STATE OF TEXAS

§ §

COUNTY OF FORT BEND §

SECOND AMENDMENT TO AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

THIS SECOND AMENDMENT, is made and entered into by and between Fort Bend County (hereinafter "County"), a body corporate and politic under the laws of the State of Texas, and TEDSI Infrastructure Group, Inc. (hereinafter "Contractor"), a company authorized to conduct business in the State of Texas.

WHEREAS, the parties executed and accepted that certain Agreement for Professional Engineering Services on June 12, 2018, pursuant to SOQ 14-025, (hereinafter "Agreement"), as amended by document executed on July 13, 2021 (hereinafter "Amendment"); and

WHEREAS, the parties desire to further amend the Agreement to allow Contractor to provide additional Services under the Agreement.

NOW, THEREFORE, the parties do mutually agree as follows:

- County shall pay Contractor an additional amount not to exceed forty-six thousand six hundred fourteen dollars and no/100 (\$46,614.00) to perform the additional Services, as described in Contractor's Supplemental Engineering Fee Proposal #2 attached hereto as Exhibit "A" and incorporated herein for all purposes.
- 2. The Maximum Compensation payable to Contractor for all Services rendered is hereby increased to an amount not to exceed one million two hundred five thousand one hundred sixty-one dollars and 66/100 (\$1,205,161.66), authorized as follows:

\$798,655.98 under the Agreement; \$359,891.68 under the Amendment; and \$46,614.00 under this Amendment.

- 3. In no case shall the amount paid by County for all Services under the Agreement and any subsequently executed amendment exceed the Maximum Compensation without an agreement executed by the parties.
- 4. BY ACCEPTANCE OF AGREEMENT, CONTRACTOR ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

Except as provided herein, all terms and conditions of the Agreement and any subsequently executed amendment shall remain unchanged.

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the date signed by the final party.

| FORT BEND COUNTY | TEDSI INFRASTRUCTURE GROUP, INC |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Columy Judge KP George | Olm.m.a.Q.E. |
| KP George, County Judge | Authorized Agent – Signature |
| January 25, 2022 Date | Jules M. Morris, Jr., P.E. Authorized Agent – Printed Name |
| ATTEST: | Vice President Title |
| Jama Ruhard | 1/07/2022 |
| Laura Richard, County Clerk | Date |
| APPROVED: J. Stacy Slawinski, P.E., County Engineer | |
| AUDITOR'S | CERTIFICATE |
| I hereby certify that funds are avail accomplish and pay the obligation of Fort B | able in the amount of \$ 1,205,161.66 to end County under this contract. |
| | Robert Ed Sturdivant. County Auditor |

EXHIBIT A

TEDSI
TBPE F-1640

Consulting Engineers
738 Highway 6 South • Suite 430 • Houston, Texas 77079
Tal. (832) 610 1000

Tel: (832) 619-1000 Fax: (832) 619-1018

December 7, 2021

Mr. Mark C. Dessens, P.E. Vice President Schaumburg & Polk, Inc. 11767 Katy Freeway, Suite 900 Houston, Texas 77079

Re: SH 99 Grand Parkway Southbound Frontage Road Supplemental Engineering Fee Proposal #2

Cinco Ranch Blvd to Westheimer Parkway

Dear Mr. Dessens:

TEDSI Infrastructure Group (TEDSI) appreciates the opportunity to submit for your approval this supplemental fee proposal for the above referenced project. This supplemental was precipitated by TxDOT's requirement for proper soils investigation and analysis for the proposed returning walls made necessary by the reversal of the existing freeway ramps within our project. I have attached the fee proposal by Geotech Engineering & Testing for your review and processing.

Note that this is the 2^{nd} proposal we received from GET – the original one for this additional work had included work that our internal review deemed unnecessary. After a full review of this revised proposal, we deem it reasonable and appropriate for the work that TxDOT requires.

Fee Proposal Summary:

Original Geotechnical Fee (\$54,956.50)

Supplemental Geotechnical Fee: \$43,114.00

Subconsultant Management Fee: \$3,500.00

Total Supplemental #2 Fee: \$46,614.00

Contract Summary

Original Contract Amt: \$798,655.98

Supplemental #1: \$359,891.68

Supplemental #2: \$46,614.00

New Contract Amt: \$1,205,161.66

In the event of questions, please advise.

Sincerely,

TEDSI Infrastructure Group

Jules M. (Jay) Morris, Jr., P.E.

Vice President



GEOTECH ENGINEERING and TESTING



Geotechnical, Environmental, Construction Materials, and Forensic Engineering

TEDSI Infrastructure Group 738 Highway 6 South, Suite 430 Houston, Texas 77079

Attention: Mr. Paul Bright

Senior Project Manager

Proposal No. P18-097-1 November 17, 2021 Tel.: 832-619-1000

E-mail: Paul.Bright@tedsi.com

REVISED PROPOSAL FOR ADDITIONAL GEOTECHNICAL EXPLORATION PROPOSED RETAINING WALLS AT GRAND PARKWAY FRONTAGE ROAD FROM 1000-FT NORTH OF CINCO RANCH TO WESTHEIMER PARKWAY FORT BEND COUNTY, TEXAS REVISION I

Gentlemen:

At your request, we are pleased to submit this proposal for the proposed three Mechanically Stabilized Earth (MSE) retaining walls at the new frontage road for the above-referenced project. The planned facilities were discussed in detail with Mr. Paul Bright in order to plan this additional geotechnical study that would provide the necessary design and construction data.

INTRODUCTION

GET conducted an initial geotechnical study for the proposed Grand Parkway Frontage Road From 1000-Ft North of Cinco Ranch to Westheimer Parkway in Fort Bend County, Texas. The results of our study were presented in GET Report 18-288E dated July 28, 2021. This report presented the results of our field exploration and laboratory testing together with design recommendations for the construction of concrete roadways and underground utilities. Per the recently available



information, it is planned to construct three Mechanically Stabilized Earth (MSE) retaining walls along the subject project alignment. The specific project details are as follows:

| Facility | Description |
|-----------------------|-------------------------------------------------------------------------------------------------------------------|
| MSE Retaining Wall #1 | Total length of 175-ft and maximum wall height of 7-ft (bottom elevations of wall ranged from 109-ft to 110-ft). |
| MSE Retaining Wall #2 | Total length of 734-ft and maximum wall height of 11-ft (bottom elevations of walls ranged from 114-ft to 116-ft) |
| MSE Retaining Wall #3 | Total length of 431-ft and maximum wall height of 6-ft (bottom elevations of walls ranged from 114-ft to 127-ft) |

The scope of our work will be in general accordance with Texas Department of Transportation (TXDOT) Geotechnical Requirements.

GEOTECHNICAL EXPLORATION

Field Exploration

<u>Surveying.</u> The client will establish and provide GET the boring coordinates and ground surface elevations. GET will mark the boring locations in the field so that the survey crew can locate them. The client will provide right of entry to the project alignment.

<u>Site Access.</u> Due to presence of soft subgrade soils, an ATV rig will have to be used to drill the proposed borings.

<u>Checking for Utilities</u>. GET will call Texas 811 Call for the locations of utilities. GET will coordinate these activities. GET will not hire a contractor to conduct subsurface utility studies to find location of any and

all utilities. This is not the scope of GET work. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.

<u>Drilling and Sampling.</u> We will evaluate the soil stratigraphy and groundwater conditions for the proposed retaining walls by conducting three (3) soil borings. **The number, depth and locations of the borings were provided by the client.** A plan of borings is shown on Plate 1. The borings schedule is as follows:

| Facility | Borings | Depth, ft |
|-----------------------|---------|-----------|
| MSE Retaining Wall #1 | B-11 | 40 |
| MSE Retaining Wall #2 | B-13 | 40 |
| MSE Retaining Wall #3 | B-12 | 40 |

Soil samples will be obtained continuously at boring locations from the ground surface to 20-ft and at five-ft intervals thereafter to the completion depths of the borings. Standard Penetration Tests (SPT) will be performed in sands, if encountered, and the clays will be sampled by a Shelby tube. Texas Cone Penetration Tests (TCP) will be performed on soils samples to the borings completion depth at 5-ft interval. Shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory unconfined compression and Torvane tests used to supplement laboratory shear strength data.

<u>Groundwater.</u> Depth to groundwater will be important for design and construction of the facilities. For this reason, borings will be drilled dry and the depth at which groundwater is encountered will be recorded.

<u>Borehole Backfilling.</u> All boreholes will be backfilled and mounded with on-site soils after drilling and sampling. Furthermore, we will clean the area.





LABORATORY TESTING

Laboratory tests will vary with the soils encountered but will be planned to evaluate soils design parameters for the proposed facilities.

It is anticipated that the tests will include hand penetrometer, torvane, unconfined compression, unit weight, moisture content, liquid and plastic limit tests, gradation. Settlement characteristics of on-site soils will be evaluated, using one-dimensional consolidation tests.



All tests will be performed in general accordance with American Society of Testing Materials (ASTM) Procedures. All soil samples will be classified in general accordance to ASTM Standards.

ENGINEERING ANALYSES AND REPORTING

The field and laboratory data will be summarized in an engineering report. Analyses of these data will be presented, and recommendations made relative to the following:

| Facility | Recommendations | | | | | | | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| General | o Summary. | | | | | | | |
| | o Project site pictures. | | | | | | | |
| | Generalized soils stratigraphy and Groundwater levels. | | | | | | | |
| | o Boring logs per TxDOT Wincore. | | | | | | | |
| MSE Retaining Walls | o MSE wall design, including sliding, overturning, eccentricity, bearing capacity, rotational stability and settlement analysis. | | | | | | | |
| | MSE wall embankment foundation design recommendations. | | | | | | | |
| | o MSE wall embankment stability analysis. | | | | | | | |
| | MSE wall embankment settlement studies. | | | | | | | |
| | MSE wall fill placement recommendations. | | | | | | | |
| | MSE wall slope constructability issues. | | | | | | | |
| | Recommendations on foundation improvement in case bearing capacity is exceeded. | | | | | | | |

COST ESTIMATE

General

Based on the scope of work outlined above, we estimate the cost for field, laboratory, and engineering services based on Fee Schedule to be as shown on Plates 2 and 3. We also assume that the alignment is accessible to an ATV drilling rig. We understand that all of the boring elevations and locations will be provided by the client prior to completion of GET draft report. Our cost estimate includes one draft report copy and one final report copy. A digital copy of the report will also be provided. Additional report copies will be provided at a separate charge. All of our field and laboratory test data will be submitted on TxDOT boring logs.

Summary Cost Estimate

A summary of project cost is presented below:

| Scope of Work | Estimated Cost | Cost Breakdown Plate(s) |
|-----------------------------|---------------------|-------------------------|
| Basic Geotechnical Report | \$37,794.00 | 2 - 3 |
| Allowances: | | |
| ATV Rig | 1,450.00 | 3 |
| Incorporate Review Comments | 3,870.00 | 3 |
| Estimated Total | \$ <u>43,114.00</u> | |

Underground Utilities

The cost estimate for geotechnical services assumes that underground obstructions will not be encountered during boring that requires boring relocation(s). It is the responsibility of the client to identify the location of underground utilities prior to drilling and sampling. GET is not responsible for damage to underground utilities, man-made objects, etc.

GET will contact Texas 811 and Fort Bend County for the presence of underground utilities. However, Texas 811 does not have information regarding the presence of underground utilities inside the properties. We request that the client provide GET with the location of underground utilities. The scope of our work does not include subsurface utility investigation.

TIME SCHEDULES

We estimate that the field work can be started immediately after authorization is received. The project schedule will be as follows:

| No. of Working Days | | | | | | | | | |
|--------------------------|-------------------|-------|-------------|--------------|--|--|--|--|--|
| <u>Utility Clearance</u> | Field Exploration | _Lab_ | Engineering | <u>Total</u> | | | | | |
| 5 | 5 | 20 | 15 | 45 | | | | | |

Preliminary recommendations will be submitted during the course of our study, if required, to expedite design.

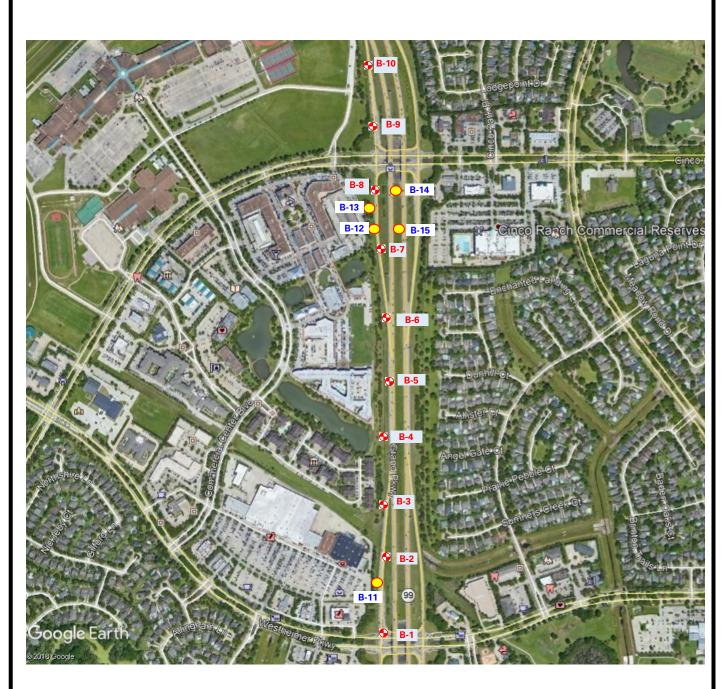
REPORT REVIEWS AND COMMENTS

Our report will be submitted to the client in a draft form for comments by the client. Once these reviews are completed, a final report will be issued. All of these comments will be incorporated in the final report. The client agrees that all reviews are complete once a notice for a final report is issued. Any changes to the final report will be outside the scope of our study. We will incorporate any future comments after the final report is issued on a time and materials basis per the applicable fee schedule.

We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project. Formal acceptance of this proposal and our general conditions can be acknowledged by signing below and returning one copy for our files.

Very truly yours,

| GEOTECH ENGINEERING AND TESTING | |
|---------------------------------------------------------------------------------------|----|
| | |
| David A. Eastwood, P.E., D.GE, DFE, C.A.P.M., F.FPA, F.ASCE Principal Engineer | |
| ACCEPTED BY: | |
| PRINTED NAME: | |
| COMPANY NAME: | _ |
| DATE: | |
| Enclosures: Plan of Borings – Plate 1 Cost Estimate - Plates 2 – 3 General Conditions | |
| Copies Submitted: (1) TEDSI Infrastructure Group - Mr. Paul Brigh (1) DAE | 11 |



Legend:

• : Borings B-1 through B-10 were conducted in the previous study

: Borings B-11 through B-15 are proposed in the current study

| PLAN OF BORINGS (bo | NORTH | | |
|--------------------------------------------------|---------------------|------------------------|--|
| PROJECT: Geotechnical Exp 1,000-ft North of 0 | | | |
| SCALE: NOT TO SCALE | DATE: NOVEMBER 2021 | PROJECT NO.: P18-097-1 | |

Estimated Cost Summary (Detailed) Retaining Walls, Grand Parkway Frontage Road from 1000-ft North of Cinco Ranch Blvd. to Westhiemer Parkway, Fort Bend County, Texas

P18-097 -1

| | | Consultant Proposal Breakdown | | | | | | | | |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------|----------|----------|------------------|---------|--------------------|----------|--------------------|------------|
| Faciness Fusiness Fusiness Technician Dueffing Measure | | | | | | | Estimated Quantity | Rate | Subtotal (Cost \$) | |
| Date: | November 1, 2021 | Engineer | Engineer | Engineer | | Ū | Measure | Quantity | | |
| | | | | | Billing Rate per | | | | | |
| | | \$250.00 | \$205.00 | \$165.00 | \$55.00 | \$70.00 | | | | |
| Task No. | <u> </u> | | | * | LEVEL (| OF EFFC | RT | | | |
| | Project Initiation upon Receiving NTP | | | | | | | | | |
| 1 | Review of the scope of the work | 1 | 2 | 1 | | | | | | \$825.00 |
| 2 | Coordinate with Client, in obtaining the updated information of the project | | | 1 | | | | | | \$165.00 |
| | | | | | | | | | Subtotal | \$990.00 |
| | Field Investigation | | | | | | | | | |
| 3 | Develop a Drilling Plan | | | 1 | | | | | | \$165.00 |
| 4 | Staking the Three (3) Borings in the Field | | | 4 | | | | | | \$660.00 |
| 5 | Coordinate with Surveyors to Locate & Tie in Borings at Site | | | 1 | | | | | | \$165.00 |
| | Field Coordination during Drilling Including Utility Clearance, Texas One Call, | | | | | | | | | |
| 6 | and/or obtain drilling permission | | | 5 | | | | | | \$825.00 |
| 7 | Mobilization / Demobilization | | | | | | LS | 1 | \$700.00 | \$700.00 |
| 8 | Drilling and Sampling Three (3) Borings | | | | | | | | | |
| 9 | Continous (0' - 20') | _ | | | | | LF | 60 | \$25.00 | \$1,500.00 |
| 10 | Intermittent (20' - 40') | _ | | | | | LF | 60 | \$23.00 | \$1,380.00 |
| 11 | Texas Cone Penetrometer (TxDOT) (TCP) | | 1 | 1 | | | EA | 24 | \$31.00 | \$744.00 |
| 12 | Boreholes Logging | | | | 20 | | | | | \$1,100.00 |
| 13 | Vehicle Charge (for site visit to stake borings, verify 811 utility markings and logging, borehole grouting etc.) | | | | | | HR | 29 | \$10.00 | \$290.00 |
| 14 | Daily Mobilization | | | | | | DAY | 2 | \$500.00 | \$1,000.00 |
| | | | | | | | | | Subtotal | \$8,529.00 |
| | Laboratory Testing | | | | | | | | | |
| 15 | Assign Laboratory Tests, Looking at Soil Samples | | I | 5 | | | | | I | \$825.00 |
| 16 | Data Reduction and Evaluation | | | 2 | | | | | Ī | \$330.00 |
| 17 | Water Content (all samples) | | • | • | ' | | EA | 42 | \$11.00 | \$462.00 |
| 18 | Liquid and Plastic Limits | | | | | | EA | 12 | \$71.00 | \$852.00 |
| 19 | Percent Passing #-200 Sieve | | | | | | EA | 12 | \$55.00 | \$660.00 |
| 20 | Torvane | | | | | | EA | 42 | | \$0.00 |
| 21 | Hand Penetrometer | | | | | | EA | 42 | | \$0.00 |
| 22 | One Dimensional Consolidation | | | | | | EA | 3 | \$450.00 | \$1,350.00 |
| 23 | Gradation | | | | | | EA | 3 | \$65.00 | \$195.00 |
| 24 | Unconfined Compression | | | | | | EA | 6 | \$51.00 | \$306.00 |
| | | | | | | | | | Subtotal | \$4,980.00 |

Estimated Cost Summary (Detailed)

Retaining Walls, Grand Parkway Frontage Road from 1000-ft North of Cinco Ranch Blvd. to Westhiemer Parkway, Fort Bend County, Texas

P18-097 -1

| | Consultant Proposal Breakdown | | | | | | | | | |
|---------------------------------|-------------------------------|------------------|-----------------------|----------|------------|----------|---------|-----------|--------|--------------------|
| GEOTECH ENGINEERING AND TESTING | | Principal | Senior | Project | Field | Typing/ | Unit of | Estimated | Rate | Subtotal (Cost \$) |
| Date: | November 1, 2021 | Engineer | Engineer | Engineer | Technician | Drafting | Measure | Quantity | 1 1000 | (|
| | | | Billing Rate per Hour | | | | | | | |
| | | \$250.00 | \$205.00 | \$165.00 | \$55.00 | \$70.00 | | | | |
| Task No. | Task Description | *LEVEL OF EFFORT | | | | | | | | |

| | Engineering Analysis and Report | | | | | | | |
|----|--------------------------------------------------------------------------------------------------------------------------|-----|---|----|------|---|----------|-------------|
| 25 | Prepare Plan of Borings | | | 1 | | | | \$165.00 |
| 26 | Analyze field and laboratory test results | | | 1 | | | | \$165.00 |
| 27 | Prepare summary of laboratory test data | | | 1 | | | L | \$165.00 |
| 28 | Edit and prepare final boring log profiles | | | 3 | | | | \$495.00 |
| 29 | Prepare and develop boring log profiles | | | 1 | | | | \$165.00 |
| 30 | Lateral Pressures | 0.5 | 2 | 6 | | | | \$1,525.00 |
| 31 | Stability Analysis | 0.5 | 2 | 6 | | | | \$1,525.00 |
| 32 | Bearing Capacity | 0.5 | 2 | 4 | | | | \$1,195.00 |
| 33 | Global Stability | 0.5 | 2 | 10 | | | | \$2,185.00 |
| 34 | Sliding, Overturning Analysis | 0.5 | 2 | 6 | | | | \$1,525.00 |
| 35 | Settlement Analysis | 0.5 | 3 | 8 | | | | \$2,060.00 |
| 36 | Recommendations for Foundation Improvements | 1 | 3 | 12 | | | | \$2,845.00 |
| 36 | Document the results of soil exploration, laboratory testing and geotechnical recommendations in a draft addendum letter | 4 | 8 | 36 | | | | \$8,580.00 |
| 37 | Technical Typing/Drafting | | | | 10 | | | \$700.00 |
| | | | | | | - | Subtotal | \$23,295.00 |
| | | | | | | | Total: | \$37,794.00 |

Allowances:

| Allowa | nces. | | | | | | | | |
|--------|--------------------------------------------------------------------------------|---|---|----|--|----|-----|--------------|-------------|
| | Swamp-Buggy Rig (only if Wet Subgrade Soils are Encountered) | | | | | | | | |
| 38 | ATV Mobilization Charge | | | | | LS | 1 | \$250.00 | \$250.00 |
| 39 | ATV Drilling Surcharge | | | | | LF | 120 | \$10.00 | \$1,200.00 |
| | | | | | | | | Subtotal | \$1,450.00 |
| | | | | | | _ | | _ | |
| 40 | Incorporate the review comments on draft report into final geotechnical report | 1 | 8 | 12 | | | | | \$3,870.00 |
| | | | | | | | | Subtotal | \$3,870.00 |
| | P | | | | | | | | |
| | Plate | | | | | | | Total: | \$5,320.00 |
| | ω | | | | | | | Grand Total: | \$43,114.00 |

CERTIFICATE OF INTERESTED PARTIES

FORM **1295**

1 of 1

| | Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties. | | | OFFICE USE ONLY CERTIFICATION OF FILING | | |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------|--------------------------------------------|----------------|--|
| 1 | lame of business entity filing form, and the city, state and country of the business entity's place | | | Certificate Number: | | |
| | of business. | | | 2022-837809 | | |
| | TEDSI Infrastructure Group, Inc. Houston, TX United States | | | Date Filed: | | |
| 2 | lame of governmental entity or state agency that is a party to the contract for which the form is | | | 01/07/2022 | | |
| | being filed. | | | Date Acknowledged: | | |
| | Fort Bend County | | | 25/2022 | | |
| 3 | Provide the identification number used by the governmental ent | ity or state agency to track or ic | lentify the o | contract, and prov | /ide a | |
| • | description of the services, goods, or other property to be provided | | | | | |
| | SOQ 14-025 Amend. #2 to Agreement 2017 Mobility Bond Program - Proje | oct No. 17202 | | | | |
| | Amend. #2 to Agreement 2017 Mobility Bond Program - Project | ECT NO. 17303 | | | | |
| 4 | Name of Interested Party | City, State, Country (place of busin | | Nature of interest ess) (check applicable) | | |
| | Name of Interested Party City, State, Counti | | ili y (piace of business) | | Intermediary | |
| Salinas, Jesus | | Mission, TX United States | | Controlling | - Intermediary | |
| _ | | | | | | |
| Lupher, Mark | | Houston, TX United States | | Х | | |
| Morris, Jr., Jules M. | | Houston, TX United States | | X | | |
| Stong, Craig | | Mission, TX United States | | X | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 5 | Check only if there is NO Interested Party. | | | | | |
| 6 | UNSWORN DECLARATION | | | | | |
| | My name is | , and my date of birth is | | | | |
| | My address is | , | , | 1 | , | |
| | (street) | (city) | (state) | (zip code) | (country) | |
| | I declare under penalty of perjury that the foregoing is true and correct | ct. | | | | |
| | Executed inCount | ty, State of, c | on the | _day of | , 20 | |
| | | | | (month) | (year) | |
| | Signature of authorized agent of contracting business entity | | | | | |
| (Declarant) | | | | | | |