to Work Authorization No.1

GENERAL DESCRIPTION OF THE ADDITIONAL SERVICES:

The additional services to be performed by the Engineer under this Supplemental Work Authorization shall consist of engineering and preparation of Plans, Specifications and Estimates for the items detailed below, which were not specified in the original scope of the Great Oaks Bridge at Brushy Creek Project.

DESIGN TASKS ASSOCIATED WITH THE ADDITIONAL SERVICES:

TASK 2 – GEOTECHNICAL SERVICES

Additional Scope Completed During 30% Effort:

- 2.1 Provided additional geotechnical recommendations for retaining walls subject to inundation and scour, including recommendations for special backfill/embankment and retaining wall foundation improvement.

TASK 3 – FIELD SURVEYING

Additional Scope for Extended Bridge Re-Design Effort:

- 3.1 Extend limits of field survey along Oak Ridge Drive. Assume up to one day of additional survey work will be required.
 - Additional 40-foot-wide corridor extending 150 feet east of current survey limits at the east end of Oak Ridge Drive.
 - Additional 40-foot-wide corridor extending 250 feet west of current survey limits along Oak Ridge Drive.
- 3.2 Obtain spot elevations to calibrate previous survey work with current survey work.
- 3.3 Coordinate finish floor elevations of residential properties near the proposed bridge (elevations surveyed previously by others).
- 3.4 Extend the current limits of the established existing Right of Way for Oak Ridge Drive west of the previously-surveyed Right of Way limits to encompass expanded project limits. Take up to one additional day for additional survey work.
- 3.5 Add new survey data to existing design files (tin and 2d, 3d, contour and ROW drawing files).

TASK 4 – ROADWAY DESIGN CONTROLS

Additional Scope Completed During 30% Effort:

- 4.1 Incorporated parking lot into roadway design and plans. Identify concerns with parking lot and pedestrian tunnel elevations and prepare exhibits demonstrating those issues.
- 4.2 Developed preliminary alternatives for raising parking lot and vertical profiles for the Great Oaks Drive and Brushy Creek Rd.
- 4.3 Revised plans to raise parking lot and pedestrian tunnels to at least match the elevation of existing paved parking on the south side of Brushy Creek Rd.
 - Incorporated raising parking lot and pedestrian tunnels while holding the bridge to a minimal raise in grade and maintaining original project limits.
 - Revised the profile grades for Great Oaks, Brushy Creek Rd, Hairy Man Rd, Oak Ridge Dr, both pedestrian tunnels, the sidewalk on the southeast quadrant down to the trail and the sidewalk from the duck pond to the trail.
 - Revised cross sections to verify the revised profiles will meet project requirements, determine wall needs, and update earthwork quantities.
- 4.4 Revised plans to change sidewalk width on east side of Great Oaks Drive from 5ft wide to 10ft wide.
 - Revised typical sections to accommodate wider sidewalk.
 - Updated cross sections and earthwork for wider sidewalk.
 - Revised bridge cross-slope and section for wider sidewalk.
- 4.5 Reviewed tunnel and retaining wall locations in relation to the new intersection geometry with the wider sidewalk and revised plans accordingly.
- 4.6 Developed grading plan around sidewalls between duck pond and overflow culverts.

Additional Scope for Extended Bridge Re-Design Effort:

- 4.7 Adjust limits and vertical profile of pedestrian trail reconstruction to accommodate revised drainage for extended bridge.
- 4.8 Develop revised profiles for Great Oaks, Brushy Creek, Hairy Mann and Oak Ridge to accommodate deeper bridge superstructure.
- 4.9 Re-design horizontal and vertical alignments and adjust limits of sidewalks based on new bridge configuration and revised sidewalk locations/elevations.
- 4.10 Revise cross sections for new profiles and extended bridge limits, revise lengths of retaining walls and update finished grades.
- 4.11 Extend parking lot limits below elevated intersection. Review/revise parking lot driveway profiles and grades to coordinate with revised roadway profiles, extended bridge and new parking lot limits. Add extended parking lot to cross sections.

- 4.12 Revise plan & profile sheets to reflect new profiles, extended bridge, parking lot and project limits, and wall and taper locations.
- 4.13 Develop plans and details for proposed parking lot below elevated intersection.

TASK 5 – DRAINAGE

Additional Scope Completed During 30% Effort:

- 5.1 Revised the hydraulic model, output data, and related documentation due to changes associated with the parking lot elevations and raising of the bridge and adjacent roadways.
 - The proposed parking lot surface was raised to clear the Brushy Creek 10-yr WSEL. As a result, this affected the proposed bridge elevations. The HEC-RAS model was revised to reflect the changes made to the parking lot surface and bridge. Changes in the proposed WSEL relative to existing conditions were evaluated each time a new parking lot configuration/elevation was considered to ensure the design would not cause adverse impacts.
 - The proposed grading was revised to eliminate rises in the proposed WSEL elevation along Brushy Creek.
 - The floodplain had to be re-mapped with the proposed grading and bridge modifications, which increased the effort needed to map proposed 100-yr and 500-yr floodplains.
 - The Drainage Report was updated with the changes made to the model/analysis.
- 5.2 A new wall was added adjacent to Brushy Creek along the parking lot border. Scour/erosion issues related to the channel walls were considered. Scour Analysis will be conducted to size rock riprap at the walls along the Brushy Creek.
- 5.3 Multiple water quality Best Management Practices (BMP) were compared to select the most cost-effective product meeting the County's standards.
 - AECOM produced initial water quality calculations using Stormceptor units. In response to the County's preference to not use Stormceptor units, AECOM revised the water quality calculations using grassy swales. Exhibits were created to identify proposed locations for the grassy swales. AECOM brought up concerns about the extent of the Brushy Creek Floodplain and the grassy swale locations. TCEQ coordination revealed the grassy swale locations were not permissible and several other water quality options were more appropriate.
 - At the request of the County, several options for water quality treatment were investigated. Exhibits were created to present different options as well as benefits and disadvantages, costs, proposed locations, and maintenance requirements.
 - The storm sewer layouts for water quality treatment were reconfigured several times for different options (grassy swales, Stormceptor, etc.).

- The storm sewer profiles for water quality treatment were reconfigured several times for different options (grassy swales, Stormceptor, etc.).
 - Water quality calculations were created for several BMP options (ponds, Jellyfish, Stormceptor, Stormtrooper, Stormfilter).
 - The County's decision was reversed to allow usage of Stormceptor units for water quality treatment. As a result, updates will be needed to the proposed water quality calculations using the preferred water quality device.
 - Ditch capacity calculations will need to be revised for the updated grading configuration.
- 5.4 A new multi-box culvert was designed to replace the existing culvert used for pond overflow. (Preliminary design assumed existing drainage culverts were in adequate condition and had adequate capacity.)
- A hydraulic model was created to determine the capacity of the existing culvert. While the preliminary plans showed the existing culvert to be extended, analysis of the existing culvert revealed the existing structure was not sized to convey the full flow from the Shirley McDonald Pond. The proposed culvert analysis revealed a multi-box culvert (7 - 8'x5') was needed to convey the full flow from the Shirley McDonald Pond.
 - A preliminary analysis during the preliminary phase was not conducted for this crossing. A hydrologic model was created to establish existing and proposed flows.
 - Grading will be needed upstream of the new culvert. Coordination with others will be required to ensure proper tie-in at the walls and surrounding areas.
 - Coordination with the design team will be needed for the design of the walls at the upstream end of the multi-box culvert.
 - Will need to revise Culvert Layout Sheets.
 - Will need to revise Storm Drain/Ditch Plan & Profile Sheets.
 - Will need to revise Grading Sheets.

Additional Scope for Extended Bridge Re-Design Effort:

- 5.5 Update Drainage Model and Drainage Report for new extended bridge configuration.
- Modeling updates related to changes in bridge configuration (multiple iterations anticipated for bridge optimization study).
 - Perform tailwater analysis for Brushy Creek.
 - Update grading surface in Model, determine appropriate erosion protection measures.
 - Update Grading Plan to reflect changes.

- Coordination with Roadway and Bridge to determine best bridge configuration and related impacts to hydraulics (for bridge optimization study).
- Coordination concerning flood risk and project impacts.
- Assess equilibrium slope and modifying grade control structure.
- Update 30% Report and Figures to reflect final bridge configuration.
- Assess riprap size needed for new grading.
- Assess flood impacts associated with updated bridge configuration.

TASK 7 – MISCELLANEOUS SERVICES

Additional Scope Completed During 30% Effort:

7.1 Retaining Walls

- Added new retaining walls along north perimeter of parking lot and at multi-box culvert. Work Authorization No.1 assumes 1,500 LF of retaining wall, but project now includes over 2,000 LF of retaining wall.
- Prepared detailed cost comparison of different wall types to understand the cost impacts of using cement-stabilized fill and improved foundations as recommended by the geotechnical engineer.
- Adjusted retaining wall geometry to increase sidewalk width from 5ft to 10ft.
- Additional coordination with Geotechnical Engineer to determine best wall and embankment construction to suit site challenges.

7.2 Pedestrian Tunnels

- Lengthened pedestrian tunnel to accommodate wider sidewalk as requested.
- Revised pedestrian tunnel vertical geometry to accommodate requested parking lot elevations.

7.3 Performed structural condition assessment of existing drainage culverts to determine whether they could remain in service. Prepared written report summarizing field observations and findings.

Additional Scope for Extended Bridge Re-Design Effort:

7.4 Coordinate with Geotechnical as needed, perform preliminary MSE wall designs and refine/expand wall type study. Prepare and compare construction costs for each option.

7.5 Revise retaining wall profiles/alignments for raised roadway profile, extended bridge limits and revised roadway width. Determine revised retaining wall lengths.

7.6 Update retaining wall plans, sections and quantities.

- 7.7 Provide illumination for new parking area below extended bridge. Remove illumination effort for pedestrian tunnels. Update base files.

Task 8 – BRIDGE DESIGN

Additional Scope Completed During 30% Effort:

- 8.1 Adjusted bridge geometry for raised profile to accommodate requested parking lot elevations.
- 8.2 Adjusted bridge geometry to increase sidewalk width from 5ft to 10ft.
- 8.3 Designed bridge for more complicated slab and abutment geometry at south abutment than was originally assumed in the preliminary phase.

Additional Scope for Extended Bridge Re-Design Effort:

- 8.4 Perform new bridge optimization study to consider and compare different framing configurations. Prepare exhibits illustrating different bridge options.
- 8.5 Prepare cost comparison of different framing options. Coordinate with County to select preferred option.
- 8.6 Revise bridge geometry for revised roadway profile and to extend bridge limits south through the intersection, to re-arrange bent locations away from center of channel, and to reduce bridge width and change superstructure type.
- 8.7 Coordinate new bridge configuration to work with drainage and parking lot requirements.
- 8.8 Revise embankment grading & riprap at north end of bridge. Coordinate with hydraulic engineer as needed so channel re-grading reduces 500-yr water surface elevations.
- 8.9 Re-design bridge framing and update Bridge Layout (requires additional sheet). Develop enlarged plans and special details for new cast-in-place flat slabs.
- 8.10 Revise bridge quantities and construction cost estimate.
- 8.11 Revise TxDOT standard plans for new superstructure type.

Task 9 – ENVIRONMENTAL AND/OR PERMITTING SERVICES

Additional Scope for Extended Limits of Impacted Area:

- 9.1 Revise Environmental Site Assessment Report to incorporate changes to additional area of channel re-grading and mitigation measures.
- 9.2 Additional effort for preliminary jurisdictional determination of the Waters of the U.S.
- 9.3 Additional field work to define environmental features upstream and downstream of the proposed bridge.

- 9.4 Additional effort to coordinate mitigation requirements with the USACE due to increased area of impacts.
- 9.5 Additional effort for Section 404 Permitting Assessment and Recommendations Memo.

Task 10 – PROJECT MANAGEMENT

Additional Scope Completed During 30% Effort:

- 10.1 Additional project management and coordination was required to oversee parking lot studies and related changes to the plans. Prepared exhibits for proposed parking lot.
- 10.2 Additional project management was required to coordinate multi-box culvert for pond overflow.
- 10.3 Additional project management and coordination was required for Water Quality BMP alternative studies. Oversaw preparation of related exhibits.

Additional Scope for Extended Bridge Re-Design & Extended Limits of Impacted Area:

- 10.4 Additional project management to coordinate with Drainage to determine best bridge configuration for hydraulics. Oversee preparation of related exhibits.
- 10.5 Additional project management to coordinate with Roadway regarding changes to profile, retaining walls, pedestrian tunnels and site grading.
- 10.6 Additional project management to coordinate permitting and mitigation requirements with the USACE due to extending the limits of impacted area.
- 10.7 Additional project management to coordinate extended bridge layout, drainage needs and parking lot configuration.

ATTACHMENT C WORK SCHEDULE

PS&E for the Great Oaks Bridge at Brushy Creek

This Work Authorization shall terminate on October 31, 2019 , unless amended by a Supplemental Agreement.

➤ Notice to Proceed	5/1/2017
➤ Route & Design Studies	May 2017 – Dec 2017
➤ Geotechnical Services	May 2017 – Aug 2018
➤ Field Surveying	May 2017 – Aug 2018
➤ Roadway Design	May 2017 – Mar 2019
➤ Drainage	May 2017 – Mar 2019
➤ Signing, Marking	July 2017 – Mar 2019
➤ Miscellaneous Services	May 2017 – Mar 2019
➤ Bridge Design	May 2017 – Mar 2019
➤ Traffic Signal Development	Jan 2018 – Mar 2019
➤ Environmental and Permitting (includes 12 months for ACOE IP)	May 2017 – Mar 2019
➤ Bidding and Award Phase	Apr 2019 – June 2019

Submittals:

➤ 30%	10/03/2017
➤ 60%	8/1/2018
➤ 90%	11/14/2018
➤ 99%	1/30/2019
➤ Final Submittal	3/13/2019
➤ Bid Tabulation and Letter of Recommendation of Contract Award	June 2019

**ATTACHMENT D - FEE SCHEDULE FOR SUPPLEMENTAL WORK AUTHORIZATION NO. 1
SUMMARY**

PRIME PROVIDER NAME: P.E. Structural Consultants, Inc.

Date: 3/27/2018

PROJECT NAME: Supplemental No. 1 - Great Oaks Bridge at Brushy Creek

TASK DESCRIPTION	P.E. Structural Consultants, Inc.	Kennedy Consulting, Inc.	AECOM	Raba Kistner Consultants, Inc.	CobbFendley	Total Cost
Task 1 - ROUTE & DESIGN STUDIES						\$0.00
Task 2 - GEOTECHNICAL SERVICES AND PAVEMENT DESIGN				\$5,000.00		\$5,000.00
Task 3 - FIELD SURVEYING					\$7,500.00	\$7,500.00
Task 4 - ROADWAY DESIGN CONTROLS		\$127,000.00				\$127,000.00
Task 5 - DRAINAGE			\$103,330.00			\$103,330.00
Task 6 - SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION				\$1,000.00	\$3,250.00	\$1,000.00
Task 7 - MISCELLANEOUS SERVICES	\$28,050.00					\$31,300.00
Task 8 - BRIDGE DESIGN	\$66,490.00					\$66,490.00
Task 9 - ENVIRONMENTAL AND/OR PERMITTING SERVICES			\$6,670.00			\$6,670.00
Task 10 - PROJECT MANAGEMENT	\$26,710.00					\$26,710.00
BID AND AWARD PHASE SERVICES						\$0.00
LABOR COSTS	\$121,250.00	\$127,000.00	\$110,000.00	\$5,000.00	\$11,750.00	\$375,000.00
DIRECT COSTS						\$0.00
TOTAL COSTS	\$121,250.00	\$127,000.00	\$110,000.00	\$5,000.00	\$11,750.00	\$375,000.00
					SWA1 TOTAL:	\$375,000.00

Additional Future Costs for PSA Agreement	
Potential Future Additional Design Services	\$100,000.00
Potential Additional Constr Phase Services	\$75,000.00
PSA AMENDMENT ADD'L TOTAL COSTS:	\$550,000.00
ORIGINAL PSA AMOUNT:	\$1,025,000.00
PSA AMENDMENT PROPOSED TOTAL:	\$1,575,000.00

ATTACHMENT D - FEE SCHEDULE FOR SUPPLEMENTAL WORK AUTHORIZATION NO. 1

PRIME PROVIDER NAME: **P. E. Structural Consultants, Inc.**

Date: 3/27/2018

PROJECT NAME: Supplemental No. 1 - Great Oaks Bridge at Brushy Creek

TASK DESCRIPTION	Principal Engineer	Senior Engineer	Senior Project Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training (EIT/IT)	Graduate Engineer	Senior CAD Manager	CAD Technician	Admin/Clerical	Total hours	Cost per Line Item
Task 7 - MISCELLANEOUS SERVICES													
7.1 Retaining Walls		2	4	8	12		12		4	12		54	\$6,180.00
7.2 Pedestrian Tunnels		1	2	4	4		8		4	6		31	\$3,455.00
7.3 Condition Assessment of Existing Culverts		1	2	4	4		16		4	6		21	\$2,305.00
7.4 Prelim MSE wall design, update cost comparison of MSE vs. C/P exhibits		2	4	8	8		20		2	8		36	\$3,770.00
7.5 Review retaining wall conditions and wall lengths for new profile		2	4	8	8		20		8	8		38	\$4,330.00
7.6 Update retaining wall plans & quantities, (reduced by 60 hrs to acct for no field tunnels)		2	2	8	8		24		10	32		78	\$8,000.00
HOURS SUB-TOTALS	0	8	18	28	16	0	100	0	28	60	0	253	
CONTRACT RATE PER HOUR	\$200.00	\$165.00	\$155.00	\$145.00	\$120.00	\$105.00	\$85.00	\$70.00	\$120.00	\$85.00	\$60.00	\$60.00	\$28,050.00
TOTAL LABOR COSTS	\$0.00	\$1,320.00	\$2,790.00	\$4,060.00	\$1,920.00	\$0.00	\$8,500.00	\$0.00	\$3,360.00	\$5,100.00	\$0.00	\$28,050.00	
% DISTRIBUTION OF STAFFING	0.0%	3.1%	7.0%	10.9%	6.2%	0.0%	38.9%	0.0%	10.9%	23.3%	0.0%		
SUBTOTAL (Task 7)													\$28,050.00
Task 8 - BRIDGE DESIGN													
8.1 Adjust Bridge Geometry for Raised Profile		4	4	8	8	8	20		8	12		64	\$7,860.00
8.2 Adjust Bridge Geometry for Wider Sidewalk		4	4	8	8	8	20		8	16		68	\$7,500.00
8.3 Adjust Bridge Geometry at South Abutment		4	4	8	8	8	28		12	16		80	\$8,540.00
8.4 Investigate different bridge framing options, prepare exhibits		2	4	8	4	16	36		4	16		84	\$8,760.00
8.5 Cost comparison of framing options		2	4	8	4	16	24		8	16		54	\$6,070.00
8.6 Revise bridge geometry for revised profile, reduced bridge width & extend thru intersection		2	4	12	12	4	24		8	16		76	\$8,860.00
8.7 Coordinate drainage and new parking to work with extended bridge		2	4	12	12	4	13		4	4		43	\$3,360.00
8.8 Revise grading & revise riprap at north end of bridge		1	4	8	8	8	8		8	8		24	\$2,805.00
8.9 Redesign bridge framing, update plans, develop special details for extended bridge		2	4	12	12	24	24		8	28		84	\$9,260.00
8.10 Revise bridge quantities and cost estimate		2	2	1	1	8	8		1	2		16	\$1,940.00
8.11 Revise TxDOT standards for cliff superstructure type, add flat slab standards		1	1	1	1	1	1		1	2		3	\$590.00
HOURS SUB-TOTALS	8	27	19	87	34	16	205	0	53	111	0	522	
CONTRACT RATE PER HOUR	\$200.00	\$165.00	\$155.00	\$145.00	\$120.00	\$105.00	\$85.00	\$70.00	\$120.00	\$85.00	\$60.00	\$60.00	\$28,050.00
TOTAL LABOR COSTS	\$0.00	\$4,455.00	\$3,145.00	\$4,215.00	\$2,880.00	\$1,680.00	\$17,425.00	\$0.00	\$6,360.00	\$9,510.00	\$0.00	\$58,480.00	
% DISTRIBUTION OF STAFFING	0.0%	4.5%	8.6%	9.4%	4.0%	9.3%	34.2%	0.0%	8.5%	19.7%	0.0%		
SUBTOTAL (Task 8)													\$58,480.00
Task 10 - PROJECT MANAGEMENT													
10.1 Additional Project Management - Oversee Permitting, Studies & Related Changes		8	8	8							1	17	\$2,460.00
10.2 Additional Project Management - Coordinate Multi-Step Contract		8	8	8							1	16	\$2,400.00
10.3 Additional Project Management - Oversee Prep of MO, BMP Studies		8	8	8							1	17	\$2,460.00
10.4 Additional project management - Coordinate with Ding re: different bridge options		12	12	12							1	25	\$3,620.00
10.5 Additional project management - Coordinate with Rody re: revised profile		12	12	12					4	8	1	37	\$4,820.00
10.6 Additional project management - Coordinate permitting & mitigation prep exhibits		12	12	12			13.16				1	38.16	\$4,910.00
10.7 Additional project management - Coordinate new parking lot & drainage for extended bridge		16	16	16			12				1	45.00	\$6,000.00
HOURS SUB-TOTALS	0	0	76	76	0	0	25.16	0	4	8	0	195.16	
CONTRACT RATE PER HOUR	\$200.00	\$165.00	\$155.00	\$145.00	\$120.00	\$105.00	\$85.00	\$70.00	\$120.00	\$85.00	\$60.00	\$60.00	\$28,050.00
TOTAL LABOR COSTS	\$0.00	\$0.00	\$11,820.00	\$11,020.00	\$0.00	\$0.00	\$2,390.00	\$0.00	\$480.00	\$680.00	\$0.00	\$28,710.00	
% DISTRIBUTION OF STAFFING	0.0%	0.0%	38.9%	38.9%	0.0%	0.0%	12.9%	0.0%	2.0%	4.1%	3.1%		
SUBTOTAL (Task 10)													\$28,710.00
SUMMARY													
Task 7 - MISCELLANEOUS SERVICES													\$28,050.00
Task 8 - BRIDGE DESIGN													\$58,480.00
Task 10 - PROJECT MANAGEMENT													\$28,710.00
SUBTOTAL LABOR EXPENSES													\$121,250.00
OTHER DIRECT EXPENSES													\$0.00
SUBTOTAL DIRECT EXPENSES													\$0.00
												TOTAL LABOR COSTS	\$121,250.00
												NON-SALARY (OTHER DIRECT EXPENSES)	\$0.00
												GRAND TOTAL	\$121,250.00

ATTACHMENT D - FEE SCHEDULE FOR SUPPLEMENTAL WORK AUTHORIZATION NO. 1

PRIME PROVIDER NAME: P.E. Structural Consultants, Inc.
 Sub Provider Name: Kennedy Consulting, Inc.
 Date: 3/27/2018
 PROJECT NAME: Supplemental No. 1 - Great Oaks Bridge at Brushy Creek

TASK DESCRIPTION	Principal Engineer	Project Manager	Senior Prof 2	Senior Prof 1	Prof 2 / Senior Eng Tech	Prof 1 / Eng Tech	Adman / Clerical	Title 8	Title 9	Total hours	Cost per Line Item
Task 4 - Roadway											
4.1 Identified concerns with pedestrian tunnels and prepared exhibits		2	24							26	\$5,024.00
4.2 Developed preliminary alternatives to raise parking lot and profiles		4	36		24					64	\$11,248.00
4.3 Raise project pavement to keep parking and walkways at existing elevation (min.)		4	40		56	30				130	\$20,108.00
4.4 Revised the plans to include sidewalks on both sides with one 10' wide		2	32		24	48				106	\$15,536.00
4.5 Revised tunnel and retaining walls in cross sections		2	24		28	40				94	\$13,672.00
4.6 Prepare grading plan for area below duck pond		2	24		36					62	\$10,280.00
4.7 Adjust limits and profile of trail reconstruction		2	16			24				42	\$6,224.00
4.8 Develop revised profiles for Great Oaks, Brushy Creek, Hairy Mann and Oak Ridge		4	30		31					65	\$11,118.00
4.9 Revise cross sections to determine length of wall needs		4	16		24					44	\$7,408.00
4.10 Review/revise parking lot driveway profile and grades		2	8		8					18	\$3,120.00
4.11 Revise Sidewalk Profile on East Side of Great Oaks		2	8		4,26					14,26	\$2,574.00
4.12 Revise Plan Sheets to reflect changes		4	16		16	40				76	\$10,800.00
4.13 Develop detail sheets for parking lot under bridge, adjust limits/layout/profile of trails		4	16		16	32				68	\$9,888.00
HOURS SUB-TOTALS	0	38	290	0	287,26	214	0	0	0	809,26	\$127,000.00
CONTRACT RATE PER HOUR	\$220.00	\$7,050.00	\$192.00	\$172.00	\$146.00	\$114.00	\$68.00	\$1.00	\$1.00		
TOTAL LABOR COSTS	\$0.00	\$7,904.00	\$55,680.00	\$0.00	\$39,020.00	\$24,396.00	\$0.00	\$0.00	\$0.00	\$127,000.00	
% DISTRIBUTION OF STAFFING	0.0%	4.7%	35.3%	0.0%	33.0%	26.4%	0.0%	0.0%	0.0%		
SUBTOTAL (Task 4)											\$127,000.00

DESCRIPTION	TOTAL COST BY TASK
SUMMARY	
Task 4 - Roadway	\$127,000.00
SUBTOTAL LABOR EXPENSES	\$127,000.00
OTHER DIRECT EXPENSES	
UNITS	\$0.00
SUBTOTAL DIRECT EXPENSES	\$0.00
TOTAL LABOR COSTS	\$127,000.00
NON-SALARY (OTHER DIRECT EXPENSES)	\$0.00
GRAND TOTAL	\$127,000.00

ATTACHMENT D - FEE SCHEDULE FOR SUPPLEMENTAL WORK AUTHORIZATION NO. 1

PRIME PROVIDER NAME: P.E. Structural Consultants, Inc.
 Sub Provider Name: AECOM
 Date: 3/27/2018
 PROJECT NAME: Supplemental No. 1 - Great Oaks Bridge at Brushy Creek

TASK DESCRIPTION	QAVC	Scientist	JR Scientist	Senior CAD Tech	Senior CAD Tech	Admin/ Clerical	Cultural Resources Lead	Architectural Historian	Field Tech/ Investigator	Project Archaeologist	Principal Engineer	Senior Project Manager/ Engineer	Senior Transportation Engineer	Project Engineer (PE)	Design Engineer	Engineer-in-Training	Total hours	Cost per Line Item
Task 3 - DRAINAGE																		
3.1 Hydraulic Model & Associated Data																		
a. Update Proposed Parking Lot and Bridge Deck Geometry																	16	\$1,280.00
b. Update Channel Grading																	40	\$4,592.00
c. Repair Slopeplan																	16	\$1,696.00
d. Update 30% Report Text/Figures																	22	\$2,672.00
Task 4 - BRUSHY CREEK																		
4.1 Scour Analysis/Design Rock Riprap at Channel and Weir																	26	\$2,946.00
Task 5 - WATER QUALITY																		
5.1 Reverse Storm Lay-out for Revised Water Quality																	110	\$9,460.00
a. Reverse Storm Profiles for Revised Water Quality																	90	\$9,460.00
b. Develop Ditch Capacity Calculations and Design																	40	\$3,596.00
c. Coordinate with TCEQ & County																	16	\$2,304.00
d. Calculations for Water Quality Alternatives																	18	\$1,710.00
e. Develop Exhibits for Water Quality Alternatives																	44	\$4,092.00
f. Update Water Quality Calculations using Preferred Methodology																	28	\$3,100.00
Task 6 - MULTIBOX CULVERT																		
6.1 Estimate Drainage Areas and Flows																	46	\$3,318.00
a. Estimate Drainage Areas and Flows																	24	\$2,788.00
b. Design Cross-drainage Structures																	120	\$10,460.00
c. Grading for Upstream of Multibox Culvert																	8	\$1,224.00
d. Coordination for walls upstream of Multibox Culvert																	34	\$3,268.00
e. Culvert Layouts																	8	\$1,892.00
f. Storm Drain Catch Pits & Probes																	36	\$3,396.00
g. Grading for Upstream of Multibox Culvert																	46	\$3,318.00
Task 7 - BRUSHY CREEK																		
7.1 Update Proposed Bridge Deck Geometry																	84	\$7,672.00
a. Brushy Creek Tailwater Analysis																	2	\$1,174.00
b. Update grading surfaces																	24	\$2,076.00
c. Coordinate with Roadway Design on changes to proposed right-of-way																	18	\$2,076.00
d. Coordination concerning Flood Risk and Project impacts																	4	\$1,136.00
e. Assess equilibrium and non-equilibrium grade control structure																	19	\$2,024.00
f. Update 30% Report Text/Figures																	8	\$2,268.00
g. Assess riprap size needed for new grading																	42	\$4,716.00
h. Assess flood impacts associated with upstream design																	23	\$2,072.00
Task 8 - ENVIRONMENTAL AND PERMITTING SERVICES																		
8.1 Update Proposed Bridge Deck Geometry																	12	\$1,032.00
a. Brushy Creek Tailwater Analysis																	2	\$1,174.00
b. Update grading surfaces																	24	\$2,076.00
c. Coordinate with Roadway Design on changes to proposed right-of-way																	18	\$2,076.00
d. Coordination concerning Flood Risk and Project impacts																	4	\$1,136.00
e. Assess equilibrium and non-equilibrium grade control structure																	19	\$2,024.00
f. Update 30% Report Text/Figures																	8	\$2,268.00
g. Assess riprap size needed for new grading																	42	\$4,716.00
h. Assess flood impacts associated with upstream design																	23	\$2,072.00
Task 9 - ENVIRONMENTAL AND PERMITTING SERVICES																		
9.1 Reverse Environmental Site Assessment Report																	32	\$3,020.00
9.2 Add Preliminary Jurisdictional Determination of Wetlands of the U.S. Report																	24	\$2,160.00
9.3 Additional Field Work to Define Wetlands																	2	\$172.00
9.4 Additional Coordination with USACE																	2	\$210.00
9.5 Section 04 Permitting Assessment and Recommendations Memo																	4	\$504.00
Task 10 - SUMMARY																		
Task 3 - DRAINAGE																		
CONTRACT RATE PER HOUR																	64	\$2,910.00
TOTAL LABOR COSTS																		\$1,933,300.00
Task 4 - BRUSHY CREEK																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00
Task 5 - WATER QUALITY																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00
Task 6 - MULTIBOX CULVERT																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00
Task 7 - BRUSHY CREEK																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00
Task 8 - ENVIRONMENTAL AND PERMITTING SERVICES																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00
Task 9 - ENVIRONMENTAL AND PERMITTING SERVICES																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00
Task 10 - SUMMARY																		
CONTRACT RATE PER HOUR																		
TOTAL LABOR COSTS																		\$1,933,300.00

TASK DESCRIPTION	TOTAL COST	TOTAL COST BY TASK
SUMMARY		
Task 3 - DRAINAGE		1,059,211
Task 4 - BRUSHY CREEK		94
Task 5 - WATER QUALITY		1,122,215
Task 6 - MULTIBOX CULVERT		
Task 7 - BRUSHY CREEK		
Task 8 - ENVIRONMENTAL AND PERMITTING SERVICES		
Task 9 - ENVIRONMENTAL AND PERMITTING SERVICES		
SUBTOTAL LABOR EXPENSES		\$1,180,000.00
OTHER DIRECT EXPENSES		\$0.00
SUBTOTAL DIRECT EXPENSES		\$0.00
TOTAL COSTS		\$110,000.00
NON-SALARY (OTHER DIRECT EXPENSES)		\$0.00
GRAND TOTAL		\$110,000.00

ATTACHMENT D - FEE SCHEDULE FOR SUPPLEMENTAL WORK AUTHORIZATION NO. 1

PRIME PROVIDER NAME: P.E. Structural Consultants, Inc.
 Sub Provider Name: **CobbFendley**
 Date: 3/27/2018
 PROJECT NAME: Supplemental No. 1 - Great Oaks Bridge at Brushy Creek

TASK DESCRIPTION	Project Manager	Senior Engineer	Project Engineer	Technician I	Technician II	Technician III	L.S.L.S.	R.P.L.S.	3-Man Crew	2-Man Crew	1-Man Crew	Total hours	Cost per Line Item	
Task 3 - FIELD SURVEYING														
3.1 Additional Topographic Survey - Oak Ridge Extents						6		2	12			20	\$2,960.00	
3.2 Additional Topographic Survey - Point Elevs						4		2	4.875			10.875	\$1,590.00	
3.3 Additional ROW Mapping West along Oak Ridge						6		4	10			20	\$2,960.00	
HOURS SUB-TOTALS														
CONTRACT RATE PER HOUR	\$210.00	\$260.00	\$125.00	\$90.00	\$110.00	\$120.00	\$225.00	\$160.00	\$160.00	\$140.00	\$120.00	50.875		
TOTAL LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,920.00	\$0.00	\$1,280.00	\$4,300.00	\$0.00	\$0.00	\$7,500.00		
% DISTRIBUTION OF STAFFING	0.0%	0.0%	0.0%	0.0%	0.0%	31.4%	0.0%	15.7%	52.8%	0.0%	0.0%			
SUBTOTAL (Task 3)														
Task 6 - SIGNING, FURNISHING AND BONDIZATION														
6.1 Adjust Traffic Signal Design to Fit		2	3.84									5.84	\$1,000.00	
HOURS SUB-TOTALS														
CONTRACT RATE PER HOUR	\$210.00	\$260.00	\$125.00	\$90.00	\$110.00	\$120.00	\$225.00	\$160.00	\$160.00	\$140.00	\$120.00	5.84		
TOTAL LABOR COSTS	\$0.00	\$520.00	\$480.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,000.00		
% DISTRIBUTION OF STAFFING	0.0%	34.2%	65.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SUBTOTAL (Task 6)														
Task 7 - MISCELLANEOUS SERVICES														
7.1 Adjust Illumination Design for Proposed Bridge Lengthening	1		4	16								21	\$3,250.00	
HOURS SUB-TOTALS														
CONTRACT RATE PER HOUR	\$210.00	\$260.00	\$125.00	\$90.00	\$110.00	\$120.00	\$225.00	\$160.00	\$160.00	\$140.00	\$120.00	21		
TOTAL LABOR COSTS	\$210.00	\$1,040.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,250.00		
% DISTRIBUTION OF STAFFING	4.8%	19.0%	76.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SUBTOTAL (Task 7)														
SUMMARY														
DESCRIPTION	TOTAL NET BY TASK												TOTAL COST	
Task 3 - FIELD SURVEYING													\$7,500.00	
Task 6 - SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION													\$1,000.00	
Task 7 - MISCELLANEOUS SERVICES													\$3,250.00	
SUBTOTAL LABOR EXPENSES													\$11,750.00	
OTHER DIRECT EXPENSES	UNIT	# OF UNITS	COST/UNIT											
Photocopies B/W (8.5 X 11)	sheet	30.10	\$0.10											\$3.01
Photocopies BAW (11 X 17)	sheet	30.15	\$0.15											\$4.52
Photocopies Color (8.5 X 11)	sheet	1	\$1.00											\$1.00
Photocopies Color (11 X 17)	sheet	1	\$1.50											\$1.50
Standard Postage	letter	30.49	\$0.49											\$15.00
Overnight Mail-letter sec	each	30.40	\$0.40											\$12.16
Overnight Mail-over-sized box	each	30.55	\$0.55											\$16.68
Message	mile	30.335	\$0.335											\$10.16
Data Collection / Traffic Count	each	30.335	\$850.00											\$25,816.75
SUBTOTAL DIRECT EXPENSES														\$0.00
												TOTAL COSTS	\$11,750.00	
												NON-SALARY (OTHER DIRECT EXPENSES)	\$0.00	
												GRAND TOTAL	\$11,750.00	

ATTACHMENT D - FEE SCHEDULE FOR SUPPLEMENTAL WORK AUTHORIZATION NO. 1

PRIME PROVIDER NAME: P.E. Structural Consultants, Inc.
 Sub Provider Name: Raba Kistner Consultants

Date: 3/27/2018

PROJECT NAME: Supplemental No. 1 - Great Oaks Bridge at Brushy Creek

TASK DESCRIPTION	Principal Engineer	Senior Engineer	Project Manager	Project Engineer	Staff Engineer	Engineer in Training	Senior CAD Tech	CAD Tech	Admin/ Clerical	Geologist	Environmental Scientist	Archaeologist	Senior Technician	Total hours	Cost per Line Item
Task 2 - GEOTECHNICAL SERVICES AND PAVEMENT DESIGN															
2.1 Additional services for retaining walls subject to inundation		1	8	8	12	12.44								41.44	\$5,000.00
HOURS SUB-TOTALS	0	1	8	8	12	12.44	0	0	0	0	0	0	0	41.44	\$5,000.00
CONTRACT RATE PER HOUR	\$200.00	\$200.00	\$175.00	\$135.00	\$100.00	\$60.00	\$95.00	\$60.00	\$55.00	\$110.00	\$105.00	\$110.00	\$60.00	\$60.00	\$5,000.00
TOTAL LABOR COSTS	\$0.00	\$200.00	\$1,400.00	\$1,080.00	\$1,200.00	\$1,120.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00	\$0.00
% DISTRIBUTION OF STAFFING	0.0%	2.4%	19.3%	19.3%	29.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$5,000.00
SUBTOTAL (Task 2)														\$5,000.00	

DESCRIPTION	UNIT	# OF UNITS	COST/UNIT	TOTAL WHT BY TASK	TOTAL COST BY TASK
SUMMARY					
Task 2 - GEOTECHNICAL SERVICES AND PAVEMENT DESIGN				41.44	\$5,000.00
SUBTOTAL LABOR EXPENSES				41.44	\$5,000.00
OTHER DIRECT EXPENSES					
Drilling Operations	mile		\$4.00		\$0.00
Mobilization of Drill Rig (Min Charge)	lf		\$18.00		\$0.00
Rock Augering (soil)	lf		\$19.00		\$0.00
Rock Augering (soft rock)	lf		\$32.00		\$0.00
Nx Core Drilling - (Soft Rock)	lf		\$42.00		\$0.00
Nx Core Drilling - (Hard Rock)	lf		\$21.00		\$0.00
Wet Rotary	each		\$22.00		\$0.00
SPT Field Penetrations	each		\$26.00		\$0.00
TCP Field Penetrations	each		\$3.250		\$0.00
Grout Backfill (Backfill the upper 10 ft of each borelog)	hour		\$225.000		\$0.00
Driller Standby	day		\$950.000		\$0.00
Traffic Control (at cost)	each		\$57.20		\$0.00
Staking/Logging/Coordination	each		\$83.00		\$0.00
Logger Truck Charge	each		\$56.00		\$0.00
Laboratory Tests	each		\$43.00		\$0.00
Alterberg Limits	each		\$11.00		\$0.00
Moisture Content (at 3 ft intervals)	each		\$56.00		\$0.00
Minus 200-mesh Sieve	each		\$43.00		\$0.00
Unconfined Compression (Soil)	each		\$51.00		\$0.00
Unconfined Compression (Rock)	each		\$273.00		\$0.00
Hydrometer	each		\$56.00		\$0.00
Sieve Analysis washed through No. 40	each		\$63.000		\$0.00
Sieve Analysis washed through No. 200	each		\$754.000		\$0.00
Soil Box Reassembly	each		\$791.000		\$0.00
CBR(Mo) with 3 Specimens	each				\$0.00
SUBTOTAL DIRECT EXPENSES					\$0.00

TOTAL LABOR COSTS	\$5,000.00
NON-SALARY (OTHER DIRECT EXPENSES)	\$0.00
GRAND TOTAL	\$5,000.00