CENTRAL TEXAS
Regional Mobility Authority

AGENDA ITEM #6 SUMMARY

Approve a contract and work authorization with Rodriguez Transportation Group, Inc., for professional engineering design services for the SH 45 SW Project.

Strategic Plan Relevance:	Regional Mobility
Department:	Engineering
Associated Costs:	not to exceed $7,000,000.00
Funding Source:	General Funds will be used and reimbursed by Hays/Travis County through Interlocal Agreement
Board Action Required:	Yes

Description of Matter: At the September 24, 2014 Board Meeting, the Board approved the selection of Rodriguez Transportation Group, Inc., and authorized the Mobility Authority to commence negotiations and enter into a contract for engineering design services for the SH 45SW Project.

This contract provides for professional engineering, final design, public involvement, and estimates necessary for the proposed SH 45SW Project located in Travis County and Hays County, Texas.

Based on the review of the proposed contract and initial work authorization by Mobility Authority staff and the GEC, staff has determined that the Scope of Services addresses the anticipated project requirements and the level of effort and that the fee is appropriate. Therefore, Approval of the Contract and Work Authorization No. 1 is recommended.

Reference documentation: Draft Resolution
Draft Contract and Work Authorization No. 1

Contact for further information: Wesley M. Burford, P.E., Director of Engineering

CONTRACT FOR ENGINEERING SERVICES

Cost Plus Fixed Fee,
Unit Cost, Lump Sum, or Specified Rate
Specific Deliverable with Work Authorizations

THIS CONTRACT FOR ENGINEERING SERVICES (the "Contract") is made by and between the Central Texas Regional Mobility Authority, 3300 N. I-35, Suite 300, Austin, Texas 78705, hereinafter called "Mobility Authority," and Rodriguez Transportation Group, Inc., having its principal business address at 11211 Taylor Draper Lane, Suite 100 Austin, Texas 78759 hereinafter called "Engineer," for the purpose of contracting for engineering services.

WITNESSETH

WHEREAS, the Mobility Authority desires to contract for engineering services generally described as transportation and engineering design services (the "Services"); and,

WHEREAS, pursuant to a qualifications-based selection conducted in accordance with the Professional Services Procurement Act (Tex. Gov't Code Sec. 2254.001, et. seq.), the Mobility Authority has selected the Engineer to provide the needed services; and

WHEREAS, the Engineer has agreed to provide the services subject to the terms and conditions hereinafter set forth.

NOW, THEREFORE, the Mobility Authority and the Engineer, in consideration of the mutual covenants and agreements herein contained, do hereby mutually agree as follows.

AGREEMENT

ARTICLE 1
SCOPE OF SERVICES

The Engineer will furnish items and perform those services for fulfillment of the Contract as identified in Exhibit B of the Attachment B - Work Authorization(s). All Services provided by the Engineer shall comply with the terms and conditions of this Contract and any Work Authorizations issued pursuant hereto, and shall conform to standard engineering practices and applicable rules and regulations of the Texas Engineering Practices Act and the rules of the Texas Board of Professional Engineers.

ARTICLE 2
COMPENSATION

Compensation for the Engineer's Services and other aspects of the mutual obligations concerning the Engineer's Services and payment therefore are as follows:

A. Basis for Compensation. Subject to the terms of a Work Authorization issued pursuant to Article 4 below (including any maximum amount to be paid as stated therein), the Mobility Authority agrees to pay, and the Engineer agrees to accept as full and sufficient compensation and reimbursement for the performance of all Services as set forth in this Agreement, hourly rates for the staff working on the assignment computed as follows:

Direct Labor Cost x (1.0 + OH Rate) x (1.0 + Profit (%)).

where Direct Labor Cost equals salary divided by 2080; OH Rate equals the Engineer's most recent auditable overhead rate under 48 C.F.R. Part 31, Federal Acquisition Regulations (FAR 31) or otherwise approved overhead rate pursuant to subarticle 2.B; and Profit (%) reflects a twelve percent (12%) profit. The range of Direct Labor Costs for the classifications of employees working for the Authority as of the effective date of this Agreement is reflected in Attachment A. Revisions to Direct Labor Cost ranges for employee classifications and the auditable overhead rate may be proposed no more frequently than once per calendar year, and are subject to the written approval of the Executive Director or his designee. No increase shall be made to the specified profit percentage. The first adjustment to the auditable overhead rate shall be considered no earlier than one year after the execution of this contract. All adjustments shall be agreed to in writing by the Mobility Authority prior to implementation, and the Mobility Authority shall have the right to review and/or audit the Engineer's Direct Labor Costs and auditable overhead rates upon written request. Once approved, the range of Direct Labor Costs and auditable overhead rate will be used going forward until the next annual adjustment is approved. Changes to the auditable overhead rate will not be applied retroactively to Direct Labor Costs incurred in the previous year. If the Engineer or a sub consultant of the Engineer does not have a Far 31 overhead rate, they may submit, for Mobility Authority approval, alternate documentation supporting an appropriate auditable overhead rate. If an auditable overhead rate is not submitted or available, fixed hourly rates must be submitted per subarticle 2.I. During the term of this Agreement the Engineer shall provide to the Executive Director or his designee, prior to requesting any adjustment to its auditable overhead rate, a copy of the report establishing a new FAR rate for the Engineer.

The payment of the hourly rates and allowed costs shall constitute full payment for all Services, liaisons, products, materials, and equipment required to deliver the Services.

B. Limitations on Rates Utilized. The Engineer represents that at all times, subject to the limitations on timing and approval in subarticle 2.A, throughout the term of this Contract that it shall not use an auditable overhead rate that exceeds the rate determined in accordance with FAR 31 (or successor regulations); and shall be based on actual salary amounts for the individuals performing the work; that the Direct Labor Costs shall not exceed the ranges reflected in Attachment A and shall be based on actual salary amounts for the individuals performing the work.

C. Expenses. As indicated above, and subject to the terms of any Work Authorization, the compensation computed in accordance with subarticles 2.A. and B. is anticipated by the Mobility Authority and the Engineer to be full and sufficient compensation and reimbursement for the Services, and includes all customary out-of-pocket expenses

anticipated to result from the Engineer's performance under the Contract that are included in the computation of the auditable overhead rate, such as office supplies, telecommunications systems, postage, general photocopying, computer hardware/software and service charges, and similar costs. To the extent not otherwise included in the Engineer's auditable overhead rate, non-reimbursable expenses shall also include all tolls incurred by Engineer or any of its sub consultants in connection with the performance of the Services. Notwithstanding the foregoing, the Engineer shall be entitled to reimbursement for reasonable out-of-pocket expenses actually incurred by the Engineer that are necessary for the performance of its duties under this Contract and which are not included in the auditable overhead rate, said expenses being limited to travel costs (at rates which may not exceed those applicable to Mobility Authority employees), printing costs, automobile expenses being reimbursed at the federal mileage rates for travel originating from the office of the Engineer employee or sub consultant, and other expenses directly approved, in advance, by the Executive Director or his designee. Except for automobile expenses paid at the federal mileage rate and travel paid at state approved rates (if available), all such reimbursement shall be at one-hundred percent (100%) of the actual cost thereof paid by the Engineer to unaffiliated entities; provided, however, that aggregate amounts in excess of $2,000 for which the Engineer intends to seek reimbursement pursuant to this subarticle 2.C. must be approved in advance and in writing by the Executive Director or his designee, except when such advance approval is impractical due to a bona fide emergency situation. Except as otherwise authorized in a validly issued Work Authorization, and only then to the extent reimbursable by the Texas Department of Transportation ("TxDOT") under the terms of any form of financial assistance agreement, the Mobility Authority shall not reimburse the Engineer for travel, lodging, and similar expenses incurred by the Engineer to bring additional staff to its local office or to otherwise reassign personnel to provide basic engineering support of the Engineer's performance of the Services, provided, however, that the Mobility Authority shall reimburse, but only in accordance with the terms of this subarticle 2.C., such costs incurred by the Engineer to bring to its local office or the Mobility Authority's facilities, with advance approval by the Executive Director or his designee, staff with specialized skills or expertise required for the Services and not customarily available from a staff providing general consulting civil engineering services of the type described in this agreement. . .

Engineer acknowledges that all expenses and costs paid or reimbursed by the Mobility Authority using federal or state funds shall be paid or reimbursed in accordance with, and subject to, applicable policies of the Mobility Authority and other applicable state and federal laws, including the applicable requirements of OMB Circular A-87, which may reduce the amount of expenses and costs reimbursed to less than what was actually incurred.

D. Non-compensable Time. Time spent by the Engineer's employees or sub consultants to perform services or functions capable of being carried out by other, subordinate personnel with a lower hourly rate shall be billed at a rate equivalent to that of the applicable qualified subordinate personnel. Time spent by the Engineer's personnel or sub consultants in an administrative or supervisory capacity not related to the performance of the Services shall not be compensable. Time spent on work that is in excess of what would reasonably be considered appropriate for the performance of such Services shall not be compensable.

E. Effect of Payments. No payment by the Mobility Authority shall relieve the Engineer of its obligation to deliver timely the Services required under this Contract. If after approving or paying for any service, product or other deliverable, the Mobility Authority determines that said service, product or deliverable does not satisfy the requirements of this Contract, the Mobility Authority may reject same and, if the Engineer fails to correct or cure same within a reasonable period of time and at no additional cost to the Mobility Authority, the Engineer shall return any compensation received therefore. In addition to all other rights provided in this Contract, the Mobility Authority shall have the right to offset any amounts owed by the Engineer pursuant to the terms of this Contract upon providing the Engineer prior written notice thereof.

F. No Adjustments to Direct Labor Costs and Auditable Overhead Rate. Except as otherwise expressly provided in subarticle 2.A. above, the Mobility Authority and the Engineer shall not make adjustments to the Direct Labor Costs or the auditable overhead rate during the term of this Contract. The Mobility Authority and the Engineer do not anticipate that any services, work, deliverables or expenses of any nature shall be undertaken or incurred by the Engineer on behalf of the Mobility Authority that constitute "Extra Work" or otherwise fall outside the terms of this Contract. Unless the parties otherwise expressly agree in writing to the contrary, all work of any nature undertaken by the Engineer or its sub consultants during the term of this Contract on behalf of the Mobility Authority shall be conclusively presumed to have been undertaken under, and be subject to, the terms of this Contract.

G. Commercial Pricing. Federal Acquisition Regulations allow for payment of direct auditable expenditures and commercial pricing of certain products. The Engineer may engage in commercial pricing when legally permissible, not in contravention of federal regulations, and subject to express approval by the Board of Directors.

H. Taxes. All payments to be made by the Mobility Authority to the Engineer pursuant to this Contract are inclusive of federal, state, or other taxes, if any, however designated, levied, or based. The Authority acknowledges and represents that it is a tax-exempt entity under Sections 151.309, *et seq*., of the Texas Tax Code. The Engineer shall take all reasonable steps to acquire all goods and services subject to reimbursement by the Mobility Authority under this Contract on a tax-free basis pursuant to the Authority's tax-exempt status described in subarticle 2.H. This provision applies only to the extent the Authority's tax exempt status can reasonably be extended to purchases made directly by the Engineer.

I. Compensation of Sub Consultants. It is anticipated that the Engineer may utilize the services of sub consultants to respond to certain assignments under this Contract. The selection and services to be assigned to sub consultants must be approved in advance by the Executive Director or his designee. All sub consultants providing services under this Contract shall be subject to, and compensated or reimbursed in accordance with, all requirements of Article 2, provided that each sub consultant shall utilize (i) its own Direct Labor Costs and (ii) if available, its own auditable overhead rate. For sub consultants that do not have auditable overhead rates computed in accordance with 48 C.F.R. Part 31, the Engineer shall provide a schedule of sub consultant billing rates or alternative overhead rate pursuant to subarticle 2.B for

the Mobility Authority's review and written approval by the Executive Director or his designee (including any periodic adjustments thereto).

ARTICLE 3
PAYMENT REQUIREMENTS

A. Monthly Invoices. The Engineer shall request payment for Services rendered and costs incurred by submitting the original and one copy of an itemized invoice in a form acceptable to the Mobility Authority. The Engineer is authorized to submit requests for payment no more frequently than monthly and no later than one-hundred and twenty (120) days after costs are incurred.

B. Form of Invoices. The invoice shall show: (1) the Work Authorization number for each Work Authorization included in the billing; (2) the total amount earned to the date of submission; and (3) the amount due and payable as of the date of the current billing statement for each Work Authorization. The invoice shall indicate if the work has been completed or if the billing is for partial completion of the work. The invoice shall be substantially in a form provided or approved by the Mobility Authority.

C. Thirty Day Payments. Upon receipt of an invoice that complies with all invoice requirements set forth in this Article, the Mobility Authority shall make a good faith effort to pay the amount, which is due and payable within thirty (30) days, provided that if all or a portion of the Services reflected in the invoice are to be reimbursed by TxDOT through a financial assistance agreement between TxDOT and the Mobility Authority, the Mobility Authority shall make a good faith effort to pay such amounts within thirty (30) days of receipt of such payments from TxDOT..

D. Withholding Payments. The Mobility Authority reserves the right to withhold payment of the Engineer's invoice in the event of any of the following: (1) if a dispute over the work or costs thereof is not resolved within a thirty (30) day period following receipt of the invoice; (2) pending verification of satisfactory work performed; or (3) if required reports (including third-party verifications, if any) are not received.

E. Invoice and Progress Report Submittal Process. The protocol for invoice and progress report submittal, review, and approval will be as follows:

(1) A progress report shall be submitted to Mobility Authority at least once each calendar month;

(2) In the event that invoices are not submitted on a monthly basis, a monthly submittal of the progress report information will be required nevertheless;

(3) The Mobility Authority and/or the GEC Manager (as defined below) will review the invoices for supporting documentation, compliance with the Contract, and consistency with the submitted progress report;

(4) The invoice will either be recommended for approval by Mobility Authority and/or GEC Manager, or the Mobility Authority and/or GEC Manager will return it to the Engineer for required correction; and

(5) Upon satisfactory review and approval of the invoice, the Mobility Authority will submit it to the Mobility Authority CFO for payment.

F. Audit. The Mobility Authority shall have the right to examine the books and records of the Engineer for the purpose of checking the amount of work performed by the Engineer. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to cost incurred and shall make such materials available at its office during the Contract period and for four (4) years from the date of final payment under this Contract or until any pending litigation has been completely and fully resolved and the Mobility authority approves of the destruction of records, whichever occurs last. The Mobility Authority or any of its duly authorized representatives, TxDOT, the Federal Highway Administration ("FHWA"), the United States Department of Transportation Office of Inspector General and the Comptroller General shall have access to any and all books, documents, papers and records of the Engineer which are directly pertinent to this Contract for the purpose of making audits, examinations, excerpts and transcriptions.

ARTICLE 4
WORK AUTHORIZATIONS

A. Use. Services performed shall be in strict accordance with the scope, schedule, and budget set forth in each Work Authorization issued pursuant to this Contract, and no Services shall be performed which are not the subject of a validly issued Work Authorization. The Mobility Authority will issue Work Authorizations using the form attached as Attachment A to authorize all work under this Contract. . No work shall begin on the activity until the Work Authorization is approved and fully executed. All work must be completed on or before the completion date specified in the Work Authorization.

B. Contents. Each Work Authorization shall include: (1) types of Services to be performed and a full description of the work required to perform those Services(2) a full description of general administration tasks exclusive to that Work Authorization (3) a work schedule (including beginning and ending dates) with milestones; (4) the basis of payment whether cost plus fixed fee, unit cost, lump sum, or specified rate; (5) a Work Authorization budget as described in subarticle C below ; and (6) DBE Requirements. The Engineer is not to include additional Contract terms and conditions in the Work Authorization.

C. Work Authorization Budget. A Work Authorization budget shall be prepared by the Engineer and shall set forth in detail the following: (1) the computation of the estimated cost of the work as described in the Work Authorization; (2) the estimated time (hours/days) required to complete the work using the fees set forth in Attachment A; (3) a work plan that includes a list of the work to be performed; and (4) a maximum cost (not-to-exceed) amount or unit or lump sum cost and the total cost or price of the Work Authorization.

D. No Guaranteed Work. Work Authorizations will be issued at the sole discretion of the Mobility Authority. While it is the Mobility Authority's intent to issue Work

Authorizations hereunder, the Engineer shall have no cause of action conditioned upon the lack or number of Work Authorizations issued.

E. Incorporation into Contract. Each Work Authorization shall be signed by both parties and become a part of the Contract. No Work Authorization will waive the Mobility Authority's or the Engineer's responsibilities and obligations established in this Contract. The Engineer shall promptly notify the Mobility Authority of any event that will affect completion of the Work Authorization in accordance with the terms thereof.

F. Supplemental Work Authorizations. Before additional work may be performed or additional costs incurred beyond those authorized in a Work Authorization, a change in a Work Authorization shall be enacted by a written Supplemental Work Authorization in the form identified and attached hereto as Attachment C. Supplemental Work Authorizations, if required, must be executed by both parties within the period of performance specified in the Work Authorization. The Engineer shall allow adequate time for review and approval of the Supplemental Work Authorization by the Mobility Authority.

(1) Notice. If the Engineer is of the opinion that any assigned work is beyond the scope of this Contract and constitutes additional work beyond the Services to be provided under this Contract, it shall promptly notify the Mobility Authority and submit written justification presenting the facts of the work and demonstrating how the work constitutes supplementary work.

(2) Changes in Scope. Changes that would modify the scope of the work authorized in a Work Authorization must be enacted by a written Supplemental Work Authorization. If the change in scope affects the amount payable under the Work Authorization, the Engineer shall prepare a revised Work Authorization budget for the Mobility Authority's approval. The Mobility Authority shall analyze the proposed justification, work hour estimate and cost. Upon approval of the need, the Mobility Authority shall negotiate the Supplemental Agreement scope with the Engineer, and then process the final Supplemental, subject to final written approval by the Mobility Authority.

(3) Limitation of Liability. The Mobility Authority shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with or prior to the execution of a Supplemental Work Authorization.

G. Deliverables. Upon satisfactory completion of the Work Authorization, the Engineer shall submit the deliverables as specified in the executed Work Authorization to the Mobility Authority for review and acceptance.

ARTICLE 5
SCHEDULE

A. Progress meetings. As required and detailed in the Work Authorizations, the Engineer shall from time to time during the progress of the work confer with the Mobility Authority. The Engineer shall prepare and present such information as may be pertinent and necessary or as may be requested by the Mobility Authority in order to evaluate features of the work.

B. Conferences. At the request of the Mobility Authority or the Engineer and as required and detailed in the Work Authorizations, conferences shall be provided at the Engineer's office, the office of the Mobility Authority, or at other locations designated by the Mobility Authority. These conferences shall also include evaluation of the Engineer's Services and work when requested by the Mobility Authority.

C. Audits. If federal or state funds are used to reimburse costs incurred under this Contract, the work and all reimbursements will be subject to periodic review by the U. S. Department of Transportation and TxDOT.

D. Reports. The Engineer shall promptly advise the Mobility Authority in writing of events that have a significant impact upon the progress of a Work Authorization, including:

(1) problems, delays, adverse conditions that will materially affect the ability to meet the time schedules and goals, or preclude the attainment of project work units by established time periods; this disclosure will be accompanied by a statement of the action taken or contemplated, and any Mobility Authority or federal assistance needed to resolve the situation; and

(2) favorable developments or events that enable meeting the work schedule goals sooner than anticipated.

E. Corrective Action. Should the Mobility Authority determine that the progress of work does not satisfy the milestone schedule set forth in a Work Authorization, the Mobility Authority shall review the work schedule with the Engineer to determine the nature of corrective action needed.

F. More Time Needed. If the Engineer determines or reasonably anticipates that the work authorized in a Work Authorization cannot be completed within the work schedule contained therein, the Engineer shall promptly notify the Mobility Authority and shall follow the procedure set forth in the Work Authorization. The Mobility Authority may, at its sole discretion, modify the work schedule to incorporate an extension of time.

ARTICLE 6
SUSPENSION OF WORK AUTHORIZATION

A. Notice. Should the Mobility Authority desire to suspend a Work Authorization but not terminate the Contract, the Mobility Authority may verbally notify the Engineer followed by written confirmation, giving fifteen (15) days prior notice. Both parties may waive the fifteen (15) day notice requirement in writing.

B. Reinstatement. A Work Authorization may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from the Mobility Authority to resume the work. Both parties may waive the sixty (60) day notice in writing.

C. Limitation of Liability. The Mobility Authority shall have no liability for work performed or costs incurred prior to the date authorized by the Mobility Authority to begin work, during periods when work is suspended, or after the completion of the Contract or Work Authorization.

ARTICLE 7
CHANGES IN WORK

A. Work Previously Submitted as Satisfactory. If the Engineer has submitted work in accordance with the terms of this Contract and Work Authorization(s) but the Mobility Authority requests changes to the completed work or parts thereof which involve changes to the original scope of services or character of work under the Contract and Work Authorization(s), the Engineer shall make such revisions as requested and as directed by the Mobility Authority. provided the work is reflected in a Supplemental Work Authorization.

B. Work Does Not Comply with Contract. If the Engineer submits work that does not comply with the terms of this Contract or Work Authorization(s), the Mobility Authority shall instruct the Engineer to make such revision as is necessary to bring the work into compliance with the Contract or Work Authorization(s). No additional compensation shall be paid for this work.

C. Errors/Omissions. The Engineer shall make revisions to the work authorized in this Contract or Work Authorization(s) that are necessary to correct errors or omissions appearing therein, when required to do so by the Mobility Authority. No additional compensation shall be paid for this work.

ARTICLE 8
OWNERSHIP OF DATA

A. Work for Hire. All services provided under this Contract are considered work for hire and, as such, all data, basic sketches, charts, calculations, plans, specifications, and other documents created or collected under the terms of this Contract are the property of the Mobility Authority.

B. Disposition of Documents. All documents prepared by the Engineer and all documents furnished to the Engineer by the Mobility Authority shall be delivered to the Mobility Authority upon request by the Mobility Authority. The Engineer, at its own expense, may retain copies of such documents or any other data which it has furnished the Mobility Authority under this Contract, but further use of the data is subject to express written permission by the Mobility Authority.

C. Release of Design Plan. The Engineer (1) will not release any roadway design plan created or collected under this Contract except to its subproviders as necessary to complete the Contract; (2) shall include a provision in all subcontracts which acknowledges the Mobility Authority's ownership of the design plan and prohibits its use for any use other than the project identified in this Contract; and (3) is responsible for any improper use of the design plan by its employees, officers, or subproviders, including costs, damages, or other liability resulting from improper use. Neither the Engineer nor any subprovider may charge a fee for any portion of the design plan created by the Mobility Authority.

ARTICLE 9
PUBLIC INFORMATION AND CONFIDENTIALITY

A. Public Information. The Mobility Authority will comply with Government Code, Chapter 552, the Public Information Act, in the release of information produced under this Contract.

B. Confidentiality. The Engineer shall not disclose information obtained from the Mobility Authority under this Contract without the express written consent of the Mobility Authority.

ARTICLE 10
PERSONNEL, EQUIPMENT AND MATERIAL

A. Engineer Resources. The Engineer shall furnish and maintain quarters for the performance of all Services, in addition to providing adequate and sufficient personnel and equipment to perform the Services required under the Contract. The Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Services required under this Contract, or it will be able to obtain such personnel from sources other than the Mobility Authority.

B. Removal of Contractor Employee. All employees of the Engineer assigned to this Contract shall have such knowledge and experience as will enable them to perform the duties assigned to them. The Mobility Authority may instruct the Engineer to remove any employee from association with work authorized in this Contract if, in the sole opinion of the Mobility Authority, the work of that employee does not comply with the terms of this Contract or if the conduct of that employee becomes detrimental to the work.

C. Replacement of Key Personnel. The Engineer must notify the Mobility Authority in writing as soon as possible, but no later than three (3) business days after a project manager or other key personnel is removed from association with this Contract, giving the reason for removal.

D. Mobility Authority Approval of Replacement Personnel. The Engineer may not replace the project manager or key personnel, as designated in the applicable Work Authorization, without prior consent of the Mobility Authority. The Mobility Authority must be satisfied that the new project manager or other key personnel is qualified to provide the authorized services. If the Mobility Authority determines that the new project manager or key personnel is not acceptable, the Engineer may not use that person in that capacity and shall replace him or her with one satisfactory to the Mobility Authority within thirty (30) days.

E. Ownership of Acquired Property. Except to the extent that a specific provision of this Contract states to the contrary, the Mobility Authority shall own all intellectual property acquired or developed under this Contract and all equipment purchased by the Engineer or its subcontractors under this Contract. All intellectual property and equipment owned by the Mobility Authority shall be delivered to the Mobility Authority when the Contract or applicable Work Authorization terminates, or when it is no longer needed for work performed under this Contract, whichever occurs first.

ARTICLE 11
SUBCONTRACTING

A. Prior Approval. The Engineer shall not assign, subcontract or transfer any portion of professional services related to the work under this Contract unless specified in an executed Work Authorization or otherwise without prior written approval from the Mobility Authority.

B. DBE Compliance. The Engineer's subcontracting program shall comply with the requirements of Exhibit E of the Work Authorization (DBE Requirements).

C. Required Provisions. All subcontracts for professional services shall include the provisions included in this Contract and any provisions required by law. The Engineer is authorized to pay subproviders in accordance with the terms of the subcontract, and the basis of payment may differ from the basis of payment by the Mobility Authority to the Engineer.

D. Prior Review. Subcontracts for professional services in excess of $25,000 may be reviewed by the Mobility Authority, in its sole discretion, prior to performance of work thereunder.

E. Engineer Responsibilities. No subcontract shall relieve the Engineer of any of its responsibilities under this Contract and of any liability for work performed under this Contract, even if performed by a subcontractor, sub consultant, or other third party performing work for or on behalf of the Engineer.

F. Invoice Approval and Processing. All sub consultants shall prepare and submit their invoices on the same billing cycle and format as the Engineer (so as to be included in invoices submitted by the Engineer), and in the event that the cycles are not concurrent, a detailed explanation will be submitted to the Mobility Authority.

ARTICLE 12
INSPECTION OF WORK

A. Review Rights. The Mobility Authority, TxDOT, and the U. S. Department of Transportation, when federal funds are involved, and any of their authorized representatives shall have the right at all reasonable times to review or otherwise evaluate the work performed hereunder and the premises in which it is being performed.

B. Reasonable Access. If any review or evaluation is made on the premises of the Engineer or a subprovider, the Engineer shall provide and require its subproviders to provide all reasonable facilities and assistance for the safety and convenience of the Mobility Authority, state or federal representatives in the performance of their duties.

ARTICLE 13
SUBMISSION OF REPORTS

All applicable study reports shall be submitted in preliminary form for approval by the Mobility Authority before a final report is issued. The Mobility Authority's comments on the Engineer's preliminary report must be addressed in the final report.

ARTICLE 14
VIOLATION OF CONTRACT TERMS

A. Increased Costs. Violation of contract terms, breach of contract, or default by the Engineer shall be grounds for termination of the Contract, and any increased or additional cost incurred by the Mobility Authority arising from the Engineer's default, breach of contract or violation of contract terms shall be paid by the Engineer.

B. Remedies. This Contract shall not be considered as specifying the exclusive remedy for any default, but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

C. Excusable Delays. Except with respect to defaults of subproviders, the Engineer shall not be in default by reason of any failure in performance of this Contract in accordance with its terms (including any failure to progress in the performance of the work) if such failure arises out of causes beyond the control and without the default or negligence of the Engineer. Such causes may include, but are not restricted to, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

ARTICLE 15
TERMINATION

A. Causes. The Contract may be terminated by any of the following conditions:

(1) by mutual agreement and consent, in writing from both parties;

(2) by the Mobility Authority by notice in writing to the Engineer as a consequence of failure by the Engineer to perform the Services set forth herein in a satisfactory manner or if the Engineer violates the provisions of Article 22, Gratuities, or Exhibit E, DBE Requirements;

(3) by either party, upon the failure of the other party to fulfill its obligations as set forth herein, following thirty (30) days written notice and opportunity to cure;

(4) by the Mobility Authority in its sole discretion , not subject to the mutual consent of the Engineer, by giving thirty (30) days written notice of termination to the Engineer; or

(5) by satisfactory completion of all services and obligations described herein.

B. Measurement. Should the Mobility Authority terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the Engineer. In determining the value of the work performed by the Engineer prior to termination, the Mobility Authority shall be the sole judge. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the Mobility Authority terminate this Contract under paragraph A (3) or (4) above, the Engineer shall not incur costs during the thirty-day notice period in excess of the amount incurred during the preceding thirty (30) days and only as necessary to terminate the work in progress.

C. Value of Completed Work. If the Engineer defaults in the performance of this Contract or if the Mobility Authority terminates this Contract for fault on the part of the Engineer, the Mobility Authority will give consideration to the following when calculating the value of the completed work: (1) the actual costs incurred (not to exceed the rates set forth in the applicable Work Authorization) by the Engineer in performing the work to the date of default; (2) the amount of work required which was satisfactorily completed to date of default; (3) the value of the work which is usable to the Mobility Authority; (4) the cost to the Mobility Authority of employing another firm to complete the required work; (5) the time required to employ another firm to complete the work; (6) delays in opening a revenue generating project and costs (including lost revenues) resulting therefrom; and (7) other factors which affect the value to the Mobility Authority of the work performed.

D. Calculation of Payments. The Mobility Authority shall use the fee structure established by the applicable Work Authorization in determining the value of the work performed up to the time of termination. In the event that a cost plus fixed fee basis of payment

is utilized in a Work Authorization, any portion of the fixed fee not previously paid in the partial payments shall not be included in the final payment.

E. Surviving Requirements. The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish the rights, duties, and obligations of the Mobility Authority and the Engineer under this Contract, except for those provisions that establish responsibilities that extend beyond the Contract period, including without limitation the provisions of Article 17.

F. Payment of Additional Costs. If termination of this Contract is due to the failure of the Engineer to fulfill its Contract obligations, the Mobility Authority may take over the project and prosecute the work to completion, and the Engineer shall be liable to the Mobility Authority for any additional cost to the Mobility Authority.

ARTICLE 16
COMPLIANCE WITH LAWS

The Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including, without limitation, worker's compensation laws, minimum and maximum salary and wage statutes and regulations, nondiscrimination, licensing laws and regulations, the Mobility Authority's enabling legislation (Chapter 370 of the Texas Transportation Code), and all amendments and modifications to any of the foregoing, if any. When required, the Engineer shall furnish the Mobility Authority with satisfactory proof of its compliance therewith.

ARTICLE 17
INDEMNIFICATION

THE ENGINEER SHALL INDEMNIFY AND HOLD HARMLESS THE MOBILITY AUTHORITY AND ITS OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS, AND AGENTS (WHICH, FOR THE PURPOSES OF THIS AGREEMENT, SHALL INCLUDE THE MOBILITY AUTHORITY'S GEC, GENERAL COUNSEL, BOND COUNSEL, FINANCIAL ADVISORS, TRAFFIC AND REVENUE ENGINEERING CONSULTANTS, TOLL OPERATIONS/COLLECTIONS FIRMS, AND UNDERWRITERS) FROM ANY CLAIMS, COSTS, OR LIABILITIES OF ANY TYPE OR NATURE AND BY OR TO ANY PERSONS WHOMSOEVER, TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS OF THE ENGINEER OR ITS OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS WITH RESPECT TO THE ENGINEER'S PERFORMANCE OF THE WORK TO BE ACCOMPLISHED UNDER THIS AGREEMENT. IN SUCH EVENT, THE ENGINEER SHALL ALSO INDEMNIFY AND HOLD HARMLESS THE MOBILITY AUTHORITY, ITS OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS, AND AGENTS (AS DEFINED ABOVE) FROM ANY AND ALL REASONABLE AND NECESSARY EXPENSES, INCLUDING REASONABLE ATTORNEYS' FEES, INCURRED BY THE AUTHORITY IN LITIGATING OR OTHERWISE RESISTING SAID CLAIMS, COSTS

OR LIABILITIES. IN THE EVENT THE MOBILITY AUTHORITY, ITS OFFICERS, DIRECTORS, EMPLOYEES, CONSULTANTS, AND AGENTS (AS DEFINED ABOVE), IS/ARE FOND TO BE PARTIALLY AT FAULT, THE ENGINEER SHALL, NEVERTHELESS, INDEMNIFY THE MOBILITY AUTHORITY FROM AND AGAINST THE PERCENTAGE OF FAULT ATTRIBUTABLE TO THE ENGINEER OR ITS OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS OR TO THEIR CONDUCT.

ARTICLE 18
ROLE OF GENERAL ENGINEERING CONSULTANT

The Mobility Authority will utilize a General Engineering Consultant ("GEC") to assist in its management of this Contract. The GEC is an independent contractor and is authorized by the Mobility Authority to provide the management and technical direction for this Contract on behalf of the Mobility Authority. All the technical and administrative provisions of the Contract shall be managed by the GEC, and the Engineer shall comply with all of the GEC's directives that are within the purview of the Contract. Decisions concerning Contract amendments and adjustments, such as time extensions and Supplemental Work Authorizations, shall be made by the Mobility Authority; however, requests for such amendments or adjustments shall be made through the GEC, who shall forward such requests to the Mobility Authority with its comments and recommendations.

Should any dispute arise between the General Engineering Consultant and the Engineer, concerning the conduct of this Contract, either party may request a resolution of said dispute by the Executive Director of the Authority or his designee, whose decision shall be final. The parties shall first try to resolve the dispute at the lowest level practical. In the event that an agreement cannot be reached, the Engineer may schedule a meeting with the GEC Program Manager. If an agreement cannot be reached at this level, then a meeting will be scheduled with the Mobility Authority and the GEC Program Manager, so the Engineer can present its case. The Mobility Authority's decision in the matter will be final. In no case will the Engineer go directly to the Mobility Authority with a dispute unless the Engineer believes that the GEC is violating, or is directing the Engineer to take an action which would violate, any laws or similar provisions described in Article 16 or any ethical obligations owed to the Mobility Authority.

ARTICLE 19
ENGINEER'S RESPONSIBILITY

A. Accuracy. The Engineer shall have total responsibility for the accuracy and completeness of the documents prepared under this Work Authorization and shall check all such material accordingly. The documents will be reviewed by the Mobility Authority's GEC, as defined in Article 18 above, for conformity with the Mobility Authority's procedures and the terms of the Contract, as well as coordination with adjacent contracts. Review by the GEC does not include detailed review or checking of designs or major components and related details or the accuracy with which such designs are depicted in the plans. The responsibility for accuracy and completeness of such items shall remain solely that of the Engineer. The Engineer shall promptly

make necessary revisions or corrections resulting from its errors, omissions, or negligent acts without compensation.

B. Errors and Omissions. The Engineer's responsibility for all questions arising from design errors and/or omissions will be determined by the Mobility Authority. The Engineer shall not be relieved of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities until after the construction phase of the project has been completed. In the event that the Mobility Authority discovers a possible design error or omission, the Mobility Authority shall notify the Engineer and seek to involve the Engineer in determining the most effective solution with respect to time and cost, provided that the Mobility Authority shall ultimately determine the solution that is chosen.

C. Seal. The responsible Engineer shall sign, seal and date all appropriate engineering submissions to the Mobility Authority in accordance with the Texas Engineering Practice Act and the rules of the Texas Board of Professional Engineers.

D. Resealing of Documents. Once the work has been sealed and accepted by the Mobility Authority, the Mobility Authority, as the owner, will notify the Engineer, in writing, of the possibility that a Mobility Authority engineer, as a second engineer, may find it necessary to alter, complete, correct, revise or add to the work. If necessary, the second engineer will affix his seal to any work altered, completed, corrected, revised or added. The second engineer will then become responsible for any alterations, additions or deletions to the original design including any effect or impacts of those changes on the original engineer's design.

ARTICLE 20
NONCOLLUSION

A. Warranty. The Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this Contract and that it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract.

B. Liability. For breach or violation of this warranty, the Mobility Authority shall have the right to annul this Contract without liability or, in its discretion, to deduct from the Contract compensation, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

ARTICLE 21
INSURANCE

The Engineer and all subproviders shall furnish the Mobility Authority a properly completed Certificate of Insurance approved by the Mobility Authority prior to beginning work under the Contract and shall maintain such insurance (and the Professional Liability Insurance discussed herein) through the Contract period. The Engineer shall provide proof of insurance in a

form reasonably acceptable by the Mobility Authority. The Engineer certifies that it has and will maintain insurance coverages as follows:

A. Comprehensive General Liability Insurance or Commercial General Liability Insurance. If coverages are specified separately, they must be at least these amounts:

Bodily Injury	$1,000,000 each occurrence
Property Damage	$1,000,000 each occurrence $2,000,000 for aggregates

Manufacturers' or Contractor Liability Insurance is not an acceptable substitute for Comprehensive General Liability Insurance or Commercial General Liability Insurance.

B. Professional Liability Insurance. Engineer shall provide and maintain professional liability coverage, with limits not less than $5,000,000 per claim and $5,000,000 aggregate. The professional liability coverage shall protect against any negligent act, error or omission arising out of design or engineering activities, including environmental related activities, with respect to the project, including coverage for negligent acts, errors or omissions by any member of the Engineer and its subcontractors and subconsultants (including, but not limited to design subcontractors and subconsultants) of any tier.

C. Workers Compensation. Engineer shall provide and maintain worker's compensation insurance coverage with statutory benefits, and Employers Liability insurance coverage, with limits not less than $1,000,000.

D. Automobile Liability Insurance. Engineer shall provide and maintain automobile liability insurance coverage in the amount of $1,000,000 per occurrence for bodily injury and property damage.

E. Subproviders. In the event a subprovider selected by the Engineer to perform work associated with this Contract is unable to secure insurance coverage in the amounts set forth in subarticles A. and B. above, Engineer may provide to the Mobility Authority an explanation of coverages that a subprovider does possess, why those coverages are adequate to cover the potential exposure for the work to be performed by the subprovider, and an acknowledgement that the Engineer remains liable for the work performed under the contract, including that performed by the subcprovider. The Mobility Authority may decide, in is sole discretion, whether to accept the coverages available to the subprovider

ARTICLE 22
GRATUITIES

A. Employees Not to Benefit. Mobility Authority policy mandates that employees of the Mobility Authority shall not accept any benefit, gift or favor from any person doing business with or who reasonably speaking may do business with the Mobility Authority under

this Contract. The only exceptions allowed are ordinary business lunches and items that have received the advance written approval of the Executive Director of the Mobility Authority.

B. Liability. Any person doing business with or who reasonably speaking may do business with the Mobility Authority under this Contract may not make any offer of benefits, gifts or favors to Mobility Authority employees, except as mentioned above. Failure on the part of the Engineer to adhere to this policy may result in the termination of this Contract.

ARTICLE 23
DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENTS

The Engineer agrees to comply with the requirements set forth in Exhibit E, DBE Requirements, of the Work Authorization and the assigned goal established by the Mobility Authority.

ARTICLE 24
MAINTENANCE, RETENTION AND AUDIT OF RECORDS

A. Retention Period. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and services provided (hereinafter called the Records). The Engineer shall make the Records available at its office during the Contract period and for four years from the date of final payment under this Contract, until completion of all audits, or until pending litigation has been completely and fully resolved, whichever occurs last.

B. Availability. The Mobility Authority shall have the exclusive right to examine the books and records of the Engineer for the purpose of checking the amount of work performed by the Engineer. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to cost incurred and shall make such materials available at its office during the contract period and for four (4) years from the date of final payment under this Contract or until pending litigation has been completely and fully resolved, whichever occurs last. The Mobility Authority or any of its duly authorized representatives, the Texas Department of Transportation ("TxDOT"), the Federal Highway Administration ("FHWA"), the United States Department of Transportation Office of Inspector General and the Comptroller General shall have access to any and all books, documents, papers and records of the Engineer which are directly pertinent to this Contract for the purpose of making audits, examinations, excerpts and transcriptions.

ARTICLE 25
CIVIL RIGHTS COMPLIANCE

A. Compliance with Regulations. The Engineer shall comply with the regulations of the Department of Transportation, Title 49, Code of Federal Regulations, Parts 21, 24, 26 and 60 as they relate to nondiscrimination; also Executive Order 11246 titled Equal Employment Opportunity as amended by Executive Order 11375.

B. Nondiscrimination. The Engineer, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

C. Solicitations for Subcontracts, Including Procurement of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Engineer of the Engineer's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, sex, or national origin.

D. Information and Reports. The Engineer shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Mobility Authority or the FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of the Engineer is in the exclusive possession of another who fails or refuses to furnish this information, the Engineer shall so certify to the Mobility Authority or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance. In the event of the Engineer's noncompliance with the nondiscrimination provisions of this Contract, the Mobility Authority shall impose such Contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

(1) withholding of payments to the Engineer under the Contract until the Engineer complies; and/or

(2) cancellation, termination, or suspension of the Contract, in whole or in part.

F. Incorporation of Provisions: The Engineer shall include the provisions of Article 25A through E in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Engineer shall take such action with respect to any subcontract or procurement as the Mobility Authority or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance provided, however, that in the event the Engineer becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Engineer may request the Mobility Authority to enter into such litigation to protect the interests of the Mobility Authority; and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 26
PATENT RIGHTS

The Mobility Authority and the U. S. Department of Transportation shall have the royalty free, nonexclusive and irrevocable right to use and to authorize others to use any patents developed by the Engineer under this Contract.

ARTICLE 27
DISPUTES

A. Disputes Not Related to Contract Services. The Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurement made by the Engineer in support of the services authorized herein.

B. Disputes Concerning Work or Cost. The Executive Director of the Mobility Authority shall decide all questions, difficulties and dispute of any nature whatsoever that may arise under or by reason of this Contract, and his decision upon all claims, questions and disputes shall be final. The Engineer shall comply with the provisions of Article 18 in proceeding with such disputes.

ARTICLE 28
SUCCESSORS AND ASSIGNS

The Engineer and the Mobility Authority do each hereby bind themselves, their successors, executors, administrators and assigns to each other party of this Contract and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this Contract. The Engineer shall not assign, subcontract or transfer its interest in this Contract without the prior written consent of the Mobility Authority.

ARTICLE 29
SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason, be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

ARTICLE 30
PRIOR CONTRACTS SUPERSEDED

This Contract, including all attachments, constitutes the sole agreement of the parties hereto for the services authorized herein and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein.

ARTICLE 31
CONFLICT OF INTEREST

A. Representation by Engineer. The undersigned Engineer represents that such firm has no conflict of interest that would in any way interfere with its or its employees' performance of services for the Mobility Authority or which in any way conflicts with the interests of the Mobility Authority. The Mobility Authority shall exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the Mobility Authority's interests.

B. Environmental Disclosure. If the Engineer will prepare an environmental impact statement or an environmental assessment under this Contract, the Engineer certifies by executing this Contract that it has no financial or other interest in the outcome of the project on which the environmental impact statement or environmental assessment is prepared.

ARTICLE 32
ENTIRETY OF AGREEMENT

This writing, including attachments and addenda, if any, embodies the entire agreement and understanding between the parties hereto, and there are no agreements and understandings, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change or modification of the terms of the Contract shall be valid unless made in writing signed by both parties hereto.

ARTICLE 33
SIGNATORY WARRANTY

The undersigned signatory for the Engineer hereby represents and warrants that he or she is an officer of the organization for which he or she has executed this Contract and that he or she has full and complete Mobility Authority authorization to enter into this Contract on behalf of the firm. These representations and warranties are made for the purpose of inducing the Mobility Authority to enter into this Contract.

ARTICLE 34
NOTICES

All notices to either party by the other required under this Contract shall be delivered personally or sent by certified or U.S. mail, postage prepaid, addressed to such party at the following addresses:

Engineer:	**Mobility Authority:**
Robert Carrillo, P.E. Rodriguez Transportation Group, Inc. 11211 Taylor Draper Lane, Suite 100 Austin, Texas 78759	Wesley M. Burford, P.E. Director of Engineering Central Texas Regional Mobility Authority 3300 N. IH35 Suite 300 Austin, Texas 78705

All notices shall be deemed given on the date so delivered or so deposited in the mail, unless otherwise provided herein. Either party may change the above address by sending written notice of the change to the other party. Either party may request in writing that such notices shall be delivered personally or by certified U.S. mail and such request shall be honored and carried out by the other party.

ARTICLE 35
BUSINESS DAYS AND DAYS

For purposes of this Contract, "business days" shall mean any day the Mobility Authority is open for business and "days" shall mean calendar days.

ARTICLE 36
INCORPORATION OF PROVISIONS

Attachments A through C are attached hereto and incorporated into this Contract as if fully set forth herein.

ARTICLE 37
PRIORITY OF DOCUMENTS/ORDER OF PRECEDENCE

This Contract, and each of the Attachments (together, the "Contract Documents"), are an essential part of the agreement between the Mobility Authority and the Engineer, and a requirement occurring in one is as binding as though occurring in all. The Contract Documents are intended to be complementary and to describe and provide for a complete Contract. In the event of any conflict among the Contract Documents or between the Contract Documents and other documents, the order of precedence shall be as set forth below:

A. Supplemental Work Authorizations;

B. Work Authorizations;

C. Contract Amendments;

D. This Contract.

Additional details and more stringent requirements contained in a lower priority document will control unless the requirements of the lower priority document present an actual conflict with the requirements of the higher level document. Notwithstanding the order of precedence among Contract Documents set forth in this Article 37, in the event of a conflict within a Contract Document or set of Contract Documents with the same order of priority (including within documents referenced therein), the Mobility Authority shall have the right to determine, in its sole discretion, which provision applies.

IN WITNESS WHEREOF, the **Mobility Authority** and the **Engineer** have executed this Contract in duplicate.

THE ENGINEER	**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**
_____	_____
(Signature)	(Signature)
_____	Mike Heiligenstein
(Printed Name)	
_____	Executive Director
(Title)	
_____	_____
(Date)	(Date)

Attachments and Exhibits to Contract for Engineering Services

Attachments	**Title**
A	Rate Schedule
B	Work Authorization
C	Supplemental Work Authorization

ATTACHMENT A

Cost Plus- Rate Schedule

	Hourly Salary Range	
	Min	Max
Senior Project Manager	$65.60	$80.50
Senior Engineer	$62.70	$78.50
Project Engineer	$54.50	$57.70
Design Engineer	$39.70	$48.50
EIT	$20.00	$30.00
Senior Engineer Specialist	$53.80	$56.40
Senior Engineer Tech	$38.10	$42.00
Engineer Tech	$36.00	$37.60
Admin/Clerical	$15.00	$22.00

ATTACHMENT B

WORK AUTHORIZATION
WORK AUTHORIZATION NO. ____
CONTRACT FOR ENGINEERING SERVICES

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 4 of the Contract for Engineering Services (the Contract) entered into by and between the Central Texas Regional Mobility Authority (the Mobility Authority) and _____ (the Engineer) dated _____.

PART I. The Engineer will perform engineering services generally described as _____ in accordance with the project description attached hereto in Exhibit B and made a part of this Work Authorization. The responsibilities of the Mobility Authority and the Engineer as well as the work schedule are further detailed in Exhibits A, B, and C which are attached hereto and made a part of the Work Authorization.

PART II. The maximum amount payable under this Work Authorization is $_____ and the method of payment is _____. This amount is based upon the Engineer's estimated Work Authorization costs included in Exhibit D, Fee Schedule/Budget, which is attached and made a part of this Work Authorization. DBE participation shall be tracked and documented as detailed in Exhibits E, F, and G.

PART III. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the appropriate sections of the Contract.

PART IV. This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate upon completion of the work, unless extended by a supplemental Work Authorization as provided in Article 4 of the Contract.

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

IN WITNESS WHEREOF, this Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER	**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**
_____	_____
(Signature)	(Signature)
_____	_____
(Printed Name)	Mike Heiligenstein
_____	_____
(Title)	Executive Director
_____	_____
(Date)	(Date)

LIST OF EXHIBITS

Exhibits	Title
A	Services to Be Provided by the Mobility Authority
B	Services to Be Provided by the Engineer
C	Work Schedule
D	Fee Schedule/Budget
E	DBE Participation Forms (E-1 through E-7)
F	Disadvantaged Business Enterprise (DBE) for Federal Funded Professional or Technical Services Contracts – See Exhibit E Instructions
G	Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts – See Exhibit E Instructions

EXHIBIT A

SERVICES TO BE PROVIDED BY THE MOBILITY AUTHORITY

EXHIBIT B

SERVICES TO BE PROVIDED BY THE ENGINEER

EXHIBIT C

WORK SCHEDULE

EXHIBIT D

FEE SCHEDULE/BUDGET

EXHIBIT E

INSTRUCTIONS
DBE PARTICIPATION

The following pages contain seven (7) different forms (Forms E-1 through E-7) covering participation of DBE providers and subproviders. The correct form to use is determined by whether or not a DBE goal has been set for the contract. The following pages contain separate reporting forms for federally funded DBE participation. **Select the forms that are appropriate for your contract and <u>delete the rest</u> along with these instructions from the Work Authorization.**

Federally Funded Contracts
Exhibit F, Disadvantaged Business Enterprise (DBE) for Federal-Aid Professional or Technical Services Contracts ♦ This provision is applicable to federally funded contracts with assigned DBE goals. ♦ The appropriate forms for this provision are Forms E-1, E-2, E-3, E-4, E-5, E-6 and E-7. Examples of each form required is included in the contract. The native forms that will need to be submitted can be downloaded from the Mobility Authority's website. ♦ Note: a completed Form E-2 will be required with each Work Authorization, if a DBE will be performing work. If a non-DBE subprovider is used, insert N/A (not applicable) on the line provided on the Form E-2. ♦ Form E-4 must be submitted monthly to the Mobility Authority even if there is no invoice being submitted or subcontracting to report. ♦ Form E-4 must be submitted with each invoice to the appropriate agency contact for payment.
Exhibit G, Disadvantaged Business Enterprise (DBE) for Race Neutral Professional or Technical Services Contracts ♦ This provision is applicable to federally funded contracts with no DBE goal assigned. ♦ If no subcontractors will be used, the appropriate forms for this provision are E-3 and E-5 forms. Examples of each form required is included in the contract. The native forms that will need to be submitted can be downloaded from the Mobility Authority's website. ♦ Note: If subcontractors are used, the required forms would be Forms E-1, E-2, E-3, E-4, E-5, E-6 and E-7. A copy of each form required is in the contract. ♦ Form E-4 must be submitted monthly to the Mobility Authority even if there is no invoice being submitted or subcontracting to report. ♦ Form E-4 must be submitted with each invoice to the appropriate agency contact for payment.
Form E-4, Texas Department of Transportation/Mobility Authority Subprovider Monitoring System for Federally Funded Contracts. This is a DBE Monthly Progress Report. ♦ Required for all federally funded contracts. ♦ This form is required monthly and must be submitted to the Mobility Authority even if there is no invoice being submitted or subcontracting to report. ♦ This form must be submitted with each invoice to the appropriate agency contact for payment.
Form E-7, Federal Subprovider and Supplier Information Required for all federally funded contracts.

FORM E-1

Central Texas Regional Mobility Authority
Subprovider Monitoring System
Commitment Worksheet

Contract #:_____ Assigned Goal: ____% Federally Funded ____ State Funded ___

Prime Provider:_____ Total Contract Amount: _____

Prime Provider Info: DBE ___ HUB ___ Both ___

Vendor ID #: _____ DBE/HUB Expiration Date: _____

(First 11 Digits Only)

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

Subprovider(s) (List All)	**Type of Work**	**Vendor ID #** (First 11 Digits Only)	**D=DBE H=HUB** **Expiration Date**	**$ Amount or % of Work ***
		Subprovider(s) Contract or % of Work* Totals		

*For Work Authorization Contracts, indicate the % of work to be performed by each subprovider.

Total DBE **or** HUB Commitment Dollars $_____

Total DBE **or** HUB Commitment Percentages of Contract _____%
(Commitment Dollars and Percentages are for Subproviders only)

FORM E-2

Disadvantaged Business Enterprise (DBE) Program Commitment Agreement Form

This commitment is subject to the award and receipt of a signed contract from the Texas Department of Transportation for the subject project.

Project #:	**County:**	**Contract-CSJ:**

Items of work to be performed (attach a list of work items if more room is required):

Bid Item #	Item Description	Unit of Measure	Unit Price	Quantity	Total Per Item
				Total	

Add Ro

The contractor certifies by signature on this agreement that subcontracts will be executed between the prime contractor and the DBE subcontractors as listed on the agreement form. If a DBE Subcontractor is unable to perform the work as listed on this agreement form, the prime contractor will follow the substitution/replacement approval process as outlined in the Contract DBE Special Provision.

IMPORTANT: The signatures of the prime contractor and the DBE, and the total commitment amount must always be on the same page.

Prime Contractor:		Name/Title (please print):
Address:		Signature:
Phone:	Fax:	
E-mail:		Date:
DBE:		Name/Title (please print):
Vendor No.:		
Address:		Signature:
Phone:	Fax:	
E-mail:		Date:
Subcontractor (if the DBE will be a second tier sub):		Name/Title (please print):
Address:		Signature:
Phone:	Fax:	
E-mail:		Date:

The Texas Department of Transportation maintains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that we collect about you. Under §§552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under §559.004 of the Government Code, you are also entitled to have us correct information about you that is incorrect.

To ensure prompt and efficient handling of your project file we are requesting that all commitments to be presented to the Office of Civil Rights, using this basic format.

FORM E-3

Texas Department of Transportation

DBE Prime Contractor To Non-DBE Subcontractors

Form SMS.4902
(Rev. 05/08)
Page 1 of 1

Project: _____ Contract CSJ: _____

County: _____ District: _____

Letting Date: _____ For Month of (Mo./Yr.): _____

Contractor: _____ Contract Amount: _____

Name of Non-DBE Subcontractor	$ Amount Paid This Period	Total $ Amount Paid to Date

Send this report to the District DBE Coordinator. Report is due within 15 days following the end of each calendar month.

Signature: _____ Date:
_____ Company Official

The Texas Department of Transportation maintains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that is collected about you. Under §§552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under §559.004 of the Government Code, you are also entitled to have us correct information about you that is incorrect.

FORM E-4

TxDOT Department of Transportation
DBE Monthly Progress Report

Form SMS. 4903
(Rev. 05/08)

Project: _____ Contract CSJ: _____

County: _____ District: _____

Letting Date: _____ For Month of (Mo./Yr.): _____

Contractor: _____ Contract Amount: _____

DBE Goal: _____% DBE Goal Dollars: _____

Vendor Number	Name of DBE Sub/Supplier	* RC or RN	** DBE $ Amt Paid for Work Performed this Period (X)	*** $ Amt Paid to Non-DBE 2nd Tier Subs and Haulers (Y)	Amt Paid to DBEs to Date (X-Y)	For TxDOT use Only

* Race Conscious or Race Neutral.
**Goal/commitment progress report amount and/or race-neutral amount. Do not subtract non-DBE second-tier subcontracts and haulers from this column.
*** Report amount of payment DBE subcontractors paid to non-DBE subcontractors/haulers.

If using a non-DBE hauling firm that leases from DBE truck owner-operators, payments made to each owner-operator must be reported separately.

Any changes to the DBE commitments approved by the department must be reported to the area engineer.*

Submissions of this report for periods of negative DBE activity is required. This report is required until all DBE subcontracting or material supply activity is completed.
I hereby certify that the above is a true and correct statement of the amounts paid to the DBE firms listed above.

Signature: _____ Date: _____

This report must be sent to the are engineer's office within 15 days following the end of the calendar month.

The Texas Department of Transportation maintains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that is collected about you. Under §§552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under §559.004 of the Government Code, you are also entitled to have us correct information about you that is incorrect.

FORM E-5

Central Texas Regional Mobility Authority Subprovider Monitoring System for Federally Funded Contracts
Progress Assessment Report for month of (Mo./Yr.) _____/_____

Contract #: _____ Original Contract Amount: _____

Date of Execution: _____ Approved Supplemental Agreements: _____

Prime Provider: _____ Total Contract Amount: _____

Work Authorization No. _____ Work Authorization Amount: _____

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

DBE	All Subproviders	Category of Work	Total Subprovider Amount	% Total Contract Amount	Amount Paid This Period	Amount Paid To Date	Subcontract Balance Remaining

Fill out Progress Assessment Report with each estimate/invoice submitted, *for all subcontracts*, and forward as follows:
1 Copy with Invoice - Contract Manager/Managing Office
1 Copy – CTRMA DBE Liaison, c/o HNTB or Atkins, _____, Austin, Texas

I hereby certify that the above is a true and correct statement of the amounts paid to the firms listed above.

Print Name - Company Official /DBE Liaison Officer	Signature	Phone	Date
Email		Fax	

FORM E-6

DBE Final Report

Form SMS. 4903
(Rev. 09/10)

The DBE final report form should be filled out by the contractor and submitted to the appropriate district office upon completion of the project. One copy of the report must be submitted to the area engineer's office. The report should reflect all DBE activity on the project. The report will aid in expediting the final estimate for payment. If the DBE goal requirements were not met, documentation supporting good faith efforts must be submitted.

Project: _____ Contract CSJ: _____

County: _____ Control Project: _____

Letting Date: _____ DBE Goal: _____

Contractor: _____ Contract Amount: _____

Vendor Number	Name of DBE Sub/Supplier	* RC or RN	** DBE $ Amt Paid for Work Performed this Period (X)	*** $ Amt Paid to Non-DBE 2nd Tier Subs and Haulers (Y)	Amt Paid to DBEs to Date (X-Y)	For TxDOT use Only

* Race Conscious or Race Neutral.
**Goal/commitment progress report amount and/or race-neutral amount. Do not subtract non-DBE second-tier subcontracts and haulers from this column.
*** Report amount of payment DBE subcontractors paid to non-DBE subcontractors/haulers.

Was there a project under-run caused by a TxDOT change order that impacted DBE Goal attainment?
_____ Yes _____ No Change Order Number _____

This is to certify that _____ % of the work was completed by Disadvantaged Business Enterprises as stated above.

By _____ Per: _____
Name of General Contractor Contractor's Signature

Subscribed and sworn to before me, this _____ day of _____, A.D. _____

_____ _____
Notary Public **County**

FORM E-7

Federal Subprovider and Supplier Information

The Provider shall indicate below the name, address and phone number of all successful and unsuccessful subproviders and/or suppliers that provided proposals/quotes for this contract prior to execution. You may reproduce this form if additional space is needed.

Name	Address	Phone Number

The information must be provided and returned with the contract.

_____ _____

Signature Date

_____ _____ _____

Printed Name Email Phone#

EXHIBIT F

Disadvantaged Business Enterprise (DBE)
for Federal-Aid Professional or Technical Services Contracts
Special Provision

1) **PURPOSE.** The purpose of this attachment is to carry out the U.S. Department of Transportation's ("DOT") policy of ensuring nondiscrimination in the award and administration of DOT assisted contracts and creating a level playing field on which firms owned and controlled by minority or socially and economically disadvantaged individuals can compete fairly for DOT assisted contracts.

2) **POLICY.** It is the policy of the DOT, the Central Texas Regional Mobility Authority (the "Mobility Authority") and the Texas Department of Transportation (the "Department") that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program ("DBE Program"), shall have the opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. The Mobility Authority and the Department previously entered into a Memorandum of Understanding Regarding the Adoption of the Texas Department of Transportation's Federally-Approved Disadvantaged Business Opportunity Program by the Central Texas Regional Mobility Authority (the "MOU") dated effective February 1, 2007. The MOU provides that the Mobility Authority has adopted the Department's DBE Program with the consent of the Federal Highway Administration for contracts financed in whole or in part with Federal funds. Consequently, the Disadvantaged Business Enterprise requirements of 49 CFR Part 26, and the Department's DBE Program, apply to this contract as follows:

a. The Provider will offer Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, Subpart A and the Department's DBE Program, the opportunity to compete fairly for contracts and subcontracts financed in whole or in part with Federal funds. In this regard, the Provider shall make a good faith effort to meet the Disadvantaged Business Enterprise goal for this contract.

b. The Provider and any subprovider(s) shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Provider shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. The requirements of this Special Provision shall be physically included in any subcontract.

c. When submitting the contract for execution by the Mobility Authority, the Provider must complete and furnish Form E-1 which lists the commitments made to certified DBE subprovider(s) that are to meet the contract goal and Form E-2 which is a commitment agreement(s) containing the original signatures of the Provider and the proposed DBE(s). For Work Authorization Contracts, Form E-1 is required at the time of submitting the contract for execution by the Mobility Authority. Form E-2 will be required to be completed and attached with each work authorization number that is submitted for execution, if the DBE will be performing work**.** Any substitutions or changes to the DBE subcontract amount shall be subject to prior written approval by the Mobility Authority. If non-DBE subprovider is performing work, insert N/A (not applicable) on the line provided.

d. Failure to carry out the requirements set forth above shall constitute a material breach of this contract and may result; in termination of the contract by the Mobility Authority; in a deduction of the amount of DBE goal not accomplished by DBEs from the money due or to become due to the Provider, not as a penalty but

as liquidated damages to the Mobility Authority; or such other remedy or remedies as the Mobility Authority deems appropriate.

3) **DEFINITIONS.**

a. "Mobility Authority" means the Central Texas Regional Mobility Authority.

b. "Department" means the Texas Department of Transportation (TxDOT).

c. "Federal-Aid Contract" is any contract between the Mobility Authority and a Provider which is paid for in whole or in part with U. S. Department of Transportation ("DOT") financial assistance.

d. "Provider" is any individual or company that provides professional or technical services.

e. "DBE Joint Venture" means an association of a DBE firm and one (1) or more other firm(s) to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks and profits of the joint venture are commensurate with its ownership interest.

f. "Disadvantaged Business Enterprise" or "DBE" means a firm certified as such by the Department in accordance with 49 CFR Part 26 and listed on the Department's website under the Texas Unified Certification Program.

g. "Good Faith Effort" means efforts to achieve a DBE goal or other requirement of this Special Provision which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

h. "Race-neutral DBE Participation" means any participation by a DBE through customary competitive procurement procedures.

i. "DBE Liaison" shall have the meaning set forth in Section 5.e. herein.

4) **PERCENTAGE GOAL.** The goal for Disadvantaged Business Enterprise participation in the work to be performed under this contract is _____% of the contract amount. This goal is established in accordance with the provisions of the MOU.

5) **PROVIDER'S RESPONSIBILITIES.** A DBE prime may receive credit toward the DBE goal for work performed by his-her own forces and work subcontracted to DBEs. A DBE prime must make a good faith effort to meet the goals. In the event a DBE prime subcontracts to a non-DBE, that information must be reported to the Mobility Authority on Form E-3.

a. A Provider who cannot meet the contract goal, in whole or in part, shall document the "Good Faith Efforts" taken to obtain DBE participation. The following is a list of the types of actions that may be considered as good faith efforts. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

(1) Soliciting through all reasonable and available means the interest of all certified DBEs who have the capability to perform the work of the contract. The solicitation must be done within sufficient time to allow the DBEs to respond to it. Appropriate steps must be taken to follow up initial solicitations to determine, with certainty, if the DBEs are interested.

(2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Provider might otherwise prefer to perform the work items with its own forces.

(3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) Negotiating in good faith with interested DBEs by making a portion of the work available to DBE subproviders and suppliers and selecting those portions of the work or material needs consistent with the available DBE subproviders and suppliers.

(5) The ability or desire of the Provider to perform the work of a contract with its own organization does not relieve the Provider's responsibility to make a good faith effort. Additional costs involved in finding and using DBEs is not in itself sufficient reason for a Provider's failure to meet the contract DBE goal, as long as such costs are reasonable. Providers are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(6) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities.

(7) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Provider.

(8) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.

(9) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

(10) If the Department's Director of the Business Opportunity Programs Office or the Mobility Authority's DBE Liaison determines that the Provider has failed to meet the good faith effort requirements, the Provider will be given an opportunity for reconsideration by the Department or the Mobility Authority, as appropriate.

NOTE: The Provider must not cause or allow subproviders to bid their services.

b. The preceding information shall be submitted directly to the Chair of the Consultant Selection Team responsible for the project.

c. The Provider shall make all reasonable efforts to honor commitments to DBE subproviders named in the commitment submitted under Section 2.c. of this attachment. Where the Provider terminates or removes a DBE subprovider named in the initial commitment, the Provider must demonstrate on a case-by-case basis to the satisfaction of the Mobility Authority that the originally designated DBE was not able or willing to perform.

d. The Provider shall make a good faith effort to replace a DBE subprovider that is unable or unwilling to perform successfully with another DBE, to the extent needed to meet the contract goal. The Provider shall submit a completed Form E-2 for the substitute firm(s). Any substitution of DBEs shall be subject to prior written approval by the Mobility Authority. The Mobility Authority may request a statement from the firm being replaced concerning its replacement prior to approving the substitution.

e. The Provider shall designate a DBE liaison officer ("DBE Liaison") who will administer the DBE program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with DBEs.

f. Providers are encouraged to investigate the services offered by banks owned and controlled by disadvantaged individuals and to make use of these banks where feasible.

6) **ELIGIBILITY OF DBEs.**

a. The Department certifies the eligibility of DBEs, DBE joint ventures and DBE truck-owner operators to perform DBE subcontract work on DOT financially assisted contracts. Under the terms of the MOU, only DBEs certified as eligible to participate on Department roadway construction projects and listed on the Department's website under the Texas Unified Certification Program are eligible to participate on Mobility Authority roadway construction projects.

b. This certification will be accomplished through the use of the appropriate certification schedule contained in the Department's DBE program and adopted by the Mobility Authority under the terms of the MOU.

c. The Department publishes a Directory of Disadvantaged Business Enterprises containing the names of firms that have been certified to be eligible to participate as DBEs on DOT financially assisted contracts. The directory is available from the Department's Business Opportunity Programs Office. The Texas Unified Certification Program DBE Directory can be found on the Internet at: http://www.dot.state.tx.us/services/business_opportunity_programs/tucp_dbe_directory.htm .

d. Only DBE firms certified at the time the contract is signed or at the time the commitments are submitted are eligible to be used in the information furnished by the Provider as required under Section 2.c. and 5.d. above. For purposes of the DBE goal on this contract, DBEs will only be allowed to perform work in the categories of work for which they were certified.

7) **DETERMINATION OF DBE PARTICIPATION.** A firm must be an eligible DBE and perform a professional or technical function relating to the project. Once a firm is determined to be an eligible DBE, the total amount paid to the DBE for work performed with his/her own forces is counted toward the DBE goal. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subprovider is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

A DBE subprovider may subcontract no more than 70% of a federal aid contract. The DBE subprovider shall perform not less than 30% of the value of the contract work with assistance of employees employed and paid directly by the DBE; and equipment owned or rented directly by the DBE. DBE subproviders must perform a commercially useful function required in the contract in order for payments to be credited toward meeting the contract goal. A DBE performs a commercially useful function when it is responsible for executing the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself . When a DBE is presumed not to be performing a commercially useful function, the DBE may present evidence to rebut this presumption.

A Provider may count toward its DBE goal a portion of the total value of the contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the contract performed by the DBE.

Proof of payment, such as copies of canceled checks, properly identifying the Mobility Authority's contract number or project number may be required to substantiate the payment, as deemed necessary by the Mobility Authority.

8) **RECORDS AND REPORTS.**

a. After submission of the initial commitment reported (Form E-1), required by Section 2.c. of this attachment, the Provider shall submit Monthly Progress Assessment Reports (Forms E-4 and E-5), after contract work begins, on DBE involvement to meet the goal and for race-neutral participation. One copy of each report is to be sent monthly to the Mobility Authority as provided in Section 8.b. below and should also be submitted with the Provider's invoice. **Only actual payments made to subproviders are to be reported. These reports will be required until all subprovider activity is completed.** The Mobility Authority may verify the amounts being reported as paid to DBEs by requesting copies of canceled checks paid to DBEs on a random basis.

b. DBE subproviders should be identified on the report by name, type of work being performed, the amount of actual payment made to each during the billing period, cumulative payment amount and percentage of the total contract amount. These reports will be due within fifteen (15) days after the end of a calendar month. Reports are required even when no DBE activity has occurred in a billing period.

c. All such records must be retained for a period of four (4) years following final payment or until any investigation, audit, examination, or other review undertaken during the four (4) years is completed, and shall be available at reasonable times and places for inspection by authorized representatives of the Mobility Authority, the Department or the DOT.

d. Prior to receiving final payment, the Provider shall submit a Final Report (Form E-6), detailing the DBE payments. The Final Report is to be sent to the Mobility Authority and one (1) copy is to be submitted with the Provider's final invoice. If the DBE goal requirement is not met, documentation of the good faith efforts made to meet the goal must be submitted with the Final Report.

9) **COMPLIANCE OF PROVIDER.** To ensure that DBE requirements of this DOT-assisted contract are complied with, the Mobility Authority and/or the Department will monitor the Provider's efforts to involve DBEs during the performance of this contract. This will be accomplished by a review of DBE Monthly Progress Reports (Form E-4), submitted to the Mobility Authority by the Provider indicating his progress in

achieving the DBE contract goal, and by compliance reviews conducted by the Mobility Authority or the Department. The DBE Monthly Progress Report (Form E-4) must be submitted at a minimum monthly to the Mobility Authority, in addition to with each invoice to the appropriate agency contact.

The Provider shall receive credit toward the DBE goal based on actual payments to the DBE subproviders with the following exceptions and only if the arrangement is consistent with standard industry practice. The Provider shall immediately contact the Mobility Authority in writing if he/she withholds or reduces payment to any DBE subprovider.

(1) A DBE firm is paid but does not assume contractual responsibility for performing the service;

(2) A DBE firm does not perform a commercially useful function;

(3) Payment is made to a DBE that cannot be linked by an invoice or canceled check to the contract under which credit is claimed;

(4) Payment is made to a broker or a firm with a brokering-type operation; or

(5) Partial credit is allowed, in the amount of the fee or commission provided the fee or commission does not exceed that customarily allowed for similar services, for a bona fide service, such as professional, technical, consultant, or managerial services, and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for performance of the contract.

A Provider's failure to comply with the requirements of this Special Provision shall constitute a material breach of this contract. In such a case, the Mobility Authority reserves the right to terminate the contract; to deduct the amount of DBE goal not accomplished by DBEs from the money due or to become due the Provider, not as a penalty but as liquidated damages to the Mobility Authority; or such other remedy or remedies as the Mobility Authority deems appropriate.

EXHIBIT G

Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts Special Provision

It is the policy of the DOT, the Central Texas Regional Mobility Authority (the "Mobility Authority") and the Texas Department of Transportation (the "Department") that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program ("DBE Program"), shall have the opportunity to participate in the performance of contracts financed in whole or in part with Federal funds and it is the DOT's policy that a maximum feasible portion of the Department's and the Mobility Authority's overall DBE goal be met using race-neutral means. The Mobility Authority and the Department previously entered into a Memorandum of Understanding Regarding the Adoption of the Texas Department of Transportation's Federally-Approved Disadvantaged Business Opportunity Program by the Central Texas Regional Mobility Authority (the "MOU") dated effective February 1, 2007. The MOU provides that the CTRMA has adopted the Department's DBE Program with the consent of the Federal Highway Administration for contracts financed in whole or in part with Federal funds. Consequently, if there is no DBE goal, the DBE requirements of 49 CFR Part 26, apply to this contract as follows:

The Provider will offer DBEs as defined in 49 CFR Part 26, Subpart A, the opportunity to compete fairly for contracts and subcontracts financed in whole or in part with federal funds. Race-Neutral DBE participation on projects with no DBE goal should be reported on the Form E-3. Payments to DBEs reported on Form E-3 are subject to the following requirements:

DETERMINATION OF DBE PARTICIPATION.

A firm must be an eligible DBE and perform a professional or technical function relating to the project. Once a firm is determined to be an eligible DBE, the total amount paid to the DBE for work performed with his/her own forces must be reported as race-neutral DBE participation. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work should not be reported unless the subcontractor is itself a DBE.

A DBE subprovider may subcontract no more than 70% of a federal aid contract. The DBE subprovider shall perform not less than 30% of the value of the contract work with assistance of employees employed and paid directly by the DBE; and equipment owned or rented directly by the DBE. DBE subproviders must perform a commercially useful function required in the contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. When a DBE is presumed not to be performing a commercially useful function, the DBE may present evidence to rebut this presumption.

A Provider must report a portion of the total value of the contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the contract performed by the DBE.

Proof of payment, such as copies of canceled checks, properly identifying the Mobility Authority's contract number or project number may be required to substantiate the payment, as deemed necessary by the Mobility Authority.

The Provider and any subprovider shall not discriminate on the basis of race, color, national origin or sex in the award and performance of contracts. These requirements shall be physically included in any subcontract.

Failure to carry out the requirements set forth above shall constitute a material breach of this contract and, may result in termination of the contract by the Mobility Authority or other such remedy as the Mobility Authority deems appropriate.

ATTACHMENT C

SUPPLEMENTAL WORK AUTHORIZATION NO. ____
TO WORK AUTHORIZATION NO. ____
CONTRACT FOR ENGINEERING SERVICES

THIS SUPPLEMENTAL WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 4 of the Contract for Engineering Services (the Contract) entered into by and between the Central Texas Regional Mobility Authority (the Mobility Authority) and _____ (the Engineer) dated _____.

The following terms and conditions of Work Authorization No. ____ are hereby amended as follows:

This Supplemental Work Authorization shall become effective on the date of final execution of the parties hereto. All other terms and conditions of Work Authorization No. ____ not hereby amended are to remain in full force and effect.

IN WITNESS WHEREOF, this Supplemental Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER	**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**
_____	_____
(Signature)	(Signature)
_____	_____
(Printed Name)	Mike Heiligenstein
_____	_____
(Title)	Executive Director
_____	_____
(Date)	(Date)

ATTACHMENT B

WORK AUTHORIZATION
WORK AUTHORIZATION NO. 1
CONTRACT FOR ENGINEERING SERVICES

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 4 of the Contract for Engineering Services (the Contract) entered into by and between the Central Texas Regional Mobility Authority (the Mobility Authority) and Rodriguez Transportation Group (the Engineer) dated October 29, 2014.

PART I. The Engineer will perform engineering services generally described as transportation engineering and design services for SH 45 SW in accordance with the project description attached hereto as Exhibit B and made a part of this Work Authorization. The responsibilities of the Mobility Authority and the Engineer as well as the work schedule are further detailed in Exhibits A, B, and C which are attached hereto and made a part of the Work Authorization.

PART II. The maximum amount payable under this Work Authorization is $6,963,708 and the method of payment is Cost Plus. This amount is based upon the Engineer's estimated Work Authorization costs included in Exhibit D, Fee Schedule/Budget, which is attached and made a part of this Work Authorization. DBE participation shall be tracked and documented as detailed in Exhibits E, F, and G.

PART III. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the appropriate sections of the Contract.

PART IV. This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate upon completion of the work, unless extended by a supplemental Work Authorization as provided in Article 4 of the Contract.

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

IN WITNESS WHEREOF, this Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER	**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**
_____	_____
(Signature)	(Signature)
_____	Mike Heiligenstein
(Printed Name)	
_____	Executive Director
(Title)	
_____	_____
(Date)	(Date)

LIST OF EXHIBITS

Exhibits	Title
A	Services to Be Provided by the Mobility Authority
B	Services to Be Provided by the Engineer
C	Work Schedule
D	Fee Schedule/Budget
E	DBE Participation Forms
F	Disadvantaged Business Enterprise (DBE) for Federal Funded Professional or Technical Services Contracts
G	Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts

EXHIBIT A

SERVICES TO BE PROVIDED BY THE MOBILITY AUTHORITY

The Authority shall perform and provide the following in a timely manner so as not to delay the Services to be provided by the Engineer:

1. Authorize the Engineer in writing to proceed.
2. Render reviews, decisions and approvals as promptly as necessary to allow for the expeditious performance of the Services to be provided by the Engineer.
3. Provide timely review and decisions in response to the Engineer's request for information and/or required submittals and deliverables, in order for the Engineer to maintain the agreed-upon work schedule.
4. Maintain the Project's Website.
5. Provide the Engineer with relevant data available to the Mobility Authority related to people, agencies and organizations interested in the proposed project.
6. Lead Context Sensitive Design Efforts
7. Provide signed and sealed landscaping plans, specifications, and estimates for inclusion into the Project plans.

EXHIBIT B

SERVICES TO BE PROVIDED BY THE ENGINEER

The Design Consultant Engineer, herein referred to as the "Engineer", shall be responsible for the work described in this Scope of Services for the SH 45 SW Project from the vicinity of FM 1626 to west of South Loop 1 (approximate length = 4 miles) herein referred to as the "Project". The Engineer will coordinate with Mobility Authority Staff and their General Engineering Consultant, herein referred to as the "Mobility Authority".

The major elements of work include the following:
Notice to Proceed 1 (NTP 1) - The work to be performed under this NTP will include initial data collection and preliminary design for the Project. Major tasks include: Environmental (evaluate compliance and planning documents, provide summary of environmental permits, issues and commitments, ongoing stakeholder coordination), Data Collection (geotechnical survey, pavement design report, design survey, SUE and other surveys), Drainage (hydrologic studies, preliminary hydraulic analysis/design, water quality evaluation), public involvement and stakeholder coordination (Context Sensitive Design support, presentation support, reporting support) and preliminary design including: geometric alignments, bridge type/size/location studies, preliminary structural design for bridges and retaining walls, cross section development, intersection design/configuration, preliminary traffic control plans, bicyclist/pedestrian accommodations, assessment of landscape and aesthetic issues, identify potential utility conflicts, establish preliminary illumination locations, cost estimates.

Notice to Proceed 2 (NTP 2) - The work to be performed under this NTP will include continuation of public involvement and stakeholder coordination, finalization of reports and studies, and final design and the preparation of the PS&E documents for the Project. Major design tasks include: Environmental (State IES Re-evaluation (if needed), preparation of environmental compliance management plan (ECMP), WPAP, ongoing karst and water quality coordination), Roadway (geometry, SUP, retaining walls, earthwork, plan production), Drainage (H&H studies, culvert and storm drain, water quality design and coordination), Structures (bridges, spread footing walls, SUP, water quality ponds, miscellaneous drainage structures, toll gantries, foundations), Traffic (pavement markings, small and large signs, overhead sign structures, signalization, illumination, toll facility infrastructure, ITS system duct banks) and Miscellaneous (traffic control plans, guardrail, landscape planting and hardscape) and any other incidental items necessary for the proposed project.

The Engineer shall coordinate with the Mobility Authority prior to a particular task being started.

The design progression shall be as follows:

Data Collection/Preliminary Design (NTP 1) – Conduct surveys, gather available data and distribute to the project team. Perform studies that will assist with preliminary design as identified above.

Preliminary Design (NTP 1) – Review and refine horizontal/vertical geometry, proposed typical sections, preliminary bridge and retaining wall layouts, cross sections, intersection configuration, traffic control phasing narrative, SUP alignments, landscape locations, and utility assessment for the design segment. The Engineer shall prepare a draft drainage impact study, geotechnical reports, pavement design report, and a preliminary construction cost estimate.

60% Design (NTP 2) - Prepare 60% plans for the roadway, striping, large guide signs, proposed structures, illumination, signals, toll facilities infrastructure, ITS, Shared-Use Path, water quality and drainage design.

Pre-Final Submittal (NTP 2) - Prepare 100% plans, specifications, and quantity estimate for the Project and all supporting documents.

Final Submittal (NTP 2) – The final submittal shall be signed and sealed by a Professional Engineer registered in the State of Texas and provided in hard copy, electronic, and *.pdf formats with all comments resolved.

1.01 NTP 1 - Environmental Document Review/Coordination

Major elements of work include the following: The Engineer will provide a summary of all environmental permits, issues and commitments included in current planning documents (State EIS and related coordination, Green Mobility Challenge, etc…) in order to ensure that all commitments are carried forward into construction and operation of the Project. Engineer will coordinate with TxDOT and the Mobility Authority to assess the required actions that may be associated with design modifications (if any) that result from preliminary design and final design phases. The Engineer will coordinate with other agencies regarding environmental protection measures to be incorporated into the project design only when directed by the Mobility Authority.

A. The design progression shall be as follows: compile commitments from State EIS and other documents for inclusion in project design; provide tracking table to ensure that commitments are included in detailed design documents; review construction plans from other local projects in environmentally sensitive areas in order to ensure that state-of-the-art controls are included in the final design.

B. A procedure for compiling and managing the Administrative Record will be completed and maintained throughout all phases of the Project. Respond to requests from the Mobility Authority and TxDOT related to providing records including open records

requests. Any additional required litigation support would be carried out under an additional scope and budget.

1.02 NTP 1 – Public Involvement and Stakeholder Coordination

A. The Engineer will provide support for various meetings, coordination, and communication with the public and other agencies as requested by the Mobility Authority. Support will include providing information for website and information sheet development. When requested by the Mobility Authority, the Engineer will coordinate with the various interested agencies involved. These agencies include, but are not necessarily limited to TxDOT, Barton Springs/Edwards Aquifer Conservation District (BSEACD), City of Austin, Hays & Travis County, City of Hays, Violet Crown Trail, Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service and the TCEQ.

1.03 NTP 1 - Data Collection

A. The Engineer shall collect, review and evaluate data described below. :

1. Available "as-built plans", existing schematics, right-of-way maps, SUE mapping, existing cross sections, existing planimetric mapping, etc.
2. Gather available floodplain information and studies, the Federal Emergency Management Agency, the Corps of Engineers, local municipalities and other governmental agencies as necessary to complete the design.
3. Information prepared by others such as; draft and final Environmental Documents (State EIS), driveway permits, utility permits, draft toll systems facility infrastructure guidelines, etc.

The Engineer is responsible for any adjustments to electronic files received by others, as described above, in order to ensure that the position of all files are on the exact same georeferenced coordinate system as the Project's Control.

B. The Engineer will perform sufficient field investigations to gather information for the development of the construction plans.

1.04 NTP 1 - Geotechnical Investigation

A. General Requirements

For all investigations, the Engineer shall:

1. Perform all geotechnical investigations and testing according to TxDOT's Geotechnical Manual and TxDOT's Pavement Design Manual (latest editions) and TxDOT's Test Methods, or ASTM Standards if no corresponding TxDOT Methods exist.

2. The Engineer shall obtain right of entry, right to clear trees and other related environmental permits that may be needed for geotechnical investigations.
3. The Engineer shall be responsible for arranging for utility locations prior to boring.
4. Provide a traffic control plan in accordance with TxDOT Standards for all work to be performed adjacent to traffic.
5. Perform limited Ground Penetration Radar (GPR) and/or Electrical Resistivity Tomography (ERT) or Seismic Refraction Tomography (SRT) at selected structure locations to identify suspect voids or karst features and recommend locations for confirmation borings or further testing.
6. Record GPS coordinates of each bore hole using hand-held GPS unit utilizing project survey control. Bore holes will be marked for surveying of ground elevations and coordinates in order to locate in the plans.
7. Backfill borings, less than 20 feet with cuttings from the boring or gravel. Patch pavements with cold mix asphalt or concrete (match existing paving surface of affected road or drive. All borings with depths greater than or equal to 20 feet must be plugged with a non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings must be backfilled or plugged within four (4) days of completion of the drilling operations. Voids may be filled with gravel.
8. Supplement existing boring logs performed by others with new borings for the pavement design and the design of bridge structures, retaining walls, sign structures and toll gantries. All proposed boring locations shall be identified by the Engineer, reviewed and approved by the designated karst specialist and the Mobility Authority prior to performing geotechnical investigations.
9. If requested by the Mobility Authority the Engineer shall provide specialty equipment or added protections during boring operations. There shall be a separate written notice to proceed and separate reporting in the invoice for this task.

B. Pavement Design

The Engineer will:

1. Review the Pavement Design Report and existing boring logs performed by others and make recommendations for adjustments if deemed beneficial or warranted.
2. Perform coring of existing pavement along North and South Loop 1, West and East SH 45 and at Bliss Spillar Road as necessary to identify the existing pavement structure.
3. Supplement existing borings performed by others as necessary to complete the pavement design. Proposed boring locations shall be identified by the Engineer in accordance with the latest edition of the TxDOT's Pavement Design Manual.

4. Laboratory - Sample the subgrade soils for classification testing purposes, including a minimum of two (2) Atterberg Limits, two (2) moisture content, two (2) percent (%) passing the number 4, 40 and 200 sieve, one (1) organic content and one (1) sulfate content tests per boring. Additionally, three (3) lime series (pH and PI) curves shall be performed on bulk subgrade samples along the alignment as well as two (2) TxDOT Triaxial Tests (Tex-117E, Part 2, Accelerated Method).
5. The pavement design shall include a sections for temporary detour pavement used during construction and options for a rigid and flexible pavement section. Both options will include a Permeable/Porous Friction Course (PFC) pavement wearing surface.

C. Bridges

The Engineer will:

1. Existing and proposed boring logs shall be reviewed to determine if alternative foundation design concepts, such as micropiles, are feasible for further study.
2. Supplement existing boring and boring logs performed by others as necessary to complete the bridge design. Bridge borings shall be drilled to a minimum depth of 50’ below top of existing ground.
3. Analyze subsurface conditions and Cone Penetration Test (TCP) test results for each bridge location.
4. Develop recommendations for suitable foundation type, allowable bearing and skin friction resistance in bedrock, and minimum required penetration depths for each bridge location. Provide final tip elevations recommendations as they relate to possible vertical design loads.
5. Perform laboratory testing to include: USCS Soil Classification, Atterberg limits, particle size analysis (D50 and D95), moisture content and unconfined compression tests.
6. At bridge locations, for each bent and abutment provide soil parameters and other necessary data so that the structural engineer can determine point-of-fixity. Also included necessary data for lateral analysis of drilled shafts.
7. Identify potential drilled shaft construction problems related to groundwater, caving soils, very hard rock layers or karst features.

D. Retaining Walls

The Engineer will:

1. Supplement existing boring and boring logs performed by others as necessary to complete the retaining wall design. Retaining wall borings shall be drilled to a depth of 20’ below the bottom of proposed walls.

2. Perform laboratory testing to characterize the uniformity and strength for the soils that will be supporting MSE walls and soil and rock conditions for design of drilled shaft walls. Laboratory testing will include: USCS Soil Classification, Atterberg limits, particle size analysis, moisture content, consolidated drained direct shear test and unconfined compression tests.
3. Analyze the bearing, overturning, eccentricity and sliding resistance of the foundation soils at each wall location.
4. Analyze the stability of each wall for rotational stability with respect to deep-seated shearing movements by performing slope stability analyses.
5. Analyze settlement of retaining walls.
6. Analyze global stability of retaining walls
7. Compare anticipated wall applied bearing pressures with the allowable bearing resistance to determine whether or not the foundation soils need to be strengthened to support the walls.
8. For spead footing walls, recommend the design soil lateral earth pressure and provide bearing capacity, sliding and slope stability analyses and evaluate the settlement of the wall.

E. Pavement Design Report

The Engineer will prepare a draft pavement design report that will present recommendations for the proposed pavement designs and include all supporting documentation.

F. Geotechnical Report

The Engineer will prepare a draft geotechnical report that will present recommendations for the design of the bridge foundations, retaining wall foundations, sign structures, and toll gantry foundations including:

1. Site vicinity and geology map.
2. Generalized subsurface conditions, as well as groundwater conditions encountered during drilling operations.
3. Engineering and construction considerations, structural fill requirements and earthwork recommendations.
4. Wincore Version 3.1 logs in English units, laboratory test results, and plan of borings with station and offset and top of hole elevations.
5. Recommended foundation type, minimum embedment, allowable end bearing and skin friction resistance in bedrock.

6. Soil parameters and other data provided to structural engineers for use in determining point-of-fixity of bridge foundations for bridge column design and lateral analysis of drilled shafts.
7. Recommended bearing and sliding resistance for design of MSE walls. Where the allowable bearing resistance is likely to be exceeded by the walls bearing pressure, recommendations for increasing wall anchor lengths or improving the foundation soils will be presented to provide adequate bearing capacity.
8. Rotational stability analyses and settlement analyses results for each retaining wall location. At wall locations where stability and/or settlement may be of concern the Engineer shall develop conceptual approaches to improve the rotational stability and/or settlement. Upon review by the Mobility Authority the Engineer will further develop the selected concept.
9. Identification of potential foundation construction problems with recommendations to mitigate or avoid the problems.
10. Existing boring logs performed by others will be presented in the appendix to supplement the new borings for bridge structures, retaining walls and sign and toll gantry structures. The intent is to have one report for the limits of this project. The Engineer assumes no liability for the accuracy of borings performed by others.
11. Minimum side slope and slope stability recommendations for storm water detention basins.
12. Calculated D50 and D95 soil size within potential scour locations for scour analysis computations.
13. Recommended bearing and sliding resistance of the spread footing walls. Where the allowable bearing resistance is likely to be exceeded by the wall pressure, improving the foundation soil will be presented to provide adequate bearing capacity..
14. Provide recommendations for backfill material and drainage for retaining walls.
15. Geophysical study results will be included with the draft geotechnical report.

G. Deliverables

The Engineer shall:

1. Submit three (3) draft copies of the pavement design report for review and comment to the Mobility Authority. One draft copy of the pavement design report shall also be kept on file with the Engineer for future reference.
2. Submit three (3) draft copies of the geotechnical report for review and comment to the Mobility Authority. One draft copy of the geotechnical report shall also be kept on file with the Engineer for future reference.

1.05 NTP 1 - Supplemental Surveying

A. The Engineer shall coordinate all survey requirements with the Mobility Authority.

B. For purposes of surveying and field investigations, it is anticipated that all efforts will be within the limits of the apparent right-of-way (ROW). If data is needed outside of the limits of the apparent ROW, the Engineer will obtain written right of entry from respective property owners or their authorized representatives and any tenants. The Engineer will contact affected land owners from which ROE has been obtained prior to commencing any work on private property. The Engineer anticipates that the Mobility Authority will handle problems regarding any and all refusal to grant ROE or communication with land owners who are hostile with respect to the completion of this scope of services. The Engineer will document any interactions with land owners while performing the work. Gaining ROE from all land owners in a timely manner, if applicable, will be critical to the success and efficiency in meeting deadlines for this project. If ROE is required for other tasks – the ROE request should include those other tasks even if performed by a different firm.

C. Project Control

The Engineer shall:

Utilize the TxDOT-Austin District VRS network to establish up to twenty (20) primary horizontal and vertical control points. Primary control points (5/8" iron rods with "SAM Control" plastic caps) will be set for horizontal and vertical control in a location that will likely be undisturbed by construction or State maintenance. This project will be placed on the horizontal and vertical datum [NAD83/93/NAVD88 values (Texas State Plane, Central Zone)] with the surface adjustment factor of 1.00011. Elevations will be derived from GPS observations using Geoid 2012A model. Secondary control points (5/8" iron rods with "SAM Control" plastic caps) will be set and tied to primary control as needed. Digital levels will be run through all survey control points to confirm the established elevations.

The Surveyor shall set up to 70 targets along the existing roadway within the below described design survey limits (D.1.a and D.1.d) to be set as control for the Mobile LiDAR collection. The horizontal and vertical values for these targets will be based on the project control and positioned using a minimum of two (2) RTK vectors from the project control set.

D. Topographic Survey

The Engineer shall provide:

1. Supplemental design survey within the Project limits as follows:

a. At the existing intersection of SH 45 and Loop 1 from Escarpment Blvd. to South Bay Lane within the apparent right-of-way (ROW) lines of SH 45 and Loop 1.

b. At the intersection of the proposed SH 45 alignment and the existing Bliss Spillar Road ROW, within the apparent existing ROW of Bliss Spillar Road from the approximately east and west tie locations of proposed Bliss Spillar Road to existing. Approximately 500 feet of survey will be gathered at the east and west tie locations.

c. At the vicinity of Flint Ridge Cave, location of which to be provided. Limits of design survey will be approximately 250 feet east of the Flint Ridge Cave to approximately 250 feet west of the Flint Ridge Cave within the apparent ROW of SH 45 SW. The purpose of this survey is to identify the catch basin boundary for Flint Ridge Cave.

d. Along FM 1626 from approximately 4000 feet south of the intersection of FM 1626 and SH 45 to approximately 2000 feet north of the intersection of FM 1626 and SH 45 within the apparent existing ROW of FM 1626. This task will be performed after the construction of FM 1626 has been completed.

Locating trees within the above described design survey limits is outside the scope of services.

2. Using Mobile LiDAR, collect survey grade data of the main travel lanes within the above described design survey limits of sections D.1.a and D.1.d only. Calibrate point cloud data to the ground control targets set for the project and to itself to ensure sound relative and absolute accuracy. After calibration, fifty (50) foot cross sections shall be extracted for roadway surface, connecting driveways and side streets to radius return, grade breaks, paint striping, jersey barriers, edge of pavement, edge (shoulder line), and crown (physical centerline) only.

   Utilize conventional survey methods to collect supplemental design survey data within all other areas of the above described design survey limits. In such areas, conventional survey methods will be utilized 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, drop inlets and 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.

3. Collect design survey data for the existing bridge structures within the above described design survey limits. Bridge structure components to be collected will include the four (4) outside corners of the bridge deck, two (2) points along the toe of each bridge rail within each span, bridge abutments caps, backwalls and wingwalls, interior bent caps,

outside low chord elevations, and column locations (noting size, location, and material) only.

4. Recover ROW monumentation along the existing ROW of SH 45 SW from the intersection of SH 45/South Loop 1 and extending southward approximately 3.5 miles to FM 1626. Monumentation along the existing ROW of SH 45 SW found to be destroyed or obliterated will be re-established one time.

5. Stake the location of up to fifty (50) geotechnical soil borings using X, Y and Z coordinates to be provided by the State. The Surveyor will then locate the fifty (50) drilled soil borings as placed and drilled by the geotechnical consultant.

6. Perform an as-built sag survey for up to ten (10) aerial crossings within the above described design survey limits. The Surveyor shall survey the structure location at ground level, conductor and shield wire attachment points, and up to five (5) points on each conductor and shield wire of each span. At each vertical location (sag point), a ground spot elevation will be collected. As each span is collected, the Surveyor will note the time of day, date, ambient temperature, wind speed, general wind direction, and atmospheric conditions.

7. Collect up to fourteen (14) channel cross sections at the following locations –

   a. Four (4) total at the Danz Creek crossing at South Loop 1. The channel cross sections will be collected at right angles to the channel and will be located at the existing ROW lines of Loop 1 and at the proposed bridge edges.

   b. Six (6) total at the Danz Creek crossing at East and West SH 45. The channel cross sections will be collected at right angles to the channel and will be located at the existing ROW lines of SH 45 and at the proposed bridge edges.

   c. Four (4) total at the Bear Creek crossing at SH 45 SW. The channel cross sections will be collected at right angles to the channel and will be located at the existing ROW lines of SH 45 and at the proposed bridge edges.

   The channel cross sections will include general grade breaks, top of bank, interior channel shelves or benches, edge of water, and the low point(s) or flowline of the creek. The sections shall extend up to 100 feet beyond the top of bank in each direction.

8. Obtain cross sections along the SH 45 SW Corridor at 500' increments for the purpose of verifying the accuracy of the existing aerial data that was provided by others.

9. At the request of the Mobility Authority, provide an existing tree survey within ROW lines of SH 45 from the intersection of SH 45/South Loop 1 and extending southward approximately 3.5 miles to FM 1626. Within these limits hardwood trees eight (8) inches and above in diameter and cedar trees twelve (12) inches and above in diameter will be tagged and located (noting species and diameter).

10. Provide temporary signs, traffic control, flags, safety equipment, etc. and obtain necessary permits. It may be necessary to obtain permits from TxDOT.
11. Control traffic in and near surveying operations adequately to comply with the latest edition of the Texas Manual on Uniform Traffic Control Devices. In the event field personnel must divert traffic or close traveled lanes, the Engineer shall prepare a Traffic Control Plan for approval by the Mobility Authority prior to commencement of field work. A copy of the approved plans shall be in the possession of field personnel on the job site at all times and shall be made available to Mobility Authority personnel upon request. The Mobility Authority shall be contacted prior to any work in Loop 1, SH 45, and FM 1626 ROW.
12. Merge and append the Mobile LiDAR data and the supplemental design survey data to the original aerial mapping file, as provided by the State, to create a seamless 2D, DTM and TIN file. Bridge data may be in a separate .dgn file. Survey data to be obtained by the Engineer will be developed and delivered in 2D Microstation format. The 3D Microstation file will also be supplied showing all spot points and break lines. The DTM will be compatible with GEOPAK and Microstation and all level symbology, location, and formats will comply with CTRMA's Microstation Graphic File Format prior to delivery. If any AutoCAD to Microstation conversions have taken place, it will be the Surveyors responsibility to ensure all such formatting is maintained.

E. Design Survey Deliverables:

1. Merged and unmerged 2D dgn (V8) file with planimetrics including survey control and bench marks
2. Merged and unmerged 3D MicroStation (V8) file with spot points and break lines clearly delineated on separate levels. Provide combined TIN file.
3. 2D dgn of re-established project horizontal and vertical control verified and provided by the surveyor.
4. ASCII text file containing the survey data points
5. GEOPAK file and field book copies
6. Calibrated .las files of the Mobile LiDAR data
7. Calibration reports
8. Digital imagery acquired by the mobile system

1.06 NTP 1 - ROW Mapping

A. The Mobility Authority will verify the Right of Way map utilizing existing deeds and provide the information to the Engineer. The Engineer will locate ROW makers in the field and set any missing markers.

B. The Engineer shall review and evaluate the existing right-of-way map to verify that all construction staging and alignment considerations have been taken into account. The Engineer shall make every effort to prevent proposed design elements from extending beyond the proposed Right-of-Way lines.

C. If it is necessary to obtain additional easements and/or right-of-way parcels, the Engineer shall notify the Mobility Authority in writing of the need and justification for such action.

1.07 NTP 1 - Utility Coordination and Design

A. Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

1. Quality Level D – Existing Records: Utilities are plotted from review of available existing records.
2. Quality Level C – Surface Visible Feature Survey: Quality Level D information from existing records is correlated with surveyed surface-visible features. Includes Quality Level D information.
3. Quality Level B - Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Utility indications are referenced to established survey control. Incorporates quality levels C and D information to produce Quality Level B.
4. Quality Level A - Locate (Test Hole): Three-dimensional mapping and other characterization data. This information is obtained through exposing utility facilities through test holes and measuring and recording (to appropriate survey control) utility/environment data. Incorporates quality levels B, C and D information to produce Quality Level A.

B. The Engineer shall determine the location of all existing utilities within the project area, as described above, using Quality Level D & C standards. The Engineer shall compile "As-Built" information from plans, plats and other location data as provided by utility owners. A color-coded composite utility facility plan with utility owner names, quality levels and line sizes will be prepared and delivered to the GEC. It is understood by both the Engineer and the GEC that the line sizes of utility facilities detailed on the deliverable are from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. All above ground appurtenance locations must be included in the deliverable to the GEC. This information will be provided in the latest version of Microstation or Geopak used by the State. The electronic file will be delivered on CD. A hard copy is required and must be signed, sealed and dated by the Engineer.

C. The Engineer shall compile, maintain and update a Utility Conflict List to include phone

log and all correspondence to the utility owners. The Engineer shall provide the most current copy of the conflict list to the GEC at each milestone submittal, and shall be responsible for coordination with utility companies to resolve conflicts. The Utility Conflict List shall identify the owner of the facility, the contact person (with address and telephone number), location of conflict (station and offset), type of facility, expected clearance date, status, effect on construction and type of adjustment necessary.

D. After identifying potential conflicting utilities, and in coordination with the GEC, the Engineer shall arrange for and attend utility meetings with all utility owners and other interested parties or agencies that are identified to be within the proposed project's area. The purpose of this meeting is to ensure that all utility owners and area entities are aware of the scope and relevant details of the proposed project. The Engineer shall be responsible for writing and documenting the meeting minutes and other follow-up work with utility owners, if necessary.

E. The Engineer shall determine prior to the 30% milestone submittal if Quality Level A and B Subsurface Utility Engineering (SUE) will be required for this project.

F. The Engineer shall coordinate with the utility companies. The Engineer shall attend meetings at the 30% Design submittal with the various utility companies to discuss potential conflicts.

G. The Engineer shall incorporate existing utility survey and SUE work into the preliminary design for presentation at a utility coordination meeting.

H. Contact One-Call to facilitate the location of existing buried utilities. Tie the surface features of existing utilities within the project limits as marked by One-Call.

1.08 NTP 1 - Preliminary Design and incorporation of innovative and sustainable components

A. The Engineer shall update project specific geometric and drainage criteria and summarize all design criteria and standards in a revised Design Summary Report (DSR). The Engineer will furnish copies of this report to the Mobility Authority for review and approval prior to preliminary design.

B. The Engineer shall review the current approved Schematic and check all design values to ensure conformance with the design criteria established in the approved DSR. The Engineer shall notify the Mobility Authority if elements of the schematic do not meet the specified Design Criteria.

C. The Engineer shall proceed with preliminary design as follows:

1. The Engineer shall refine the horizontal and vertical alignment elements of the Schematic for conformance to the proposed design criteria.

2. The Engineer shall review the Green Mobility Challenge results and provide recommendations to the Mobility Authority for incorporation of innovative and sustainable components to the project.
3. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate super-elevation rate.
4. Schematic refinements shall include changes to cross sections and geometry to optimize and finalize bridge limits and span arrangements, retaining wall limits, location of overhead sign structures and toll gantries, location of Shared Use Path, development of feasible construction sequence, and cost saving measures to reduce construction cost.
5. Coordinate any modifications to the Schematic with the Mobility Authority and TxDOT.
6. Engineer shall support the Mobility in the CSS process by proving engineering input and support at meeting. The Mobility Authority will prepare and provide aesthetic guidelines for the Engineer to incorporate into the final design.
7. The Engineer will coordinate with the Mobility Authority in identifying proposed bridge, retaining wall, detention pond, intersection, and shared use path conditions that would provide an opportunity for applying an aesthetics theme or green mobility approach. The Engineer shall prepare an exhibit to show what aesthetic/sustainable features will be applied to each specific project location. As necessary, preliminary special details shall be developed to address conditions and constraints which require modification to the aesthetic concepts to assure constructability, reduce construction cost and meet the geometric constraints.
8. Notify the Mobility Authority of any additional ROW needs or access easements.
9. Notify the Mobility Authority of any modifications to the Schematic that may have an impact on the environmental documents.

D. The Engineer shall prepare an updated preliminary cost estimate for discussion.

E. Develop updated proposed Cross-Sections. The cross-sections should illustrate utilities at their existing location.

F. At the request of the Mobility Authority, the Engineer may be required to conduct research, produce various special reports, develop multiple alternatives, and produce drawings or exhibits which are not included in the specific tasks identified in this scope. The Engineer shall initiate these efforts after obtaining Mobility Authority approval and shall consider these efforts as part of the Project scope. Budget for these extra tasks shall be allocated and tracked separately from other scoped items.

G. Deliverables:

1. Submit three (3) copies of a Schematic layout illustrating the modified typical sections, horizontal and vertical geometry, bridge limits and bent locations in *.pdf, CADD, and hard copy formats.
2. Submit three (3) roll plots of the proposed design cross-sections including utilities based on the proposed assignments in *.pdf, CADD, and hard copy formats.
3. Submit three (3) copies of the preliminary cost estimate in both electronic and hard copy formats.
4. Provide exhibits indicating locations of sustainability and aesthetic improvements in *.pdf, CADD, and hard copy formats.

1.09 NTP 1 - Roadway Design

A. Basic Plan Sheets

The Engineer will:

1. Prepare the preliminary PS&E Title Sheet.
2. Prepare preliminary Project Layout Sheets at a scale of 1″=200′ that clearly indicates the limits of the entire project.

B. Roadway and Share Use Path (SUP) Plans & Geometry

The Engineer will:

1. Develop preliminary Proposed Typical Sections Sheets for the Project mainlanes, ramps, frontage roads, SUP, and side streets.
2. Develop preliminary Existing Typical Sections Sheets depicting the existing conditions of the project roadways.

C. Grading and Details

The Engineer will:

1. Prepare preliminary Design Cross Sections at 100-foot stations stretching across the entire ROW of the Project as necessary for the determination of cut and fill quantities and limits of disturbance. Cross sections shall display proposed storm sewer and utility elements, including the proposed ITS conduit system.

1.10 NTP 1 - Drainage Design

A. Review existing Drainage Analyses/Reports.

B. Hydraulic Report: Engineer will perform all drainage design with a specific hydrologic and hydraulic study. The Engineer will design and construct the outfalls to avoid any

adverse impacts. The criteria below are meant to clarify and supplement but not supersede the TxDOT Hydraulic Design Manual. Should any apparent conflicts arise, the Engineer should consult the Mobility Authority for clarification.

The Hydraulic Report will include the following:

1. Identify all existing drainage outfalls within the limits of the project. Delineate drainage area boundaries for each drainage outfall including any area outside the limits of the project that drain to the outfall. Existing storm drain systems will be located and analyzed to the extent necessary for this study. Measure the existing impervious cover within each drainage area and compute the time of concentration and runoff curve number for each drainage area.

2. Compute existing condition flows at all outfalls draining into receiving streams. Utilize 24-Hour rainfall depths in the Atlas of Depth-Duration Frequency of Precipitation Annual Maxima for Texas (USGS/TxDOT Report 2004-5041) and rainfall distributions employed in the most recent FEMA studies of the watersheds of interest to compute discharges for 2, 5, 10, 25, 50, 100 yr rainfall frequencies.

3. Delineate proposed condition drainage area boundaries. Include areas that are outside the project that drain to the proposed outfalls. Coordinate the drainage area delineation with adjacent projects, if applicable. Measure the proposed condition impervious cover within each drainage area and compute the runoff curve number and the proposed condition time of concentration. Existing land use condition will be assumed for drainage areas outside the proposed ROW unless there is knowledge of any planned development. The Engineer shall coordinate with the Mobility Authority to obtain any information pertaining to any planned developments adjacent to the Project Corridor. If it is determined that a planned development is eminent and will utilize any part of the Project drainage conveyance system within the SH 45 SW ROW, then the proposed build out conditions of the development shall be used in calculating runoff. Preliminary proposed condition storm drains will be located and sized.

4. Compute proposed condition flows at all proposed outfalls draining into receiving streams. Utilize rainfall data as defined in Paragraph 2 above.

5. Determine hydrologic impacts from the proposed project by comparing the existing and proposed flow rates at each outfall, taking into account the hydrographs from upstream watersheds.

6. For non-FEMA regulated outfalls, the primary criterion for no adverse impact is no more than one foot accumulative increase in water surface elevation of the 100-year flood. Engineer should use HEC-RAS or equivalent modeling approach to evaluate changes in water surface elevation. The community floodplain administrator will be consulted whether or not records are available to determine cumulative impacts from other projects. If such records exist, cumulative effects of other projects should be considered in determining a total one foot impact. Consideration should also be made

to determine if one foot increase of water surface elevation would place additional structures or significant properties in the floodplain and this may necessitate reducing the one foot limit to a lower number for those locations. Impacts of the 2, 5, 10, 25, 50-year events should also be evaluated. Engineer will evaluate (on a case by case basis) structures or properties that could potentially be impacted by comparing levels of the structures or properties with the water surface elevations. Engineer will present results of impact analysis to the Mobility Authority. The decision to mitigate for impacts that are less than the one foot accumulative or due to the 2, 5, 10, 25, 50-year events will be coordinated by the Mobility Authority. Other factors such as cost and significance of water level increase will also be taken into account in the decision.

7. For Bear Creek, Danz Creek and Danz Creek Split, the primary criterion for no adverse impact is no increase in water surface elevation of the 100-year flood for areas outside the project ROW. Engineer shall use HEC-RAS or equivalent modeling approach to evaluate changes in water surface elevation.
8. Determine mitigation alternatives if the proposed project could have an adverse impact. The mitigation alternatives may include storm water detention basins and/or adjustments to proposed drainage area boundaries, possible adjustment to roadway profiles and adjustment of preliminary storm drains to accommodate required mitigation alternatives. Mitigation alternatives will be coordinated with the Mobility Authority and added to the scope of services when approved.
9. If detention is chosen as the alternative for mitigation, the design of the pond will achieve mitigation of impacts for 2, 5, 10, 25, 50, 100 yr rainfall events. In the case where two adjacent drainage areas discharge to the same watercourse, an adverse impact is determined, and it would be difficult to provide detention for one of the areas, the detention pond for the other area could be sized such that the combined proposed flow from both areas does not result in adverse impacts. Consideration should be made on the stream reach that does not receive detention to ensure no adverse impact. Distance downstream for these confluences would be determined on a case by case basis. Engineer will provide proper documentation of such situations to the satisfaction of the Mobility Authority.
10. The Engineer will provide support for the Mobility Authority coordination with the Corps of Engineers, FEMA, TxDOT, the City of Austin for any approvals and permits required.
11. Submit a report that discusses the pertinent site information, analysis assumptions, hydrologic and hydraulic analyses, and the proposed design of any mitigation measures. Report should include a table that lists existing flows, proposed flows without mitigation, and proposed flows with mitigation (if mitigation proposed). A draft report with recommended mitigation measures will be submitted at the Initial Design Submittal. A Final Report with mitigation measures agreed by the Mobility Authority will be submitted at 60% Design Submittal.

C. Scour Analysis

The Engineer will conduct scour analysis of creek crossings for contraction scour conditions and local scour of piers and will provide estimates of total scour depth for use in the design process. Utilize borings from the geotechnical investigation to determine proper treatment under the bridge. The results of the scour analysis should be included in the Drainage Impact Study. Abutments will be protected with stone riprap as needed.

D. Storm Water Pollution Prevention Plan (SW3P)

1. Erosion and Sediment Control Conceptual Layout: Temporary storm water management devices will be needed to minimize the sediment runoff during construction of this project. The Engineer will develop a temporary erosion and sediment control conceptual layout, in roll plot format, for the length of the project that complements the design and construction phasing of the project. The Engineer will consider any and all applicable BMPs including: non-disturbance area delineation (preserving existing vegetation), temporary and permanent seeding or sodding, erosion control blankets, diversion dikes or swales, temporary mulch, silt fence, sand bags, rock filter dams, sediment traps, and construction exits, etc..

E. Water Quality

1. Water Quality: Following schematic refinements, the Engineer will conduct hydrologic studies to determine the discharges, and will perform the hydraulic design required for the proposed sizing of all selected BMPs consistent with State EIS commitments. The selected BMP or combination of BMPs will reduce the increase in total suspended solids (TSS) load associated with development by at least 90%. It is anticipated that eleven (11) new water quality ponds will be required with retrofits required to three (3) existing sedimentation/filtration basins. These ponds were identified in the preliminary water quality calculations at the following approximate locations:

   a. Pond 1: Sta. 192+17 (FM 1626)
   b. Pond 2: Sta. 226+00 (Bliss Spillar)
   c. Pond 3: Sta. 239+00
   d. Pond 4: Sta. 242+00
   e. Pond 5: Sta. 273+00
   f. Pond 6: Sta. 281+00 (Bear Creek East)
   g. Pond 7: Sta. 294+00 (Bear Creek West)
   h. Pond 8: Sta. 317+00
   i. Pond 9: Sta. 346+00
   j. Pond 10: Sta. 367+00 (East Mopac Abutment)
   k. Pond 11: Sta. 381+00 (West Mopac Abutment)

l. Pond 12: Loop 1 Interchange
m. Pond 13: Loop 1 Interchange
n. Pond 14: Loop 1 Interchange

2. The ponds will be designed in accordance with the latest version of the Texas Commission on Environmental Quality – Edwards Aquifer Technical Guidance Manual. The Engineer shall design stormwater ponds to minimize the excavation required to construct them.

F. Deliverables

The Engineer shall deliver:

1. Electronic version of the validated Project Specified Unit Hydrograph Model
2. Electronic versions of the H&H Models (HEC-RAS, HEC-HMS) and applicable data and maps
3. Electronic version of the preliminary Hydraulic Report in both *.doc and *.pdf Formats
4. Electronic versions of the Storm Drainage Model (Geopak Drainage), applicable data and maps

1.11 NTP 1 - Structural Design

A. Bridge Condition Survey: The Engineer shall prepare a bridge condition survey of three (3) existing bridges scheduled to be widened. The following is a summary of the tasks to be provided:

a. Site Visit (perform/document visual inspections, take photographs)

b. Inventory Photographs

c. Prepare and Submit Draft Condition Survey Reports

d. Update and Submit Final Condition Survey Reports

B. Bridge Foundation Design Study: The Engineer shall coordinate with the designated karst specialist and the geotechnical task lead to evaluate alternative foundation designs that may be beneficial to the project. The study should include the options considered, the cost associated with the various options, benefits and drawbacks and final recommendations. All bridge design shall be in conformance with the latest edition of the State's *LRFD Bridge Design Manual, Bridge Project Development Manual, Bridge Detailer's Manual,* and AASHTO *LRFD Bridge Design Specifications.*

C. The Engineer shall supplement existing boring logs performed by others with new boring locations for the proposed bridges. All proposed boring locations shall be reviewed and approved by the designated karst specialist and the Mobility Authority prior to performing geotechnical investigations.

D. The Engineer shall prepare a Bridge Type and Cost report that documents the analyses comparing costs for each bridge length versus pavement/embankment/retaining walls, to determine optimum bridge lengths and submit the report to the GEC. The Mobility Authority will approve this analysis prior to preparation of the bridge layouts.

E. Shared Use Path @ Bear Creek: The Engineer shall develop concepts for the Shared Use Path @ Bear Creek. A maximum of two concepts shall be developed in coordination with the karst specialist and the Mobility Authority.

F. Preliminary Bridge Layout & Typical Sections: The Engineer shall prepare preliminary bridge layout plans, elevations, and typical sections for bridge types listed below in the Estimated Bridge Limits Table in accordance with the latest editions of the State's LRFD Bridge Design Manual, Bridge Project Development Manual, and Bridge Detailer's Manual, and AASHTO LRFD Bridge Design Specifications.

The preliminary development of bridge layouts includes preliminary development of bridge geometry. (Refer to Section 2.11 NTP 2 – Structural Design for "Estimated Bridge Limits Table")

1.12 NTP 1 - Retaining Wall Design

A. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining walls as shown on the Schematic.

B. The Engineer shall supplement existing boring logs performed by others with new boring locations for the proposed retaining walls. All proposed boring locations shall be reviewed and approved by the designated karst specialist and the Mobility Authority prior to performing geotechnical investigations.

1.13 NTP 1 - Signing, Markings and Signalization

A. Review the Preliminary Signage Schematic and make revisions as needed to reflect modifications made to the Schematic (if any).

B. The Engineer shall supplement existing boring logs performed by others with new boring locations for the proposed large guide sign structures. All proposed boring locations shall be reviewed and approved by the designated karst specialist and the Mobility Authority prior to performing geotechnical investigations.

1.14 NTP 1 - Traffic Control Plan

A. The Engineer shall prepare a conceptual Traffic Control Plan/Sequence of Construction Layout that defines the main phases of construction. This layout will be developed in conjunction with the geometric refinements and the preliminary design cross section. Commitments included in the draft Environmental Impact Statement and the draft Water

Quality and Aquatic Resource Protection Technical Report shall be taken into account during the development of the conceptual layout.

1.15 NTP 1 - Intelligent Transportation Systems (ITS)

A. The Engineer shall coordinate with the Mobility Authority to obtain details and directives for the ITS Design.

B. The Engineer shall prepare a conceptual ITS Layout that defines the locations of duct banks, ground boxes, conduit systems, DMS signs, traffic detection devices and CCTV cameras. Wiring and cabling for the ITS is not included in this project.

C. Proposed duct bank and conduit systems shall be included in the design cross sections. All proposed locations shall be reviewed and approved by the designated karst specialist.

1.16 NTP 1 - Illumination

A. The Engineer shall prepare a conceptual Illumination Layout that defines the safety lighting locations for the FM 1626 interchange, the South Loop 1 interchange, at ramp merge locations, at toll facility locations and auxiliary lanes.

B. Underpass lighting will be required at the Bliss Spillar Road overpass and where the Shared Use Path crosses under the mainlanes. All proposed illumination foundation locations shall be reviewed and approved by the designated karst specialist.

C. The Engineer shall coordinate with utility providers to establish preliminary service pole locations.

1.17 NTP 1 - Toll Facilities Infrastructure Design

A. The Engineer shall coordinate with the Mobility Authority to obtain details and directives for the Toll Facilities Infrastructure Design.

B. The Engineer shall include all civil infrastructure required for tolling facilities to the design plans including conduits, junction boxes, and gantry structures.

1.18 NTP 1 - Miscellaneous

A. Estimate

The Engineer shall prepare a Construction Cost Estimate. A copy shall be submitted to

the Mobility Authority in Microsoft Excel formal.

B. Preliminary Landscape Plantings and Hardscape Plans

C. The Mobility Authority will prepare preliminary landscape planting and hardscape plans. The Engineer shall provide Microstation files and other information as necessary for the Mobility Authority to conduct this work. The Engineer shall coordinate with the Mobility Authority's Landscape Architect and incorporate landscaping sheets into the plans.

D. Context Sensitive Solutions (CSS):

. The Engineer will support and coordinate with the Mobility Authority during the CSS process. The Mobility Authority will prepare and provide the aesthetic guidelines for the Engineer's use. As necessary, preliminary special details shall be developed by the Engineer to address conditions and constraints which require modification to the aesthetic concepts to assure constructability, reduce construction cost and meet the geometric constraints.

E. Operational Modeling

Engineer shall conduct operational modeling as necessary to refine intersection geometry. Modeling under this scope is limited to determination of lane configuration and lengths. This scope does not include significant changes to intersection geometry requiring added operational modeling.

1.19 NTP 1 - Coordination, Meetings & Invoicing

A. The Engineer will participate and attend project workshops with specialty consultants, TxDOT, and the Mobility Authority to establish the project issues, concerns, and objectives of the Project that will influence the location and configuration of the proposed Project and further define the Scope of Services to be provided by the Engineer.

B. The Engineer will participate and attend bi-weekly design coordination meetings with the Mobility Authority. The Engineer shall also conduct periodic meetings with the Engineer's internal team of sub-consultants.

C. The Engineer shall prepare the following protocols for project development: communication, file naming, and documentation. The Engineer shall submit, for Mobility Authority review and approval, the file structure and naming schemes proposed to be used for Project computer generated drawings and plans.

D. All team members involved in the preparation of engineering plans, studies and reports shall have established QA/QC procedures and shall conform to those procedures during the life of the Project. To ensure that adequate procedures will be employed to provide quality products, the Engineer will submit for approval for their proposed QA/QC Plan to be used on this project. The Mobility Authority will provide independent QA/QC audits to verify project compliance with this plan. The Engineer shall have a Quality

Control Plan in effect during the entire time work is being performed under this project.

E. Follow invoice procedures as described in the Contract.

F. The Engineer shall attend Public Meetings and Stakeholder meetings and provide support for the development of exhibits when requested by the Mobility Authority.

2.01 NTP 2 - Environmental Document Review/Coordination

A. Major elements of work include the following: The Engineer shall prepare an Environmental Compliance Management Plan (ECMP) summarizing protocols and procedures to be followed during construction in order to avoid harm to sensitive resources. The ECMP will include a summary of commitments, procedures to be followed for follow-up and reporting, accidental discovery procedures, and methods to establish continuous improvement during construction. Construction documents will incorporate or reference the ECMP. Components will include a hazardous materials management plan, a cave and karst protection plan, and a decision tree for reporting of incidents such as spills, encounters with endangered species, discovery of human remains or cultural materials, et cetera.

B. If requested by the Mobility Authority, the Engineer will prepare a State Environmental Impact Statement (State EIS) Re-evaluation. This task shall not be initiated without separate written notice to proceed and will be tracked separately in the invoice.

2.02 NTP 2 - Public Involvement and Stakeholder Coordination

A. The Engineer will continue to provide support for various meetings, coordination, and communication with the public and other agencies as requested by the Mobility Authority. Support will include providing information for website and information sheet development. When requested by the Mobility Authority, the Engineer will coordinate with the various interested agencies involved. These agencies include, but are not necessarily limited to TxDOT, Barton Springs/Edwards Aquifer Conservation District (BSEACD), City of Austin, Hays & Travis County, City of Hays, Violet Crown Trail, Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service and the TCEQ.

2.03 NTP 2 - Data Collection

A. The Engineer shall complete and finalize any remaining data collection efforts.

2.04 NTP 2 - Geotechnical Investigation

A. Pavement Design Report

The Engineer will respond to Mobility Authority comments and prepare a final pavement design report that will present recommendations for the proposed pavement designs and include all supporting documentation.

B. Geotechnical Report

The Engineer will respond to Mobility Authority comments and prepare a final

geotechnical report that will present recommendations for the design of the bridge foundations, retaining wall foundations, sign structures, ponds and culverts and toll gantry foundations. Refer to Section 1.04 for a summary of items required in the report.

C. Deliverables

The Engineer shall:

1. Submit three (3) final copies of pavement design report that incorporate review comments. One (1) additional final copies of the geotechnical report that incorporate review comments shall also be kept on file with the Engineer for future reference.
2. Submit three (3) final copies of geotechnical report that incorporate review comments. One (1) additional final copies of the geotechnical report that incorporate review comments shall also be kept on file with the Engineer for future reference.
3. Provide signed and sealed sheets of boring logs for insertion into the construction plan set.
4. Coordinate with Engineer and provide geotechnical engineer signature and seal on all bridge and retaining wall foundation sheets to ensure conformance with recommendations provided in the geotechnical report.
5. Provide electronic copies of Soil Boring locations in MicroStation dgn file.
6. Provide complete soil boring data files in Wincore format.

2.05 NTP 2 - Supplemental Surveying

A. Topographic Survey

The Engineer shall finalize any remaining Survey efforts.

2.06 NTP 2 - ROW Mapping

A. The Engineer shall review and evaluate the existing right-of-way map to verify that all construction staging and alignment considerations have been taken into account. The Engineer shall make every effort to prevent proposed design elements from extending beyond the proposed Right-of-Way lines.

B. If it is necessary to obtain additional easements and/or right-of-way parcels, the Engineer shall notify the Mobility Authority in writing of the need and justification for such action.

C. The Engineer will be responsible for all ROW mapping revisions / updates necessitated by design.

2.07 NTP 2 - Utility Coordination and Design

A. The Engineer shall coordinate with the utility companies. The Engineer shall attend meetings at the 60% Design and Pre-Final submittals with the various utility companies to discuss potential conflicts.

B. The Engineer shall evaluate and accommodate reasonable changes to plans as necessary or as requested by the Mobility Authority to avoid utility conflicts.

C. Illustrate existing and proposed utility locations on Roadway Plan sheets.

D. Show existing utility locations in the proposed cross sections with each submittal.

E. Illustrate existing and proposed (where applicable) utility crossings on Roadway Profile sheets.

F. Review all utility designs prepared by others for conflicts with construction plans.

G. The Engineer shall prepare utility designs, specifications, and estimates for utilities not designed by others.

H. Incorporate utility plans into the bid package. This includes, but is not limited to, the coordination of; Bid Items, Special Provisions and Specifications, Plan Sheet Page Numbers, Unit Prices and Estimate.

2.08 NTP 2 – Special Design Per Mobility Authority Request

A. At the request of the Mobility Authority, the Engineer may be required to produce special design details which are not included in the current schematic or specifically scoped effort. The Engineer shall initiate these efforts after obtaining Mobility Authority approval and shall consider these efforts as part of the Project scope. Budget for these extra tasks shall be allocated and tracked separately from other scoped items.

2.09 NTP 2 – Final Roadway Design

A. Basic Plan Sheets

The Engineer will:

1. Prepare the final PS&E Title Sheet.
2. Complete the detailed Index of Sheets that identifies each sheet location in the plan set, as well as its corresponding sheet number. The Engineer will update the Index of Sheets throughout the submittal process to allow for easier reference during the review process.
3. Prepare final Project Layout Sheets at a scale of 1″=200′ that clearly indicates the

limits of the entire project.

4. Prepare Benchmark Layout Sheets at a scale of 1"=200' that clearly indicate the benchmark locations and associated control information. These sheets will later be sealed by a RPLS for submittal.

B. Roadway Plans & Geometry

The Engineer will:

1. Develop final Proposed Typical Sections Sheets for the Project mainlanes, ramps, frontage roads, SUP, and side streets.
2. Complete final Existing Typical Sections Sheets depicting the existing conditions of the project roadways.
3. Complete Mainlane Roadway Plan and Profile sheets. Drawings will be prepared at a scale of 1"=100' H and 1"=10' V.
4. Complete South Loop 1 interchange Plan and Profile Sheets. Drawings will be prepared at a scale of 1"=100' H and 1"=10' V.
5. Complete FM 1626 Interchange Plan and Profile Sheets. Drawings will be prepared at a scale of 1"=100' H and 1"=10' V.
6. Prepare Bliss Spillar Road and Archeleta Blvd. Plan and Profiles and Intersection details showing spot elevations and contours. Drawings will be prepared at a scale of 1"=100' H and 1"=10' V.
7. Complete separate Ramp Plan and Profile sheets. . Drawings will be prepared at a scale of 1"=100' H and 1"=10' V.
8. Develop Ramp Gore Layouts at the intersection of each ramp with its adjacent roadways. These layouts will show proposed grading, as well as station, offsets, curb radius and curb locations.
9. Prepare Horizontal Alignment Data Sheets depicting the horizontal geometric information for the project roadways to be included in the construction plan set.
10. Prepared Miscellaneous Curve Data Sheets depicting the horizontal geometric information for roadway curves that are not concentric to roadway alignments.
11. Develop Superelevation Data Sheets to be included in the PS&E set. These sheets will define the pavement cross slopes for individual roadway alignments and describe transition locations and values.
12. Complete Shared-Use Path Plan and Profile Sheets. Drawings will be prepared at a scale of 1" = 100' H and 1" = 10' V. SUP and other bike and pedestrian facilities must be designed under the guidelines set forth in the AASHTO Guide for the Development of Bicycle Facilities, in accordance with the American Disabilities Act

Accessibility Guidelines (ADAAG), and the Texas Accessibility Standards (TAS). The Engineer shall arrange for a RAS to review the plans.

C. Grading and Details

The Engineer will:

1. Prepare Design Cross Sections at 100-foot stations along the mainlanes, ramps, cross streets, and other locations as necessary for the determination of cut and fill quantities and limits of construction. Cross sections shall display proposed storm sewer and utility elements.
2. Prepare Driveway Plan and Profile Sheets for each driveway (maximum of 10) significantly impacted by proposed construction.
3. Develop Miscellaneous Roadway Detail sheets for the project. The sheets will depict details required that are not defined in TxDOT standard detail sheets. When possible Statewide TxDOT or Austin District standards will be used for the project development.

The Mobility Authority will provide final landscape planting and hardscape plans specifications and estimate quantities for incorporation into plan sets. The Engineer will coordinate with the Mobility Authority on this effort.

2.10 NTP 2 - Drainage Design

A. Hydraulic Report: Refine the hydrologic and hydraulic studies performed under NTP 1, which will include

1. Identify any new or relevant data.
2. Verify validity of previous hydrologic studies.
3. Review previous studies, reports, plans and available stream gauge data.
4. In coordination with roadway design and structural engineers, refine the stream crossing hydraulics and scour analyses for Bear Creek and Danz Creek.
5. Revise the Hydraulic Report as needed.

B. Bridge and Culvert Plan Sheets

1. Hydraulic Data Sheets: The Engineer will prepare hydraulic data sheets for bridges over creeks and any culvert within the project.
2. External Drainage Area Maps: The Engineer will finalize previously determined drainage areas from the hydrologic analysis and prepare exterior drainage area map sheets at a scale of 1"=200' or a scale acceptable to the Mobility Authority. The Engineer will show structure locations and, for large drainage basins, will indicate

pertinent hydraulic information on these sheets.

3. Culvert layouts: The Engineer will prepare culvert plan and profile layouts at a scale of 1"=40'H and 1"=20'V that will depict culvert geometry for reconstruction or lengthening, as well as the applicable hydraulic information.

D. Storm Drain Plan Sheets

The Engineer will address the required project storm drain systems as follows:

1. Storm Drain Computations: The Engineer will analyze and design both open channel (ditches) and enclosed storm drains. Computations and design information will be presented in the appropriate plan sheets.
2. Interior Drainage Area Maps: The Engineer will prepare interior drainage area map plan sheets at an appropriate scale. These maps will depict drainage area boundaries and flow direction arrows. Each drainage area will be identified with a unique number corresponding to run-off information from the calculation sheets.
3. Drainage Plan and Profile Sheets: The Engineer will prepare drainage plan and profile sheets depicting locations of inlets, manholes, storm drains, culverts, utilities, channel improvements, ditch locations, cross-sections and flowlines as required. These sheets will be prepared at a scale of 1"=100'. Storm drain profiles will be prepared at a scale of 1"=100' H and 1"=10' V. Enclosed storm drain plans and profiles will show pipe size and type, inverts, slope, existing and proposed ground lines above the pipe, pertinent hydraulic information, and locations and sizes of inlets and junctions. The design storm HGL shall be clearly plotted and depicted on the Drainage Plan and Profile Sheets.
4. Ditch Layout Schedule: The Engineer will prepare a tabular ditch layout schedule that depicts pertinent information about the roadside ditch geometry and design based on normal depth computations. This table will include station, offset, flow line elevation, ditch lining material, as well as ditch bottom width. The tables will be shown on the drainage plan sheets.
5. Channel Layouts: The Engineer will prepare culvert layouts depicting all pertinent channel information including alignment, profile, grading, section details, channel lining material, hydraulic computations and HGL.
6. Drainage Detail Sheets: The Engineer shall use TxDOT standard details where practical. The Engineer shall provide drainage design details for "non-standard" drainage structures in instances where TxDOT standard details cannot be utilized.
7. Temporary Drainage Facilities: The Engineer will develop temporary drainage facilities plans necessary to allow staged construction of the project. The Engineer will design required temporary drainage structures for a 5-year frequency event, and include structure size, flow line elevations and approximate structure location in the plan sheets. The Engineer will evaluate temporary drainage ditches between

temporary drainage structures and outfall locations and designate a typical ditch section in the plans along with plan notes for the contractor to maintain positive drainage for these temporary ditches.

8. Trench Protection Determination: The Engineer will identify storm drain and culvert construction areas that will require trench protection or special shoring and indicate this information on the plans.

F. Storm Water Pollution Prevention Plan (SW3P)

1. Erosion and Sediment Control Plans: Temporary storm water management devices will be needed to minimize the sediment runoff during construction of this project. The Engineer will develop a temporary erosion and sediment control plan for the length of the project that complements the design and construction phasing of the project, and will include notes that indicate the contractor is responsible for detailed sequencing of the devices. The Engineer will consider the following design components: non-disturbance area delineation (preserving existing vegetation), temporary and permanent seeding or sodding, erosion control blankets, diversion dikes or swales, temporary mulch, silt fence, sand bags, rock filter dams, sediment traps, and construction exits. Permanent erosion control measures will be included on these sheets if needed.

2. SW3P: The Engineer will prepare SW3P summary plan sheet(s) in accordance with Texas Pollution Discharge Elimination System (TPDES) regulations and TxDOT practices. The Engineer will use TxDOT SW3P text sheet(s) to summarize erosion and sediment control measures.

3. Erosion and Sediment Control Details: The Engineer will prepare Erosion and sediment control details for any related items that are not covered by TxDOT standard details. Compost Manufactured Topsoil (CMT) will be utilized wherever possible for erosion control.

4. Environmental Issues, Permits and Commitments: The Engineer will update the EPIC sheet as necessary and include in the final plans.

G. Environmental Mitigation

1. Sensitive Karst Feature Protection and Mitigation: BMPs will be needed to prevent impacts from construction operations. The Engineer will develop a protection and mitigation plan for approximately sixteen (16) sensitive karst features within the length of the project that will complement the design, SW3P and construction phasing of the project. The scale used for these sheets will vary depending on the best suited scale to convey all necessary intent to protect the feature.

H. Water Quality

1. Water Quality: The Engineer will make final revisions to the proposed sizing of all selected BMPs. The selected BMP or combination of BMPs will reduce the increase in total suspended solids (TSS) load associated with development by at least 90%. It is anticipated that eleven (11) water quality ponds and three (3) retrofits will be required as defined in Section 1.10 Drainage. The plans sheets to be developed for each pond will include the following:

    a. Pond Site Plan
    b. Pond Grading Plan
    c. Pond Sections and Profiles
    d. Pond Details (outflow structures, trash screens, end treatments, valves, erosion protection, vegetation, basin lining, etc.)

2. Water Quality (Electrical Design) – The Engineer will develop the electrical design and details required for all anticipated ponds proposed for the project. The plan sheets to be developed for each pond will include the following:

    a. Pond Electrical Layout (if applicable).
    b. Details, Schedules and Tables for any controllers, power (line or solar), sensors, logic controllers, parts enclosure, circuits, valves, safety precautions, power consumption, Hazardous Material Threat Operation, etc. (if applicable).

3. Water Quality (Structural Design) – The Engineer will develop the structural design and details for all anticipated ponds proposed for the project. The plans sheets to be developed for each pond will include the following:

    a. Splitter Box Details (if applicable)
    b. Pond Retaining Wall Layout and Pond Retaining Wall Reinforcing Details (where applicable). The wall layouts will consist of a plan view of the proposed pond that identifies retaining walls, provides retaining wall areas, provides table of elevations and includes pond/wall dimensions.
    c. The Pond Retaining Wall Reinforcing Details (where applicable), will consist of a retaining wall typical section, retaining wall heights, retaining wall properties, reinforcing details and reinforcing steel schedule.
    d. Retrofit details as needed to expand capacity of existing sedimentation filtration basins.

I. TCEQ Water Pollution Abatement Plan

1. The Engineer will prepare the Water Pollution Abatement Zone Plan (WPAP), for further processing by the GEC, in accordance with TCEQ requirements. This plan will include:

a. Water Pollution Abatement Plan Application (TCEQ-0584)
b. General Information Form (TCEQ-0587)
    a. Attachment A – Road Map
    b. Attachment B – USGS/Edwards Aquifer Zone Map
    c. Attachment C – Project Description
c. Geologic Assessment Form (TCEQ-0585)
    a. Attachment A – Geologic Assessment Table (TCEQ-0585-Table)
    b. Attachment B – Soil Profile and Narrative of Soil Units
    c. Attachment C – Stratigraphic Column
    d. Attachment D – Narrative of Site Specific Geology
    e. Site Geologic Map(s)
    f. Table or list for the position of features' latitude/longitude
d. Water Pollution Abatement Plan Application Form (TCEQ-0584)
    a. Attachment A – Factors Affecting Water Quality
    b. Attachment B – Volume and Character of Stormwater
    c. Site Plan
e. Temporary Stormwater Section (TCEQ-0602)
    a. Attachment A – Spill Response Actions
    b. Attachment B – Potential Sources of Contamination
    c. Attachment C – Sequence of Major Activities
    d. Attachment D – Temporary Best Management Practices and Measures
    e. Attachment E – Request to Temporarily Seal a Feature, if sealing a feature
    f. Attachment F – Structural Practices
    g. Attachment G – Drainage Area Map
    h. Attachment H – Temporary Sediment Pond(s) Plans and Calculations
    i. Attachment I – Inspection and Maintenance for BMPs
    j. Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices
f. Permanent Stormwater Section (TCEQ-0600)
    a. Attachment B – BMPs for Upgradient Stormwater
    b. Attachment C – BMPs for On-site Stormwater
    c. Attachment D – BMPs for Surface Streams
    d. Attachment E – Request to Seal Features (if applicable)
    e. Attachment F – Construction Plans
    f. Attachment G – Inspection, Maintenance, Repair and Retrofit Plan
    g. Attachment I – Measures for Minimizing Surface Stream Contamination
g. Agent Authorization Form (TCEQ-0599)
h. Application Fee Form (TCEQ-0574)
i. Core Data Form (TCEQ-10400)

2. The Engineer will attend a Submittal Meeting with the Mobility Authority and the TCEQ.

3. The Engineer will respond to all TCEQ comments and resubmit a Final WPAP.

J. National Flood Insurance Program (NFIP) Coordination

As directed by the Mobility Authority, the Engineer will conduct a limited NFIP informal coordination role with the local floodplain manager. Informal coordination includes information collection including identification of the latest Flood Insurance Study (FIS) applicable to the site, and acquisition of the FIS back-up data. The Engineer does not and will not present themselves as a Mobility Authority representative, or as having any other coordinating authority, including that for any map revision requirements.

K. Deliverables

The Engineer shall deliver:

1. Electronic version of the hydrologic models
2. Electronic versions of the hydraulic model(s)
3. Electronic version of the Hydrologic Report in both *.doc and *.pdf Formats
4. Three (3) 8 ½"x 11" Bound Paper copies of the Hydrologic Report
5. Electronic version of the Storm Drainage Model, applicable data and maps
6. PS&E Bridge Hydraulic Data Sheets and Bridge Scour Sheets
7. PS&E Culvert Sheets and Storm Drainage Sheets
8. PS&E SW3P sheets and Environmental Mitigation Details
9. PS&E Water Quality Sheets
10. TCEQ Water Pollution Abatement Plan

2.11 NTP 2 - Structural Design

The Engineer will use Load and Resistance Factor Design (LRFD) for all new roadway bridges on this project and will design all roadway bridge structures for HL 93 loading. The Shared-Use Path substructures will be designed for AASHTO pedestrian loading. The Engineer shall also prepare Specifications for the Shared-Use Path Bridge Superstructures.

The Engineer shall finalize the layout and design of the bridges listed below in the Estimated Bridge Limits Table in accordance with the latest editions of the State's *LRFD Bridge Design Manual, Bridge Project Development Manual,* and *Bridge Detailer's Manual, and AASHTO LRFD Bridge Design Specifications*.

The Engineer shall incorporate, into the final design of the bridge elements, aesthetic design features and details as shown in the Landscape and Aesthetic Requirements.

Estimated Bridge Limits Table

Description	Approx. Length	Approx. Width	Estimated # of spans	Anticipated Beam Type
SH 45 WBML @ Bliss Spillar	600’	40’	5	TX I-Girder
SH 45 EBML @ Bliss Spillar	600’	40’	5	TX I-Girder
SH 45 ML @ Bear Creek (includes bicycle/pedestrian facility)	1,375’	100’	7	Steel Plate Girder Unit
SH 45 ML @ Loop 1	1,500’	85’	14	TX I-Girder
SH 45 Ramp @ Loop 1	650’	28’	6	TX I-Girder
SH 45 WB @ Danz Creek (Widening)	225’	15’	3	TX I-Girder
SH 45 EB @ Danz Creek (Widening)	220’	15’	3	TX I-Girder
Loop 1 NB @ Danz Creek (Widening)	250’	15’	3	TX I-Girder
Bicycle/Pedestrian Bridges				
SH 45 EB SUP @ Danz Creek	220’	16’	3	TX I-Girder
FM 1626 SB SUP Bridge	430’	16’	4	TX I-Girder

A. Bridge Layouts: The Engineer shall finalize Bridge Layout plans, elevations and typical sections.

B. The Engineer shall generate final design calculations and final detail drawings for the Project structures. Structural design calculations and final detail drawings will be in accordance with standard requirements of TxDOT. Bridge design shall be in conformance with the latest edition of the State’s *LRFD Bridge Design Manual, Bridge Project Development Manual, Bridge Detailer’s Manual*, and AASHTO *LRFD Bridge Design Specifications*. The Engineer’s designer and checker shall both check calculations and sign the front page of each individual calculation package. The Engineer shall submit structural design calculations and quantity calculations for review at the Pre-Final submittal.

C. Boring Log Elevations: The Engineer will include boring logs for each bridge on separate sheets.

D. Estimated Quantities and Bearing Seat Elevations: The Engineer shall provide bridge quantity summaries at 60%, Pre-Final and Final Plan submittals. The bridge elevations shall be limited to bearing seat elevations only.

E. Abutment Details: The Engineer shall provide as per the proposed bridge table shown above. Custom abutment details and associated calculations are anticipated for each bridge.

F. Interior Bent Details: The Engineer shall provide as per the proposed bridge table shown above. Custom interior bent details and associated calculations are anticipated for each bridge. Where possible, calculations will be developed for one set of similar bents on adjacent bridges and details will be developed per bridge. Multiple bents will be listed on the bent detail sheets.

G. Framing Plan: The Engineer shall provide as per the proposed bridge table shown above. For steel girder design, this effort includes design of steel girders and field splices.

H. Slab Plan: The Engineer shall provide as per the proposed bridge table shown above. The slab plan includes the development of prestressed beam designs.

I. Foundation Design: The Engineer shall provide as per the proposed bridge table shown above.

J. Drainage Details: The Engineer shall provide details for concealed drainage for bridge deck scuppers. Drainage slots in bridge rails shall not be used for the mainlane structures. These sheets will be developed with combined details for use on various structures.

K. Miscellaneous Details: The Engineer shall provide as per the proposed bridge table shown above. The details shall include Structural Details for aesthetics. These sheets will be developed with combined details for use on various structures.

L. Standard Details: The Engineer will use the latest TxDOT standard details for beams, diaphragms, railings, expansion joints, riprap, etc. wherever possible. Prepare any project-specific modified standards necessary for inclusion in the PS&E package. Sign, seal and date all project-specific modified standards.

M. Specifications: The Engineer will develop specifications as needed for bridge structures, including Shared Use Path bridges.

2.12 NTP 2 - Retaining Wall Design

A. Retaining Walls. The Engineer shall provide layouts (scale Max:1”=40’ and Min: 1”=100’), elevations, quantity estimates, summary of quantities, typical cross sections, and structural details of all retaining walls within the project.

1. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining walls as shown on the Schematic. The Engineer shall

make proposals to the Mobility Authority regarding most suitable wall type for each application.

2. Engineer will prepare Overall Retaining Wall Layout sheets depicting the various wall locations. Soil boring locations will also be depicted on these sheets.
3. Engineer will prepare retaining wall layout sheets showing plan and profile of retaining walls as shown in the Proposed Retaining Wall Table below. Engineer will provide associated details in plan and profile views. Engineer shall provide soil boring profiles on separate plan sheets.
4. Engineer will prepare structural details for spread footing walls as shown in the Proposed Retaining Wall Table below..
5. Engineer will identify temporary shoring needs and prepare layouts as necessary.
6. Engineer will prepare Retaining Wall Typical Sections sheets.
7. Engineer will prepare Retaining Wall Horizontal Alignment Data Sheets depicting the horizontal geometric information for the project retaining walls to be included in the construction plan set.
8. Prepare Layout Plan which includes:
    a. Designation of reference line
    b. Beginning and ending retaining wall stations
    c. Offset from reference line
    d. Horizontal curve data
    e. Total length of wall
    f. Indicate face of wall
    g. All wall dimensions and alignment relations (alignment data as necessary)
    h. Soil core hole locations
9. Prepare Elevation Plan:
    a. Top of wall elevations
    b. Existing and finished ground line elevations
    c. Limits of measurement for payment
10. Type, limits and anchorage details of railing (If applicable)
    a. Structural Details: The Engineer shall provide details related to the interface of retaining wall at bridge abutments.

11. Proposed Retaining Wall Table

Description	Approximate Location	Approximate Length	Type
FM 1626 NB	Sta. 200+00 to Sta. 205+00	500’	MSE
FM 1626 NB	Sta. 205+50 to Sta. 220+50	1,500’	MSE
FM 1626 SB	Sta. 216+00 to Sta. 220+50	450’	MSE
SH 45 WBML	Sta. 227+50 to Sta. 233+00	550’	MSE
SH 45 WBML	Sta. 307+25 to Sta. 318+75	1,150’	MSE
SH 45 WBML	Sta. 348+00 to Sta. 354+00	600’	MSE
SH 45 EBML	Sta. 228+00 to Sta. 233+50	550’	MSE
SH 45 EBML	Sta. 295+50 to Sta. 334+50	3,900’	MSE
ML Abut	Sta. 281+25	125’	MSE
ML Abut	Sta. 295+00	125’	MSE
ML Abut	Sta. 365+50	100’	MSE
SUP	Sta. 295+25 to Sta. 300+50	525’	MSE
SUP	Sta. 315+00 to Sta. 319+00	400’	Spread Footing
EB02 Ramp	Sta. 380+50 to Sta. 385+00 (Rt.)	450’	MSE
EB02 Ramp	Sta. 380+50 to Sta. 384+00 (Lt.)	350’	MSE
EB03 Ramp	Sta. 1156+40 to Sta. 1160+00	360’	MSE

B. Soil Boring Logs: The Engineer shall provide all boring logs utilized within their design. Borings shall be shown on wall plans at actual location with log information. Separate logs shall be submitted to the GEC for records purposes.

C. Context Sensitive Design: The Engineer shall utilize detail drawings for aesthetic features compatible with the aesthetic theme and concepts.

2.13 NTP 2 - Signing, Markings and Signalization

A. Signing and Pavement Marking Layouts: The Engineer shall prepare layouts, specifications, and details for striping, pavement markings, and signing. Layouts will be

prepared at a scale of 1" = 100' and will depict striping, delineator, pavement markings and small and large signs. The Engineer shall coordinate with the GEC (and other Engineers as required) for overall temporary and final signing strategies including toll signing and placement of signs outside contract limits.

The Engineer shall provide the following information on signing and pavement marking layouts:

1. Roadway layout.
2. Center line with station numbering.
3. ROW lines.
4. Designation of arrow used on exit direction signs.
5. Culverts and other structures that present a hazard to traffic.
6. Existing signs to remain, to be removed, or to be relocated.
7. Proposed signs (illustrated and numbered).
8. Existing overhead sign bridges to remain, to be revised, removed or relocated.
9. Proposed overhead sign bridges including toll signing, indicating location by plan.
10. The Engineer shall detail permanent and temporary pavement markings and channelization devices on plan sheets. Pavement marking plans shall also be prepared for toll gantry areas within the limits of the Project. The Engineer shall provide details for toll gantry locations in the pavement marking plans. The Engineer shall coordinate with the Mobility Authority (and Toll System Integrator if necessary) for overall temporary, interim, and final pavement marking strategies. Pavement markings shall be selected from the latest TxDOT standards.
11. Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation.
12. The location of interchanges, main-lanes, grade separations, and ramps.
13. The number of lanes in each section of proposed highway and the location of changes in numbers of lanes.
14. Direction of traffic flow on all roadways

B. Small Sign Detail: Engineer shall provide detail sheets for non-standard small signs. These sheets shall show the overall dimension of the signs by determining letter size and spacing.

C. Large Sign Details: Engineer shall provide detail sheets for all large guide signs. These sheets shall show dimensions, layout of text, directional arrows and shields, borders and colors.

D. Overhead Sign Structures Elevations: Engineer shall provide overhead sign structure elevations including walkway and electrical service conduit for future ITS facilities. Sign foundation will require special design.

E. Traffic Signal Plans: The Engineer shall prepare Traffic signal plans for proposed FM 1626 signalized intersection. The Engineer shall coordinate this activity with the

Mobility Authority and TxDOT. The Engineer shall prepare plans for traffic signal infrastructure for future signal at Bliss Spillar.

F. The following information shall be provided in the Traffic Signal Plans:

1. Condition diagram
   a. Highway and intersection design features
   b. Traffic control including illumination attached to the signal pole.
2. Plan sheet(s)
   a. Existing traffic control that will remain (signs and markings) (when applicable)
   b. Existing utilities
   c. Proposed highway improvements (when applicable)
   d. Proposed installation
   e. Proposed additional traffic controls
   f. Proposed illumination attached to signal poles.
3. Notes for plan layout
4. Phase sequence diagram(s)
   a. Prepare phase sequence diagrams. Assist the Mobility Authority in coordination with TxDOT regarding signal phasing and operation of the signals.
5. Construction detail sheets(s)
   a. Poles (TxDOT standard sheets)
   b. (VIVDS) Layouts
   c. Video Detectors
   d. Pull Box and conduit layout
   e. Controller Foundation standard sheet
6. Pavement Marking and Signing details (when applicable)
7. Electrical and ITS
   a. Investigate the need/justification for interconnection between signalized intersections and the types (radio, aerial, or underground) of interconnect
   b. Interconnect details (when applicable)
   c. Confirm power source
   d. Electrical Summary Table

G. Traffic Signal General Notes and Estimates: The Engineer shall provide an estimate and quantity sheet of:

1. List of all bid items
2. Bid item quantities
3. Specification item number
4. Paid item description and unit of measure

H. Signing and Pavement Marking Layouts (Shared Use Path): The Engineer shall prepare separate layouts that include signing, pavement marking and delineation for the Shared Use Path. Proposed bicycle lane signs shall be in accordance with applicable TxDOT standards. The proposed signs shall be illustrated and numbered on the plan sheets.

2.14 NTP 2 - Traffic Control Plan

The Engineer will:

A. Prepare Detailed Traffic Control Plan Sheets at a scale of 1″=100′. This plan will describe the maintenance of traffic and sequence of work for each phase of the proposed construction. Detour alignments, location of work areas, temporary paving, temporary shoring, signing, barricades and other details will be required to describe the traffic control plan. The Engineer will be required to ensure that proper drainage can be maintained during each phase of construction.

B. Prepare Traffic Control Typical Sections for each stage of the construction sequence to clearly delineate the position of the existing traffic with respect to the proposed construction. Temporary traffic barriers and pavement markings will also be shown and dimensioned.

C. Develop TCP Overview Plans for each stage of traffic control. These plans will include advance warning signs for the Project on existing roadways being impacted approaching the construction and will act as key maps for each phase of TCP and shall be developed at a 1”=400’ scale.

D. Prepare a detailed Sequence of Construction narrative and submit it to the Mobility Authority for review. The Engineer will revise and incorporate the narrative into the plans. The narrative will include a phase-by-phase, step-by-step written account of the proposed activities throughout the construction process. This is intended to be a narrative account of the activities shown in the Traffic Control Plan layouts.

E. Prepare Detour Layout Sheets showing plan & profiles where required to define the geometry for detours required in the Traffic Control Plans. Detour layouts will be prepared at a scale of 1″=100′ H and 1″=10′ V. The Engineer will provide the pavement design section for temporary detours.

F. Develop Traffic Control Details for items not covered by TxDOT standard drawings.

G. Attend one Safety Review Meeting to present the proposed traffic handling scheme to the Mobility Authority. The Engineer will incorporate the comments from the review into the traffic control plans.

H. Prepare an Engineer’s Opinion of Construction Schedule to determine an approximate duration for each phase of construction. The schedule will be prepared using Microsoft Project or SureTrak and delivered at 90% and Final submittals.

I. Road Closure Layouts: The Engineer shall prepare temporary road closure layouts at the intersections of SH 45 SW @ Bliss Spillar and the interchange of SH 45 SW and Loop 1. Detour layouts are intended to provide for beam hanging operations and other short term road closures.

J. Advanced Signing Layouts. The Engineer shall provide a detailed layout and arrangement of construction signs, construction pavement marking, traffic control devices (including temporary signals and signal heads).The TCP shall include locations of portable changeable message sign devices at all key locations both within the project limits, and outside the right-of-way for every phase of construction.

2.15 NTP 2 - Intelligent Transportation Systems (ITS)

A. The Engineer shall develop final ITS Layout for Mobility Authority review and approval. The Engineer shall coordinate with the Mobility Authority and it's System's Integrator to obtain additional details and directives for the ITS Design.

B. The Engineer shall provide plans for the infrastructure and power required for the ITS system. Plans shall include duct bank, ground boxes, conduit, electric cables and meter, changeable message sign structures, traffic monitoring device structure, structures for CCTV cameras, and foundations for cabinets. The Engineer shall include all applicable standards, specifications, details and estimates for the system in the plan set. .

2.16 NTP 2 - Illumination

A. The Engineer shall design safety lighting at ramp merge locations, and auxiliary lanes. The Engineer shall design intersection safety lighting at the SH 45 SW interchange at FM 1626 and South Loop 1. The Engineer shall also design underpass lighting at the SH 45 SW bridge structures over Bliss Spillar Road and where the Shared Use Path crosses under SH 45 SW.

B. The Engineer shall provide lighting calculation exhibit(s) for the illumination design.

C. The illumination design documents will be prepared by the Engineer for the Project as a single set of illumination plans and incorporate them into the PS&E package. The Engineer shall coordinate and provide plans drawings, at a scale of 1" = 100', showing the locations of all components of the illumination system.

2.17 NTP 2 - Toll Facilities Infrastructure Design

The Toll Facilities Infrastructure design documents will be prepared by the Engineer based on the details and directives provided by the Mobility Authority and incorporated

into the PS&E package. The Engineer shall coordinate and provide plan drawings for all tolling infrastructure and power. The Engineer shall provide the following:

a. Plan drawings showing the roadway geometry and layout in the vicinity of the toll gantries

b. Detailed drawings for tolling locations including all conduits for communication and power, junction boxes, gantry foundation, structure and lightning protection, control cabinet foundations, foundations for generators, fencing and lighting. Plan sheets will include toll gantry foundation requirements, column details and identification of overhead sign bridge (OSB) truss standards. All proposed foundation locations shall be reviewed and approved by the designated karst specialist.

c. Detailed drawings for the foundations and electrical utilities, required for control cabinets, emergency generator, and fuel tank. The details will integrate the required dimensions and capacities to accommodate the appropriate structure sizes provided by the Mobility Authority's System Integrator. Electrical design will include coordination with primary utility company and secondary power supply to the cabinet including meter and all wiring/cables to the nearest junction box. Coordination with the Toll Systems Integrator will be required (Systems Integrator will provide all electrical load requirements and rough in locations/details). The toll collection system design will be prepared by others.

2.18 NTP 2 - Miscellaneous

A. Quantities and Summary Sheets

The Engineer will tabulate quantities and prepare Summary Sheets at the 60%, Pre-Final and Final submittals for the following: Traffic Control (per phase), Earthwork, Roadway, SUP, Drainage related items including inlets, manholes, and storm drain pipes, Retaining Walls, Bridges, Pavement Markings, Small / Large Signs, Erosion Control and SW3P, Water Quality, Signals, Illumination, ITS, and Toll Facilities infrastructure.

B. Standards, Specifications and Estimate

The Engineer shall:

1. Download the appropriate TxDOT Standards from the State's web site. The Engineer will revise and seal any Standard that requires modification. All other standards will have their title blocks filled out with the applicable project data and printed for inclusion in the final plan set. The Engineer will utilize Austin District Standards where applicable.

2. The Engineer shall provide (signed and sealed) any necessary details required to supplement standard details.

3. Prepare a tabulation of applicable Specifications, Special Specifications and Special Provisions for submission with the pre- final and final PS&E package.

4. Prepare General Notes utilizing TxDOT most recent version for inclusion in the pre-final and final plan set.

5. Prepare a Construction Cost Estimate at the 60%, Pre-Final and Final PS&E submittal, and supply a copy to the Mobility Authority in Microsoft Excel format.

C. Prior to each milestone submittal (30%, 60%, Pre-Final and Final), the Engineer shall conduct a review in accordance with the QA/QC procedures outlined in the Engineers Quality Control Plan.

D. Final Design plans, calculations, and cost estimates prepared by Design Consultant are to be thoroughly reviewed and checked before submittal to the Mobility Authority for review. The Engineer has total responsibility for the accuracy and completeness of the plans and related designs prepared under this project and shall check all such material accordingly. The plans will be reviewed by the Mobility Authority and TxDOT for conformity with the Mobility Authority's procedures and the terms of the project. The Mobility Authority will provide independent QA/QC audits to verify project compliance with this plan. The Engineer shall have a Quality Control Plan in effect during the entire time work is being performed under this project.

E. Deliverables

The Engineer will submit a pdf electronic copy and two (2) 11" X 17" paper copies at the, 60%, and Pre-Final submittal. Final PS&E submittal shall include two (2) 11" X 17" paper copies in addition to the signed, sealed and dated 11" x 17" Final Hard Copy and pdf electronic copy including electronic copies of all supporting documentation and paperwork.

2.19 NTP 2 - Coordination, Meetings & Invoicing

A. The Engineer will participate and attend project workshops with specialty consultants, TxDOT, and the Mobility Authority to establish the project issues, concerns, and objectives of the Project that will influence the location and configuration of the proposed Project and further define the Scope of Services to be provided by the Engineer.

B. The Engineer will participate and attend monthly and bi-weekly design coordination meetings and production meetings with the Mobility Authority. The Engineer shall also conduct periodic meetings with the Engineer's internal team of sub-consultants.

C. The Engineer will participate in coordination meetings with the City of Austin and Travis/Hays Counties to coordinate traffic control on local streets/roads to coordinate with ongoing development adjacent to the right-of-way, and to establish off-site locations and connection points for the Shared-Use Path.

D. The Engineer will participate in the submittal review process and attend comment resolution meetings for the various submittal milestones. The Engineer will respond to reviewer comments in tabular format for each submittal with explanations included for

any items in disagreement. The Engineer will then attend a comment resolution meeting following each submittal to discuss and resolve review comments.

E. The Engineer shall provide assistance to the Mobility Authority during the bidding process.

F. Follow invoice procedures as described in the Contract.

G. The Engineer shall attend a scheduled pre-bid meeting.

H. The Engineer shall attend a scheduled pre-construction meeting.

2.20 Construction Phase Services

These services are not included in this fee effort and will be covered in a future work authorization.

EXHIBIT C

WORK SCHEDULE

The Engineer will perform engineering services as described in this Work Authorization and will submit deliverables to the Mobility Authority based on the following work schedule:

Notice to Proceed 1 (NTP 1)…… November 1, 2014

Notice to Proceed 2 (NTP 2)……..……..* Anticipated March 1, 2015
(*NTP 2 will begin following the FEIS Record of Decision)

Contract Expiration…… December 31, 2015

EXHIBIT D

FEE SCHEDULE/BUDGET

EXHIBIT D COMPENSATION SUMMARY - PROJECT

CATEGORY	RTG		COX|McLAIN		CP&Y		FUGRO		CAMBRIAN		K FRIESE		RS&H		RVI		SAM		PROJECT TOTALS	
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST
X.01 ENVIRONMENTAL DOCUMENT REVIEW/COORD	396	$ 21,706	1124	$ 95,353	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	1,520	$ 117,058
X.02 PUBLIC INVOLVEMENT AND STAKEHOLDER COORDINATION	506	$ 30,370	172	$ 20,492	56	$ 3,850	0	$ -	84	$ 14,543	96	$ 4,507	34	$ 1,863	16	$ 3,200	0	$ -	964	$ 78,825
X.03 DATA COLLECTION	280	$ 17,368	0	$ -	44	$ 2,485	0	$ -	128	$ 17,087	48	$ 1,846	0	$ -	52	$ 8,150	0	$ -	552	$ 46,937
X.04 GEOTECHNICAL INVESTIGATION	108	$ 6,728	0	$ -	16	$ 995	1950	$ 286,980	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	2,074	$ 294,703
X.05 SUPPLEMENTAL SURVEYING	80	$ 4,572	0	$ -	12	$ 735	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	3956	$ 536,235	4,048	$ 541,542
X.06 ROW MAPPING	62	$ 3,731	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	62	$ 3,731
X.07 UTILITY COORDINATION AND DESIGN	324	$ 17,242	0	$ -	0	$ -	0	$ -	0	$ -	1,008	$ 34,376	0	$ -	0	$ -	154	$ 21,457	1,486	$ 73,075
X.08 PRELIMINARY DESIGN AND SPECIAL DESIGN PER AUTHORITY REQU	1636	$ 93,555	140	$ 14,706	1370	$ 62,385	0	$ -	60	$ 10,388	148	$ 6,322	0	$ -	224	$ 34,600	0	$ -	3,578	$ 221,956
X.09 ROADWAY DESIGN AND FINAL ROADWAY DESIGN	3553	$ 177,194	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	3,553	$ 177,194
X.10 DRAINAGE DESIGN	4496	$ 226,667	200	$ 19,357	620	$ 26,806	0	$ -	120	$ 20,776	2,787	$ 96,906	928	$ 47,160	0	$ -	0	$ -	9,151	$ 437,672
X.11 STRUCTURAL DESIGN	224	$ 13,552	0	$ -	7993	$ 340,733	0	$ -	24	$ 4,155	0	$ -	0	$ -	0	$ -	0	$ -	8,241	$ 358,440
X.12 RETAINING WALL DESIGN	761	$ 38,258	0	$ -	176	$ 8,238	0	$ -	4	$ 693	0	$ -	0	$ -	0	$ -	0	$ -	941	$ 47,188
X.13 SIGNING, MARKINGS AND SIGNALIZATION	1122	$ 48,583	0	$ -	76	$ 3,250	0	$ -	4	$ 693	0	$ -	500	$ 21,219	0	$ -	0	$ -	1,702	$ 73,745
X.14 TRAFFIC CONTROL PLAN	757	$ 33,164	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	757	$ 33,164
X.15 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	26	$ 1,579	0	$ -	0	$ -	0	$ -	8	$ 1,385	0	$ -	998	$ 45,735	0	$ -	0	$ -	1,032	$ 48,699
X.16 ILLUMINATION	486	$ 29,920	0	$ -	0	$ -	0	$ -	4	$ 693	0	$ -	0	$ -	0	$ -	0	$ -	490	$ 30,613
X.17 TOLL FACILITY INFRASTRUCTURE DESIGN	306	$ 16,436	0	$ -	540	$ 22,831	0	$ -	4	$ 693	0	$ -	148	$ 7,316	0	$ -	0	$ -	998	$ 47,275
X.18 MISCELLANEOUS	1546	$ 77,076	0	$ -	872	$ 40,925	0	$ -	0	$ -	330	$ 13,233	120	$ 7,022	116	$ 16,700	0	$ -	2,984	$ 154,956
X.19 COORDINATION, MEETINGS & INVOICING	972	$ 56,657	394	$ 42,904	260	$ 16,014	0	$ -	0	$ -	448	$ 18,886	318	$ 16,192	100	$ 16,700	0	$ -	2,492	$ 167,353
X.20 CONSTRUCTION PHASE SERVICES	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
DIRECT SALARY SUBTOTALS	17641	$ 914,357	2030	$ 192,813	12035	$ 529,248	1950	$ 286,980	440	$ 71,103	4865	$ 176,076	3046	$ 146,507	508	$ 79,350	4110	$ 557,692	46625	$ 2,954,126
OVERHEAD	145.59%	$ 1,331,212	0.00%	$ -	185.91%	$ 983,925	0.00%	$ -	0.00%	$ -	196.61%	$ 346,183.93	178.16%	$ 261,016.41	0.00%	$ -	0.00%	$ -		$ 2,922,337
PROFIT	12.00%	$ 269,468	0.00%	$ -	12.00%	$ 181,581	0.00%	$ -	0.00%	$ -	12.00%	$ 62,671.25	12.00%	$ 48,902.78	0.00%	$ -	0.00%	$ -		$ 562,623
TOTAL LABOR COST		$ 2,515,037		$ 192,813		$ 1,694,753		$ 286,980		$ 71,103		$ 584,932		$ 456,426		$ 79,350		$ 557,692		$ 6,439,086
DIRECT EXPENSES		$ 3,005		$ 1,818		$ 4,995		$ 375,971		$ 432		$ 1,413		$ 3,410		$ 1,524		$ 132,054	0	$ 524,622
PROJECT TOTALS		$ 2,518,042		$ 194,631		$ 1,699,748		$ 662,951		$ 71,536		$ 586,345		$ 459,836		$ 80,874		$ 689,746		$ 6,963,708
DBE PERCENTAGE	36.2%		2.8%								8.4%								47.4%	
OVERALL PERCENTAGES	36.2%		2.8%		24.4%		9.5%		1.0%		8.4%		6.6%		1.2%		9.9%		100.0%	

EXHIBIT D COMPENSATION SUMMARY - NTP1

CATEGORY	RTG		COX|McLAIN		CP&Y		FUGRO		CAMBRIAN		K FRIESE		RS&H		RVI		SAM		TOTALS - NTP1	
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST
1.01 ENVIRONMENTAL DOCUMENT REVIEW/COORDINATION	224	$ 11,666	324	$ 27,552	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	548	$ 39,218
1.02 PUBLIC INVOLVEMENT AND STAKEHOLDER COORDINATION	280	$ 16,932	80	$ 9,508	24	$ 1,650	0	$ -	40	$ 6,925	40	$ 1,869	24	$ 1,251	16	$ 3,200	0	$ -	504	$ 41,336
1.03 DATA COLLECTION	176	$ 10,855	0	$ -	28	$ 1,565	0	$ -	64	$ 8,543	48	$ 1,846	0	$ -	52	$ 8,150	0	$ -	368	$ 30,959
1.04 GEOTECHNICAL INVESTIGATION	76	$ 4,804	0	$ -	16	$ 995	1720	$ 252,980	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	1,812	$ 258,779
1.05 SUPPLEMENTAL SURVEYING	56	$ 3,248	0	$ -	12	$ 735	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	3706	$ 505,495	3,774	$ 509,478
1.06 ROW MAPPING	30	$ 1,781	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	30	$ 1,781
1.07 UTILITY COORDINATION AND DESIGN	92	$ 4,949	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	154	$ 21,457	246	$ 26,406
1.08 PREL. DESIGN & INCORP OF INNOVATIVE AND SUSTAINABLE COMPO	1196	$ 68,603	32	$ 2,912	310	$ 16,047	0	$ -	20	$ 3,463	148	$ 6,322	0	$ -	224	$ 34,600	0	$ -	1,930	$ 131,946
1.09 ROADWAY DESIGN	211	$ 11,486	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	211	$ 11,486
1.10 DRAINAGE DESIGN	460	$ 23,092	0	$ -	44	$ 2,665	0	$ -	0	$ -	1443	$ 50,772	0	$ -	0	$ -	0	$ -	1,947	$ 76,529
1.11 STRUCTURAL DESIGN	84	$ 4,804	0	$ -	2463	$ 108,392	0	$ -	24	$ 4,155	0	$ -	0	$ -	0	$ -	0	$ -	2,571	$ 117,352
1.12 RETAINING WALL DESIGN	56	$ 2,904	0	$ -	16	$ 787	0	$ -	4	$ 693	0	$ -	0	$ -	0	$ -	0	$ -	76	$ 4,384
1.13 SIGNING, MARKINGS AND SIGNALIZATION	56	$ 2,814	0	$ -	0	$ -	0	$ -	4	$ 693	0	$ -	8	$ 443	0	$ -	0	$ -	68	$ 3,949
1.14 TRAFFIC CONTROL PLAN	156	$ 7,968	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	156	$ 7,968
1.15 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	26	$ 1,579	0	$ -	0	$ -	0	$ -	8	$ 1,385	0	$ -	254	$ 12,113	0	$ -	0	$ -	288	$ 15,077
1.16 ILLUMINATION	86	$ 5,620	0	$ -	0	$ -	0	$ -	4	$ 693	0	$ -	0	$ -	0	$ -	0	$ -	90	$ 6,313
1.17 TOLL FACILITY INFRASTRUCTURE DESIGN	56	$ 3,140	0	$ -	284	$ 11,939	0	$ -	0	$ -	0	$ -	84	$ 3,745	0	$ -	0	$ -	424	$ 18,823
1.18 MISCELLANEOUS	274	$ 13,531	0	$ -	104	$ 4,439	0	$ -	0	$ -	0	$ -	0	$ -	116	$ 16,700	0	$ -	494	$ 34,670
1.19 COORDINATION, MEETINGS & INVOICING	418	$ 24,464	113	$ 13,047	120	$ 6,976	0	$ -	0	$ -	178	$ 7,458	98	$ 4,720	100	$ 16,700	0	$ -	1,027	$ 73,365
1.20 CONSTRUCTION PHASE SERVICES	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
DIRECT SALARY SUBTOTALS	4013	$ 224,239	549	$ 53,019	3421	$ 156,192	1720	$ 252,980	168	$ 26,549	1857	$ 68,267	468	$ 22,271	508	$ 79,350	3860	$ 526,952	16564	$ 1,409,819
OVERHEAD	145.59%	$ 326,470		$ -	185.91%	$ 290,376		$ -		$ -	196.61%	$ 134,219.81	178.16%	$ 39,678.58		$ -		$ -		$ 790,744
PROFIT	12.00%	$ 66,085		$ -	12.00%	$ 53,588		$ -		$ -	12.00%	$ 24,298.42	12.00%	$ 7,433.99		$ -		$ -		$ 151,406
TOTAL LABOR COST		$ 616,795		$ 53,019		$ 500,155		$ 252,980		$ 26,549		$ 226,785		$ 69,384		$ 79,350		$ 526,952		$ 2,351,969
DIRECT EXPENSES		$ 737		$ 500		$ 1,474		$ 331,428		$ 161		$ 548		$ 518		$ 1,524		$ 127,262	0	$ 464,153
TOTALS - NTP1		$ 617,532		$ 53,519		$ 501,630		$ 584,408		$ 26,710		$ 227,333		$ 69,902		$ 80,874		$ 654,214		$ 2,816,122
DBE PERCENTAGE	21.9%		1.9%								8.1%								31.9%	
OVERALL PERCENTAGES	21.9%		1.9%		17.8%		20.8%		0.9%		8.1%		2.5%		2.9%		23.2%		100.0%	

EXHIBIT D COMPENSATION SUMMARY - NTP2

CATEGORY	RTG		COX|McLAIN		CP&Y		FUGRO		CAMBRIAN		K FRIESE		RS&H		RVI		SAM		TOTALS - NTP2	
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST
2.01 ENVIRONMENTAL DOCUMENT REVIEW/COORD	172	$ 10,040	800	$ 67,801	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	972	$ 77,841
1.02 PUBLIC INVOLVEMENT AND STAKEHOLDER COORDIN	226	$ 13,438	92	$ 10,984	32	$ 2,200	0	$ -	44	$ 7,618	56	$ 2,637	10	$ 612	0	$ -	0	$ -	460	$ 37,489
2.03 DATA COLLECTION	104	$ 6,514	0	$ -	16	$ 920	0	$ -	64	$ 8,543	0	$ -	0	$ -	0	$ -	0	$ -	184	$ 15,977
2.04 GEOTECHNICAL INVESTIGATION	32	$ 1,924	0	$ -	0	$ -	230	$ 34,000	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	262	$ 35,924
2.05 SUPPLEMENTAL SURVEYING	24	$ 1,324	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	250	$ 30,740	274	$ 32,064
2.06 ROW MAPPING	32	$ 1,950	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	32	$ 1,950
2.07 UTILITY COORDINATION AND DESIGN	232	$ 12,293	0	$ -	0	$ -	0	$ -	0	$ -	1008	$ 34,376	0	$ -	0	$ -	0	$ -	1,240	$ 46,670
2.08 SPECIAL DESIGN PER MOBILITY AUTHORITY REQUES	440	$ 24,952	108	$ 11,794	1060	$ 46,339	0	$ -	40	$ 6,925	0	$ -	0	$ -	0	$ -	0	$ -	1,648	$ 90,010
2.09 FINAL ROADWAY DESIGN	3342	$ 165,708	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	3,342	$ 165,708
2.10 DRAINAGE DESIGN	4036	$ 203,575	200	$ 19,357	576	$ 24,141	0	$ -	120	$ 20,776	1344	$ 46,135	928	$ 47,160	0	$ -	0	$ -	7,204	$ 361,144
2.11 STRUCTURAL DESIGN	140	$ 8,748	0	$ -	5530	$ 232,340	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	5,670	$ 241,088
2.12 RETAINING WALL DESIGN	705	$ 35,354	0	$ -	160	$ 7,450	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	865	$ 42,804
2.13 SIGNING, MARKINGS AND SIGNALIZATION	1066	$ 45,769	0	$ -	76	$ 3,250	0	$ -	0	$ -	0	$ -	492	$ 20,777	0	$ -	0	$ -	1,634	$ 69,796
2.14 TRAFFIC CONTROL PLAN	601	$ 25,196	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	601	$ 25,196
2.15 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	744	$ 33,622	0	$ -	0	$ -	744	$ 33,622
2.16 ILLUMINATION	400	$ 24,300	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	400	$ 24,300
2.17 TOLL FACILITY INFRASTRUCTURE DESIGN	250	$ 13,296	0	$ -	256	$ 10,892	0	$ -	4	$ 693	0	$ -	64	$ 3,571	0	$ -	0	$ -	574	$ 28,452
2.18 MISCELLANEOUS	1272	$ 63,544	0	$ -	768	$ 36,486	0	$ -	0	$ -	330	$ 13,233	120	$ 7,022	0	$ -	0	$ -	2,490	$ 120,285
2.19 COORDINATION, MEETINGS & INVOICING	554	$ 32,193	281	$ 29,858	140	$ 9,038	0	$ -	0	$ -	270	$ 11,428	220	$ 11,472	0	$ -	0	$ -	1,465	$ 93,988
2.20 CONSTRUCTION PHASE SERVICES	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
DIRECT SALARY SUBTOTALS	13628	$ 690,117	1481	$ 139,794	8614	$ 373,056	230	$ 34,000	272	$ 44,554	3008	$ 107,809	2578	$ 124,235	0	$ -	250	$ 30,740	30061	$ 1,544,307
OVERHEAD	145.59%	$ 1,004,742	0.00%	$ -	185.91%	$ 693,549	0.00%	$ -	0.00%	$ -	196.61%	$ 211,964.12	178.16%	$ 221,337.82	0.00%	$ -	0.00%	$ -		$ 2,131,593
PROFIT	12.00%	$ 203,383	0.00%	$ -	12.00%	$ 127,993	0.00%	$ -	0.00%	$ -	12.00%	$ 38,372.83	12.00%	$ 41,468.79	0.00%	$ -	0.00%	$ -		$ 411,217
TOTAL LABOR COST		$ 1,898,242		$ 139,794		$ 1,194,598		$ 34,000		$ 44,554		$ 358,146		$ 387,042		$ -		$ 30,740		$ 4,087,117
DIRECT EXPENSES		$ 2,268		$ 1,318		$ 3,521		$ 44,543		$ 271		$ 865		$ 2,892		$ -		$ 4,792	0	$ 60,470
TOTALS - NTP2		$ 1,900,510		$ 141,112		$ 1,198,118		$ 78,543		$ 44,825		$ 359,012		$ 389,934		$ -		$ 35,532		$ 4,147,586
DBE PERCENTAGE	45.8%		3.4%								8.7%								57.9%	
OVERALL PERCENTAGES	45.8%		3.4%		28.9%		1.9%		1.1%		8.7%		9.4%		0.0%		0.9%		100.0%	

EXHIBIT E

FORM E-1

Central Texas Regional Mobility Authority
Subprovider Monitoring System
Commitment Worksheet

Contract #:_____ Assigned Goal: _____% Federally Funded _____ State Funded ___

Prime Provider:_____ Total Contract Amount: _____

Prime Provider Info: DBE ___ HUB ___ Both ___

Vendor ID #: _____ DBE/HUB Expiration Date: _____

(First 11 Digits Only)

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

Subprovider(s) (List All)	**Type of Work**	**Vendor ID #** (First 11 Digits Only)	**D=DBE H=HUB** **Expiration Date**	**$ Amount or % of Work ***
Subprovider(s) Contract or % of Work* Totals				

*For Work Authorization Contracts, indicate the % of work to be performed by each subprovider.

Total DBE **or** HUB Commitment Dollars $_____

Total DBE **or** HUB Commitment Percentages of Contract _____%
(Commitment Dollars and Percentages are for Subproviders only)

FORM E-2

Disadvantaged Business Enterprise (DBE) Program Commitment Agreement Form

This commitment is subject to the award and receipt of a signed contract from the Texas Department of Transportation for the subject project.

Project #:	**County:**	**Contract-CSJ:**

Items of work to be performed (attach a list of work items if more room is required):

Bid Item #	Item Description	Unit of Measure	Unit Price	Quantity	Total Per Item
				Total	

Add Ro

The contractor certifies by signature on this agreement that subcontracts will be executed between the prime contractor and the DBE subcontractors as listed on the agreement form. If a DBE Subcontractor is unable to perform the work as listed on this agreement form, the prime contractor will follow the substitution/replacement approval process as outlined in the Contract DBE Special Provision.

IMPORTANT: The signatures of the prime contractor and the DBE, and the total commitment amount must always be on the same page.

Prime Contractor:		Name/Title (please print):
Address:		Signature:
Phone:	Fax:	
E-mail:		Date:
DBE:		Name/Title (please print):
Vendor No.:		
Address:		Signature:
Phone:	Fax:	
E-mail:		Date:
Subcontractor (if the DBE will be a second tier sub):		Name/Title (please print):
Address:		Signature:
Phone:	Fax:	
E-mail:		Date:

The Texas Department of Transportation maintains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that we collect about you. Under §§552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under §559.004 of the Government Code, you are also entitled to have us correct information about you that is incorrect.

To ensure prompt and efficient handling of your project file we are requesting that all commitments to be presented to the Office of Civil Rights, using this basic format.

FORM E-3

Texas Department of Transportation

DBE Prime Contractor To Non-DBE Subcontractors

Form SMS.4902
(Rev. 05/08)

Project: _____ Contract CSJ: _____

County: _____ District: _____

Letting Date: _____ For Month of (Mo./Yr.): _____

Contractor: _____ Contract Amount: _____

Name of Non-DBE Subcontractor	$ Amount Paid This Period	Total $ Amount Paid to Date

Send this report to the District DBE Coordinator. Report is due within 15 days following the end of each calendar month.

Signature: _____ Date:
_____ Company Official

The Texas Department of Transportation maintains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that is collected about you. Under §§552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under §559.004 of the Government Code, you are also entitled to have us correct information about you that is incorrect.

FORM E-4

TxDOT Department of Transportation
DBE Monthly Progress Report

Form SMS. 4903
(Rev. 05/08)

Project: _____ Contract CSJ: _____

County: _____ District: _____

Letting Date: _____ For Month of (Mo./Yr.): _____

Contractor: _____ Contract Amount: _____

DBE Goal: _____% DBE Goal Dollars: _____

Vendor Number	Name of DBE Sub/Supplier	* RC or RN	** DBE $ Amt Paid for Work Performed this Period (X)	*** $ Amt Paid to Non-DBE 2nd Tier Subs and Haulers (Y)	Amt Paid to DBEs to Date (X-Y)	For TxDOT use Only

* Race Conscious or Race Neutral.
**Goal/commitment progress report amount and/or race-neutral amount. Do not subtract non-DBE second-tier subcontracts and haulers from this column.
*** Report amount of payment DBE subcontractors paid to non-DBE subcontractors/haulers.

If using a non-DBE hauling firm that leases from DBE truck owner-operators, payments made to each owner-operator must be reported separately.

Any changes to the DBE commitments approved by the department must be reported to the area engineer.*

Submissions of this report for periods of negative DBE activity is required. This report is required until all DBE subcontracting or material supply activity is completed.
I hereby certify that the above is a true and correct statement of the amounts paid to the DBE firms listed above.

Signature: _____ Date: _____

This report must be sent to the are engineer's office within 15 days following the end of the calendar month.

The Texas Department of Transportation maintains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that is collected about you. Under §§552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under §559.004 of the Government Code, you are also entitled to have us correct information about you that is incorrect.

FORM E-5

Central Texas Regional Mobility Authority Subprovider Monitoring System for Federally Funded Contracts
Progress Assessment Report for month of (Mo./Yr.) _____/_____

Contract #: _____ Original Contract Amount: _____

Date of Execution: _____ Approved Supplemental Agreements: _____

Prime Provider: _____ Total Contract Amount: _____

Work Authorization No. _____ Work Authorization Amount: _____

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

DBE	All Subproviders	Category of Work	Total Subprovider Amount	% Total Contract Amount	Amount Paid This Period	Amount Paid To Date	Subcontract Balance Remaining

Fill out Progress Assessment Report with each estimate/invoice submitted, *for all subcontracts*, and forward as follows:
1 Copy with Invoice - Contract Manager/Managing Office
1 Copy – CTRMA DBE Liaison, c/o HNTB or Atkins, _____, Austin, Texas

I hereby certify that the above is a true and correct statement of the amounts paid to the firms listed above.

Print Name - Company Official /DBE Liaison Officer	Signature	Phone	Date
Email		Fax	

FORM E-6

DBE Final Report

Form SMS. 4903
(Rev. 09/10)

The DBE final report form should be filled out by the contractor and submitted to the appropriate district office upon completion of the project. One copy of the report must be submitted to the area engineer's office. The report should reflect all DBE activity on the project. The report will aid in expediting the final estimate for payment. If the DBE goal requirements were not met, documentation supporting good faith efforts must be submitted.

Project: _____ Contract CSJ: _____

County: _____ Control Project: _____

Letting Date: _____ DBE Goal: _____

Contractor: _____ Contract Amount: _____

Vendor Number	Name of DBE Sub/Supplier	* RC or RN	** DBE $ Amt Paid for Work Performed this Period (X)	*** $ Amt Paid to Non-DBE 2nd Tier Subs and Haulers (Y)	Amt Paid to DBEs to Date (X-Y)	For TxDOT use Only

* Race Conscious or Race Neutral.
**Goal/commitment progress report amount and/or race-neutral amount. Do not subtract non-DBE second-tier subcontracts and haulers from this column.
*** Report amount of payment DBE subcontractors paid to non-DBE subcontractors/haulers.

Was there a project under-run caused by a TxDOT change order that impacted DBE Goal attainment?
_____ Yes _____ No Change Order Number _____

This is to certify that _____ % of the work was completed by Disadvantaged Business Enterprises as stated above.

By _____ Per: _____
Name of General Contractor Contractor's Signature

Subscribed and sworn to before me, this _____ day of _____, A.D. _____

_____ _____
Notary Public County

EXHIBIT F

Disadvantaged Business Enterprise (DBE)
for Federal-Aid Professional or Technical Services Contracts
Special Provision

1) **PURPOSE.** The purpose of this attachment is to carry out the U.S. Department of Transportation's ("DOT") policy of ensuring nondiscrimination in the award and administration of DOT assisted contracts and creating a level playing field on which firms owned and controlled by minority or socially and economically disadvantaged individuals can compete fairly for DOT assisted contracts.

2) **POLICY.** It is the policy of the DOT, the Central Texas Regional Mobility Authority (the "Mobility Authority") and the Texas Department of Transportation (the "Department") that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program ("DBE Program"), shall have the opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. The Mobility Authority and the Department previously entered into a Memorandum of Understanding Regarding the Adoption of the Texas Department of Transportation's Federally-Approved Disadvantaged Business Opportunity Program by the Central Texas Regional Mobility Authority (the "MOU") dated effective February 1, 2007. The MOU provides that the Mobility Authority has adopted the Department's DBE Program with the consent of the Federal Highway Administration for contracts financed in whole or in part with Federal funds. Consequently, the Disadvantaged Business Enterprise requirements of 49 CFR Part 26, and the Department's DBE Program, apply to this contract as follows:

   a. The Provider will offer Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, Subpart A and the Department's DBE Program, the opportunity to compete fairly for contracts and subcontracts financed in whole or in part with Federal funds. In this regard, the Provider shall make a good faith effort to meet the Disadvantaged Business Enterprise goal for this contract.

   b. The Provider and any subprovider(s) shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Provider shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. The requirements of this Special Provision shall be physically included in any subcontract.

   c. When submitting the contract for execution by the Mobility Authority, the Provider must complete and furnish Form E-1 which lists the commitments made to certified DBE subprovider(s) that are to meet the contract goal and Form E-2 which is a commitment agreement(s) containing the original signatures of the Provider and the proposed DBE(s). For Work Authorization Contracts, Form E-1 is required at the time of submitting the contract for execution by the Mobility Authority. Form E-2 will be required to be completed and attached with each work authorization number that is submitted for execution, if the DBE will be performing work**.** Any substitutions or changes to the DBE subcontract amount shall be subject to prior written approval by the Mobility Authority. If non-DBE subprovider is performing work, insert N/A (not applicable) on the line provided.

   d. Failure to carry out the requirements set forth above shall constitute a material breach of this contract and may result; in termination of the contract by the Mobility Authority; in a deduction of the amount of DBE goal not accomplished by DBEs from the money due or to become due to the Provider, not as a penalty but as liquidated damages to the Mobility Authority; or such other remedy or remedies as the Mobility Authority deems appropriate.

3) **DEFINITIONS.**

a. "Mobility Authority" means the Central Texas Regional Mobility Authority.

b. "Department" means the Texas Department of Transportation (TxDOT).

c. "Federal-Aid Contract" is any contract between the Mobility Authority and a Provider which is paid for in whole or in part with U. S. Department of Transportation ("DOT") financial assistance.

d. "Provider" is any individual or company that provides professional or technical services.

e. "DBE Joint Venture" means an association of a DBE firm and one (1) or more other firm(s) to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks and profits of the joint venture are commensurate with its ownership interest.

f. "Disadvantaged Business Enterprise" or "DBE" means a firm certified as such by the Department in accordance with 49 CFR Part 26 and listed on the Department's website under the Texas Unified Certification Program.

g. "Good Faith Effort" means efforts to achieve a DBE goal or other requirement of this Special Provision which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

h. "Race-neutral DBE Participation" means any participation by a DBE through customary competitive procurement procedures.

i. "DBE Liaison" shall have the meaning set forth in Section 5.e. herein.

4) **PERCENTAGE GOAL.** The goal for Disadvantaged Business Enterprise participation in the work to be performed under this contract is 11.7% of the contract amount. This goal is established in accordance with the provisions of the MOU.

5) **PROVIDER'S RESPONSIBILITIES.** A DBE prime may receive credit toward the DBE goal for work performed by his-her own forces and work subcontracted to DBEs. A DBE prime must make a good faith effort to meet the goals. In the event a DBE prime subcontracts to a non-DBE, that information must be reported to the Mobility Authority on Form E-3.

a. A Provider who cannot meet the contract goal, in whole or in part, shall document the "Good Faith Efforts" taken to obtain DBE participation. The following is a list of the types of actions that may be considered as good faith efforts. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

(1) Soliciting through all reasonable and available means the interest of all certified DBEs who have the capability to perform the work of the contract. The solicitation must be done within sufficient time

to allow the DBEs to respond to it. Appropriate steps must be taken to follow up initial solicitations to determine, with certainty, if the DBEs are interested.

(2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Provider might otherwise prefer to perform the work items with its own forces.

(3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) Negotiating in good faith with interested DBEs by making a portion of the work available to DBE subproviders and suppliers and selecting those portions of the work or material needs consistent with the available DBE subproviders and suppliers.

(5) The ability or desire of the Provider to perform the work of a contract with its own organization does not relieve the Provider's responsibility to make a good faith effort. Additional costs involved in finding and using DBEs is not in itself sufficient reason for a Provider's failure to meet the contract DBE goal, as long as such costs are reasonable. Providers are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(6) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities.

(7) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Provider.

(8) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.

(9) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

(10) If the Department's Director of the Business Opportunity Programs Office or the Mobility Authority's DBE Liaison determines that the Provider has failed to meet the good faith effort requirements, the Provider will be given an opportunity for reconsideration by the Department or the Mobility Authority, as appropriate.

NOTE: The Provider must not cause or allow subproviders to bid their services.

b. The preceding information shall be submitted directly to the Chair of the Consultant Selection Team responsible for the project.

c. The Provider shall make all reasonable efforts to honor commitments to DBE subproviders named in the commitment submitted under Section 2.c. of this attachment. Where the Provider terminates or removes a DBE subprovider named in the initial commitment, the Provider must demonstrate on a case-by-case basis to

the satisfaction of the Mobility Authority that the originally designated DBE was not able or willing to perform.

d. The Provider shall make a good faith effort to replace a DBE subprovider that is unable or unwilling to perform successfully with another DBE, to the extent needed to meet the contract goal. The Provider shall submit a completed Form E-2 for the substitute firm(s). Any substitution of DBEs shall be subject to prior written approval by the Mobility Authority. The Mobility Authority may request a statement from the firm being replaced concerning its replacement prior to approving the substitution.

e. The Provider shall designate a DBE liaison officer ("DBE Liaison") who will administer the DBE program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with DBEs.

f. Providers are encouraged to investigate the services offered by banks owned and controlled by disadvantaged individuals and to make use of these banks where feasible.

6) **ELIGIBILITY OF DBEs.**

a. The Department certifies the eligibility of DBEs, DBE joint ventures and DBE truck-owner operators to perform DBE subcontract work on DOT financially assisted contracts. Under the terms of the MOU, only DBEs certified as eligible to participate on Department roadway construction projects and listed on the Department's website under the Texas Unified Certification Program are eligible to participate on Mobility Authority roadway construction projects.

b. This certification will be accomplished through the use of the appropriate certification schedule contained in the Department's DBE program and adopted by the Mobility Authority under the terms of the MOU.

c. The Department publishes a Directory of Disadvantaged Business Enterprises containing the names of firms that have been certified to be eligible to participate as DBEs on DOT financially assisted contracts. The directory is available from the Department's Business Opportunity Programs Office. The Texas Unified Certification Program DBE Directory can be found on the Internet at: http://www.dot.state.tx.us/services/business_opportunity_programs/tucp_dbe_directory.htm .

d. Only DBE firms certified at the time the contract is signed or at the time the commitments are submitted are eligible to be used in the information furnished by the Provider as required under Section 2.c. and 5.d. above. For purposes of the DBE goal on this contract, DBEs will only be allowed to perform work in the categories of work for which they were certified.

7) **DETERMINATION OF DBE PARTICIPATION.** A firm must be an eligible DBE and perform a professional or technical function relating to the project. Once a firm is determined to be an eligible DBE, the total amount paid to the DBE for work performed with his/her own forces is counted toward the DBE goal. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subprovider is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

A DBE subprovider may subcontract no more than 70% of a federal aid contract. The DBE subprovider shall perform not less than 30% of the value of the contract work with assistance of employees employed and paid directly by the DBE; and equipment owned or rented directly by the DBE. DBE subproviders must perform a

commercially useful function required in the contract in order for payments to be credited toward meeting the contract goal. A DBE performs a commercially useful function when it is responsible for executing the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself . When a DBE is presumed not to be performing a commercially useful function, the DBE may present evidence to rebut this presumption.

A Provider may count toward its DBE goal a portion of the total value of the contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the contract performed by the DBE.

Proof of payment, such as copies of canceled checks, properly identifying the Mobility Authority's contract number or project number may be required to substantiate the payment, as deemed necessary by the Mobility Authority.

8) **RECORDS AND REPORTS.**

a. After submission of the initial commitment reported (Form E-1), required by Section 2.c. of this attachment, the Provider shall submit Monthly Progress Assessment Reports (Forms E-4 and E-5), after contract work begins, on DBE involvement to meet the goal and for race-neutral participation. One copy of each report is to be sent monthly to the Mobility Authority as provided in Section 8.b. below and should also be submitted with the Provider's invoice. **Only actual payments made to subproviders are to be reported. These reports will be required until all subprovider activity is completed.** The Mobility Authority may verify the amounts being reported as paid to DBEs by requesting copies of canceled checks paid to DBEs on a random basis.

b. DBE subproviders should be identified on the report by name, type of work being performed, the amount of actual payment made to each during the billing period, cumulative payment amount and percentage of the total contract amount. These reports will be due within fifteen (15) days after the end of a calendar month. Reports are required even when no DBE activity has occurred in a billing period.

c. All such records must be retained for a period of four (4) years following final payment or until any investigation, audit, examination, or other review undertaken during the four (4) years is completed, and shall be available at reasonable times and places for inspection by authorized representatives of the Mobility Authority, the Department or the DOT.

d. Prior to receiving final payment, the Provider shall submit a Final Report (Form E-6), detailing the DBE payments. The Final Report is to be sent to the Mobility Authority and one (1) copy is to be submitted with the Provider's final invoice. If the DBE goal requirement is not met, documentation of the good faith efforts made to meet the goal must be submitted with the Final Report.

9) **COMPLIANCE OF PROVIDER.** To ensure that DBE requirements of this DOT-assisted contract are complied with, the Mobility Authority and/or the Department will monitor the Provider's efforts to involve DBEs during the performance of this contract. This will be accomplished by a review of DBE Monthly Progress Reports (Form E-4), submitted to the Mobility Authority by the Provider indicating his progress in achieving the DBE contract goal, and by compliance reviews conducted by the Mobility Authority or the Department. The DBE Monthly Progress Report (Form E-4) must be submitted at a minimum monthly to the Mobility Authority, in addition to with each invoice to the appropriate agency contact.

The Provider shall receive credit toward the DBE goal based on actual payments to the DBE subproviders with the following exceptions and only if the arrangement is consistent with standard industry practice. The Provider shall immediately contact the Mobility Authority in writing if he/she withholds or reduces payment to any DBE subprovider.

(1) A DBE firm is paid but does not assume contractual responsibility for performing the service;

(2) A DBE firm does not perform a commercially useful function;

(3) Payment is made to a DBE that cannot be linked by an invoice or canceled check to the contract under which credit is claimed;

(4) Payment is made to a broker or a firm with a brokering-type operation; or

(5) Partial credit is allowed, in the amount of the fee or commission provided the fee or commission does not exceed that customarily allowed for similar services, for a bona fide service, such as professional, technical, consultant, or managerial services, and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for performance of the contract.

A Provider's failure to comply with the requirements of this Special Provision shall constitute a material breach of this contract. In such a case, the Mobility Authority reserves the right to terminate the contract; to deduct the amount of DBE goal not accomplished by DBEs from the money due or to become due the Provider, not as a penalty but as liquidated damages to the Mobility Authority; or such other remedy or remedies as the Mobility Authority deems appropriate.

EXHIBIT G

Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts Special Provision

It is the policy of the DOT, the Central Texas Regional Mobility Authority (the "Mobility Authority") and the Texas Department of Transportation (the "Department") that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program ("DBE Program"), shall have the opportunity to participate in the performance of contracts financed in whole or in part with Federal funds and it is the DOT's policy that a maximum feasible portion of the Department's and the Mobility Authority's overall DBE goal be met using race-neutral means. The Mobility Authority and the Department previously entered into a Memorandum of Understanding Regarding the Adoption of the Texas Department of Transportation's Federally-Approved Disadvantaged Business Opportunity Program by the Central Texas Regional Mobility Authority (the "MOU") dated effective February 1, 2007. The MOU provides that the CTRMA has adopted the Department's DBE Program with the consent of the Federal Highway Administration for contracts financed in whole or in part with Federal funds. Consequently, if there is no DBE goal, the DBE requirements of 49 CFR Part 26, apply to this contract as follows:

The Provider will offer DBEs as defined in 49 CFR Part 26, Subpart A, the opportunity to compete fairly for contracts and subcontracts financed in whole or in part with federal funds. Race-Neutral DBE participation on projects with no DBE goal should be reported on the Form E-3. Payments to DBEs reported on Form E-3 are subject to the following requirements:

DETERMINATION OF DBE PARTICIPATION.

A firm must be an eligible DBE and perform a professional or technical function relating to the project. Once a firm is determined to be an eligible DBE, the total amount paid to the DBE for work performed with his/her own forces must be reported as race-neutral DBE participation. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work should not be reported unless the subcontractor is itself a DBE.

A DBE subprovider may subcontract no more than 70% of a federal aid contract. The DBE subprovider shall perform not less than 30% of the value of the contract work with assistance of employees employed and paid directly by the DBE; and equipment owned or rented directly by the DBE. DBE subproviders must perform a commercially useful function required in the contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. When a DBE is presumed not to be performing a commercially useful function, the DBE may present evidence to rebut this presumption.

A Provider must report a portion of the total value of the contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the contract performed by the DBE.

Proof of payment, such as copies of canceled checks, properly identifying the Mobility Authority's contract number or project number may be required to substantiate the payment, as deemed necessary by the Mobility Authority.

The Provider and any subprovider shall not discriminate on the basis of race, color, national origin or sex in the award and performance of contracts. These requirements shall be physically included in any subcontract.

Failure to carry out the requirements set forth above shall constitute a material breach of this contract and, may result in termination of the contract by the Mobility Authority or other such remedy as the Mobility Authority deems appropriate.

REGULAR MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

RESOLUTION NO. 14-___

APPROVING A CONTRACT AND WORK AUTHORIZATION WITH RODRIGUEZ TRANSPORTATION GROUP, INC., FOR PROFESSIONAL ENGINEERING DESIGN SERVICES FOR THE SH 45 SW PROJECT.

WHEREAS, by Resolution No. 14-071, adopted on September 24, 2014, the Board of Directors authorized the Executive Director to negotiate a professional services contract to provide professional engineering design services for the SH 45 SW Project with Rodriguez Transportation Group, Inc. ("RTG"); and

WHEREAS, Mobility Authority staff and its general engineering consultant have negotiated a contract and work authorization with RTG, and copies of those documents have been provided to the Board in the agenda backup materials for this resolution; and

WHEREAS, the Executive Director recommends approval of the proposed contract and work authorization with RTG to provide professional engineering design services for the SH 45 SW Project.

NOW, THEREFORE, BE IT RESOLVED that the Executive Director may finalize and execute on behalf of the Mobility Authority the proposed contract and work authorization with Rodriguez Transportation Group, Inc. to provide professional engineering design services for the SH 45 SW Project, in the form or substantially the form as provided in the agenda backup materials.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 29th day of October, 2014.

Submitted and reviewed by:

_____
Andrew Martin
General Counsel for the Central
Texas Regional Mobility Authority

Approved:

_____
Ray A. Wilkerson
Chairman, Board of Directors
Resolution Number 14-___
Date Passed 10/29/14