



**CENTRAL TEXAS
Regional Mobility Authority**

AGENDA ITEM #4 SUMMARY

Approve a supplement to the work authorization with Atkins North America, Inc., for oversight of the design-build contract for the Manor Expressway (290E) Project.

Strategic Plan Relevance: Regional Mobility

Department: Engineering

Associated Costs: Not to exceed \$1,404,000.00

Funding Source: Bond Sale Funds

Board Action Required: Yes

Description of Matter:

This Supplemental Work Authorization No. 5 to Work Authorization No. 1 will allow continuation of GEC Support Services related to oversight of the activities under the Design/Build Contract for the 290 East (Manor Expressway) Project.

The services contained in this Supplemental Work Authorization #5 to Work Authorization No. 1 include operational improvements analysis and project closeout services.

The performance of these services will be as directed by the Mobility Authority.

Reference: Supplemental Work Authorization No. 5
Draft Resolution

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

EXHIBIT D
WORK AUTHORIZATION

Supplement No. 5 to Work Authorization No.1

This Work Authorization is made as of this 1st day of July, 2015, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING ENGINEERING SERVICES, dated as of January 4th, 2010 (the Agreement), between the **Central Texas Regional Mobility Authority** (Authority) and **Atkins North America, Inc.** (GEC). This Work Authorization is made for the following purpose, consistent with the services defined in the Agreement:

*Manor Expressway
Oversight Services*

Section A. - Scope of Services

A.1. GEC shall perform the following Services:

Please reference Attachment A – Services to be Provided by the GEC

A.2. The following Services are not included in this Work Authorization, but shall be provided as Additional Services if authorized or confirmed in writing by the Authority.

Not applicable.

A.3. In conjunction with the performance of the foregoing Services, GEC shall provide the following submittals/deliverables (Documents) to the Authority:

Please reference Attachment A – Services to be Provided by the GEC

Section B. - Schedule

GEC shall perform the Services and deliver the related Documents (if any) according to the following schedule:

Services defined herein are expected to be substantially complete within six (6) months from the date this Supplement becomes effective. This Supplement will not expire until all tasks associated with the Scope of Services are complete.

Section C. - Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to the GEC the amount not to exceed \$1,404,000.00, based on Attachment B -Fee Estimate. This will increase the not to exceed amount for Work Authorization No. 1 from \$38,169,265.34 to \$39,573,265.34. Compensation for Direct Expenses under this Supplement which are incurred as part of normal business operations (i.e., internal document reproduction, internal plotting, travel and parking associated with

local meetings, etc.) will be reimbursed on a Lump-Sum basis in the amount of: \$17,646.00 (with \$2,941.00 to be invoiced monthly). Profit will be 12% for all services. Compensation shall be in accordance with the Agreement.

C.2. Compensation for Additional Services (if any) shall be paid by the Authority to the GEC according to the terms of a future Work Authorization.

Section D. - Authority’s Responsibilities

The Authority shall perform and/or provide the following in a timely manner so as not to delay the Services of the GEC. Unless otherwise provided in this Work Authorization, the Authority shall bear all costs incident to compliance with the following:

Please reference Attachment A – Services to be Provided by the GEC

Section E. - Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization:

Not applicable.

Except to the extent expressly modified herein, all terms and conditions of the Agreement shall continue in full force and effect.

Authority: Central Texas Regional Mobility
Authority

GEC: Atkins North America, Inc.

By: Mike Heiligenstein

By: _____

Signature: _____

Signature: _____

Title: Executive Director

Title: _____

Date: _____

Date: _____

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

**SUPPLEMENT NO. 5 TO
WORK AUTHORIZATION NO. 1
ATKINS**

**ATTACHMENT A
SERVICES TO BE PROVIDED BY GEC**

MANOR EXPRESSWAY PROJECT

1. WB Frontage Road at SH 130 Operational Analysis [Preliminary Engineering Code 13110]

Develop and evaluate concepts to address operational issues at the westbound entrance ramp to Manor Expressway west of SH 130. Concepts will include both interim and long term solutions. Activities to complete this task include:

- 1.1. Data Collection The following tasks associated with data collection will be performed:
 - Traffic Count Collection, consisting of full turning movement counts and tube counts at the interchange frontage road.
 - Visual Origin and Destination Study, which will provide a detailed picture of the trip patterns associated with the use of this ramp. The data collected will be used as input in the traffic model.
- 1.2. Traffic Modeling (Visual Simulation) Atkins will take the traffic data collected, as well as the data from the origin and destination study and run simulations in order to eliminate and/or evaluate proposed concepts.
- 1.3. Alternatives Analysis Detailed evaluation of each option will be conducted, and concept drawings for each option will be prepared. A matrix that summarizes the options will be presented to the Mobility Authority.
- 1.4. Coordination Meetings
 - TxDOT
 - Concept discussions with liaisons and technical staff
 - Environmental coordination associated with an expedited environmental re-evaluation process
 - City of Austin
 - Traffic signal coordination at SH 130
 - Mobility Authority
 - Weekly team meetings

1.5. Procurement Assistance – Design for Southbound to Westbound Direct Connector (D-C)

Will include providing assistance in production of procurement documents, pre-proposal activities, evaluation coordination and contract for consultant selection for design of the proposed Southbound to Westbound D-C.

1.5.1. Coordination/Meetings

- Project Management oversight and attendance of coordination meetings with the Mobility Authority, TxDOT and other stakeholders in development of procurement objectives and comments. Assumes six (6) meetings.
- Development and modifications to procurement schedule

1.5.2. Procurement Production

- Development of a procurement document for D-C design
- Prepare graphics and a detailed project description/objectives
- Coordination with Mobility Authority Legal staff on Request for Proposal Qualification (RFQ) language and content
- Peer review of proposal and associated modifications
- Detailed development of scope activities
- Coordination with TxDOT regarding RFQ development, TxDOT review/approval and DBE Goal Determination

1.5.3. Contract Development

Develop and coordinate Contract with the Mobility Authority legal staff and receive TxDOT approval for final product.

1.5.4. Proposal Assistance/Pre-Proposal Activities

- Assist in developing Mobility Authority Board agenda items authorizing procurement
- Coordinate with CTRMA staff posting of advertisement on website
- Prepare notification to consultants regarding this upcoming opportunity
- Set-up, uploading of documents/notifications, and maintenance of procurement activities on the civcastusa.com website
- Develop presentation, materials, and prepare for Pre-Proposal Conference
- Attend and assist in answering questions at the Pre-Proposal Conference
- Develop responses for Consultant questions received through the procurement process
- Develop amendments as necessary to clarify and modify the procurement document and requirements

1.5.5. Evaluation Committee Support/Coordination

- Coordinate and schedule activities with evaluation committee
- Attend and support the Evaluation Committee Meeting
- Schedule and assist with interviews (if required)
- Document final ranking and recommendations
- Assist in preparing Mobility Authority agenda items to approve ranking of consultants and authorize negotiations with the most qualified firm

1.5.6. Contracting and Award

- Assist the Mobility Authority, as necessary, in negotiations with selected consultant
- Coordinate final contract acceptance with the Mobility Authority legal staff and the selected consultant
- Prepare Mobility Authority Board agenda item for approval of contract and issuance of NTP to the selected consultant.

2. **WB Frontage Rd & SH130 Interim Solution Final Design [Engineering Final Design Code 13310]**

This project includes the development of Plans, Specifications & Estimates (PS&E) plans and bid documents necessary to prepare for construction bidding of the WB frontage road and SH 130 interim solution project (Option 5B).

As schedule is critical for delivery of this project, the PS&E plans are to be prepared, completed and accepted by the end of September 2015.

The project includes development of topographic surveys, geotechnical investigations, roadway geometry, drainage, wall designs, signal plans, signing and marking plans, traffic control plans, storm water pollution prevention plans, and an environmental reevaluation. The consultant team will also be required to prepare a complete bid package, participate during the bid phase (respond to any questions received by prospective bidders and attend a pre-bid conference). Construction phase services will be limited to responding to requests for information, checking on submitted shop drawings and developing final as-built plans. Inspection services are excluded.

Efforts should conform to the latest editions of the TxDOT Project Development Process Manual, the Roadway Design Manual, the PS&E Preparation Manual, TxDOT accepted environmental right-of-way processes, and other applicable codes, ordinances, criteria, standards, regulations, policies, guidelines, practices and procedures.

Scheduling of activities below will conform to established CTRMA, TxDOT and/or other municipal review and comment periods for each milestone of the project.

Throughout the course of this project, the consultant team will work at the direction and supervision of the CTRMA Project Manager, providing reports and findings, as required.

The Scope of Services to be provided by the consultant team may include, but is not limited to the following key elements:

- Surveying
- Environmental Reevaluation

- Plans, Specifications and Estimates

A. Surveying

All surveying shall comply with the Professional Land Surveying Practices Act, Article 5282c, Vernon's Texas Civil Statutes. All surveying shall comply with applicable rules promulgated by the Texas Board of Professional Land Surveying. The Manual of Practice published by the Society of Professional Surveyors shall be used as a guide in determining accuracy requirements and procedures to follow. Field surveying efforts shall include the following:

- 1) Project Control
 - Establish primary and secondary control monuments. The horizontal and vertical datum for the existing control monuments will be as follows:
 - Horizontal – Texas State Plane Coordinate System of 1983(NAD-83 State Plane Coordinates)
 - Vertical – NAVD 88, GEOID 2012A.
- 2) Ground Survey
 - Perform ground survey throughout the identified project limits to collect ground elevations and planimetric features.
 - Survey the horizontal location of visible aboveground utility appurtenances and “811”-located utility markings within the existing ROW to assist in utility mapping.
- 3) Right-of-Way
 - Existing right-of-way limits established as part of the 290E Manor Expressway project will be researched and provided.

Deliverables

- Final planimetric and topographic base map showing all planimetrics, field survey data, and right-of-way described above.
- Final Triangulated Irregular Network (TIN) file
 - All electronic files shall be fully compatible with the State's MicroStation GeoPak system without further modification or conversion.
 - All MicroStation V8 2D and 3D files will be in U.S. survey feet and be in the appropriate TxDOT state coordinate system

B. Environmental Reevaluation

- An environmental reevaluation checklist for the existing Manor Expressway (290E) Environmental Assessment will be prepared in conformance with TxDOT required to document and evaluate potential environmental impacts of the proposed operational improvements for this project. This will include field visits as necessary.
- The reevaluation checklist will need to be coordinated with TxDOT district environmental staff, ultimately receiving final approval and environmental clearance to proceed with the proposed construction.

Deliverables

- Approved Environmental Reevaluation Checklist.

C. Plans, Specifications and Estimates (PS&E)

- 1) PS&E Plans will be prepared for construct letting by the CTRMA.
- 2) PS&E plans will require review and approval by TxDOT district staff.
- 3) PSE Plans will be developed for 60%, 95% and final submittals. The 60% and 95% plans will require internal (Atkins and CTRMA concurrent reviews) as well as TxDOT District review.
- 4) Research and utilize information available from previous phases of this project.
- 5) Complete an abridged Design Summary Report. This will provide documentation for the design decisions made on this project.
- 6) Initial design
 - develop traffic control plan/detour plans
 - coordinate approval of pavement design
 - prepare hydrologic/hydraulic reports as necessary
- 7) Utility Coordination
 - research and determination of the location of existing utilities
 - minimization of utility conflicts with the proposed design
 - coordination with utilities to develop relocation plans
- 8) Roadway design
 - design final vertical and horizontal alignments
 - develop cross-section and earthwork volumes
 - detail design elements throughout project
 - submit design exceptions/waivers as required on project
- 9) Operational design
 - develop signing and pavement marking plans
 - develop signalization plans
 - develop signal timing plans
- 10) Drainage Design
 - review additional impervious areas added with this project and make adjustments as necessary within the existing drainage system
 - develop drainage improvements to replace areas where the existing system is impacted by roadway widening
 - prepare culvert and storm drain details
 - design Storm Water Pollution Prevention Plan
- 11) Wall Design
 - develop wall design and plans as necessary
 - perform geotechnical investigations as necessary to support the wall designs
- 12) Final assembly of PS&E Package and supporting documents
 - complete final construction plans
 - develop standard and special specifications
 - develop special provisions
 - develop cost estimate
 - support CTRMA's develop of project agreements related to the Sample Project
- 13) Bid assistance and construction phase services
 - assist with bid process and provide answers to prospective bidders
 - during construction, respond to requests for information (RFIs) and perform shop drawing reviews

- at completion of construction develop final as-built drawings

Deliverables

- Final hydraulic report
- Final approved design exceptions/waivers (if required)
- Plans estimate
- Specification list, general notes, special provisions
- Final signed and sealed construction plans
- As-Built Plans (at completion of construction)

3. Project Close Out [Project Oversight - Construction Code 13720]

3.1. Project / Change Management Beyond 12/31/2014 This task, originally authorized through Supplement No. 3 to Work Authorization No. 1, was contemplated to be complete by December 31, 2014. Due to project closeout extending beyond this date, Supplemental No. 5 to Work Authorization No. 1 extends the anticipated work effort through December 31, 2015. The work to be performed by the General Engineering Consultant (GEC) will include project management and construction oversight services necessary to oversee closeout of the construction of the Manor Expressway (290 East) Phase II Project through the use of a Design/Build Comprehensive Development Agreement (D/B CDA). This will entail those professional services and associated deliverables required to complete the oversight activities associated with the management of the D/B CDA Developer (hereinafter referred to as the Developer). Activities included in this task:

3.1.1. Project Administration

- Review and report on the Developer's submittals of records and reports including, weekly payroll, statement of wage compliance, requests for payment materials on hand, DBE compliance and/or other reports and records required by TxDOT and/or FHWA.
- Report Project progress and issues in a timely manner.
- Review, monitor, and report on Developer's Project schedule (if submitted).
- Review and submit a report on the Developer's as-built plans.
- Maintain accurate records of the costs involved in potential change order work. These records will include labor and equipment times and materials installed (temporary or permanent) in the portion of the work in dispute.
- Assist in the surveillance of the Developer's compliance with contract requirements. The GEC is responsible for reviewing, monitoring, evaluating, and acting upon documentation required for Comprehensive Development Agreement (CDA) compliance and maintaining the appropriate files thereof.
- Provide compliance oversight of third party agreements and development permits.

3.1.2. Project Coordination Work with CTRMA, TxDOT, Developer, third party consultants, utility companies, public agencies, contractors and the general public as required until Project Final Acceptance.

- 3.1.3. Sub-Consultants Coordinate, contract, and provide oversight for any required sub-consultants through Final Acceptance.
- 3.1.4. Program Reporting Prepare and issue weekly reports on the Project's status which will document status of Project close-out activities.
- 3.1.5. Project Schedule
- Evaluate, monitor, and verify, the Developer's Project schedule.
 - Report and verify the Developer's progress and upcoming milestones on a monthly basis to CTRMA.
 - Identify, catalog, and archive Baseline Schedule and schedule revisions.
 - Evaluate time impacts and report recommendations to CTRMA
- 3.1.6. Change Order Processing & Management
- Provide review of potential change orders on the Project and process in accordance with the CDA and coordinate with external agencies as required
 - Review change order cost estimates prepared by the Developer, evaluate Developer claims for extension of time, and provide comments to CTRMA
 - Maintain log and retain all documents associated with potential change orders
 - Prepare status reports and presentation for the Dispute Resolution Board if required
- 3.1.7. Dispute/Claims Support
- Assemble supporting documentation, review, analyze and provide recommendations to CTRMA on the Developer's submittal of a dispute
 - Review, analyze and make recommendations to CTRMA on the Developer's claim package submittal
 - Participate as needed in preparation and presentation to Dispute Resolution Board
- 3.1.8. Project Meetings & Documentation The GEC will facilitate the project meetings to assess progress, schedule, and quality of services being provided as well as identify issues. The GEC will also participate in regular staff meetings, client meetings, and executive management meetings as needed.
- 3.1.9. Document Controls
- Maintain Project files for the remainder duration of the Project
 - Transfer program files to CTRMA upon completion of the work or as directed by the CTRMA
 - Import documents into the CTRMA Electronic Document Management System (EDMS) as necessary
- 3.1.10. Tracking Database Maintain the tracking database for correspondence, transmittals, requests for information, meeting minutes, action items, submittals, Inspector daily

reports, Project diary, Project schedule, change orders, pay estimates, lien waivers, shop drawings, working drawings, erection drawings, catalog cut sheets, mix designs, non-conformance reports, payment certifications, Insurance and Bonds, issues, material test data, schedules, audits, related technical data, and issues associated with the Project.

3.1.11. Construction Oversight

The GEC will provide professional services associated with construction oversight including the construction engineering and inspection in accordance with the PDA. Construction oversight efforts will focus on coordination with the Developer's construction process to provide monitoring and oversight of reasonable compliance with contract obligations, sound engineering practices and regulatory requirements. The following activities are included:

- Construction Oversight Inspections
 - Perform and report construction inspections
 - Review and report final documentation of construction quantities in support of Developer draw requests
 - Maintain diaries, logs, and records for a record of the Developer's progress
 - Provide a digital photo log of the Project area during construction, with heavy emphasis on areas with potential claim items/issues and on areas of real/potential public controversy
- Traffic Control
 - Issue deficiency reports to the Developer on any non-compliance of traffic control devices or layouts
 - Coordinate with the Developer, affected third parties, interested agencies, emergency responders and CTRMA for major traffic disruptions
 - Track lane rental fees
 - Attend meetings pertaining to the traffic control and maintenance of traffic that are held by the Developer, or interested parties
- Requests for Information and Non-Conformance Report Processing and Management
 - Review and comment on Project RFIs
 - Prepare and manage Non-Compliance Reports (NCRs) for non-compliant work
 - Maintain, log and retain all documents associated with RFIs and NCRs
- Developer Draw Requests
 - Review completeness of Developer's submittals
 - Evaluate that the request accurately reflects monies due for acceptable work completed
 - Notify the CTRMA of amount approved for payment
- Utility Oversight

- Review utility plans for compliance with the TxDOT Utility Accommodation Policy, compatibility with the Project features, betterment inclusion and constructability
 - Provide oversight review of location, materials, and backfilling of trenches associated with utility adjustments; not responsible for actual location of utilities
 - Participate in meetings as necessary to effectively manage the utility coordination process
 - Schedule periodic meetings with utility owner's representatives for coordination purposes
 - Meet with the Developer as necessary to resolve matters relating to schedules, utility identification, design changes, conflict resolution, and negotiation with utility owners
 - Assist Developer with negotiating the details of utility agreements with the utility companies. Details will include any necessary betterment percentages, indirect costs, plans, estimates and schedules for the utility companies' activities
 - Review of utility adjustment agreements including plans, estimates, and property interest
 - Review of claims of unidentified utilities submitted by the Developer
 - Monitoring payments from Developer to utility owners for utility adjustments
 - Provide utility construction monitoring and verification
 - Monitor and report utility adjustment status
- Survey Support
 - Perform miscellaneous spot checks as needed during the duration of the Project
 - General Technical Support
 - Advise the CTRMA on matters of engineering related to interpretation of design details, construction techniques and procedures, specifications, standard construction details, and construction plans prepared by the Design Engineer(s)
 - Seek clarifications from the Design Engineer(s) when necessary on the intent reflected in the design plans and specifications. The Engineer of Record will remain responsible for design related services
 - CTRMA Construction Coordination Support

The GEC will support CTRMA in coordination and any interlocal agency agreements including exhibit preparation and supporting document preparation and assembly with Texas Department of Transportation (TxDOT), Federal Highway Administration (FHWA), Capitol Area Metropolitan Planning Organization (CAMPO), City of Austin, Travis County, Local Municipalities and Municipal Utility Districts, and other agencies as identified and as directed by CTRMA
 - Notice of Completion

When the Project is complete, the GEC will verify there are no outstanding claims related to the Developer's work, and provide a Notification of Final Acceptance to the CTRMA

3.2. Survey (Bridge approaches)

Conduct 3D laser scanning of bridges on Manor Expressway to establish a baseline and monitor potential bridge settlement at bridge approach and departures.

3.3. Post Construction Support

3.3.1. Bridge Approach/Departure Settlement Analysis Generate profiles from the bridge scan data to determine whether or not settlement or movement of the approach slabs have occurred. Upon completion of the analysis, Atkins will work with the Mobility Authority in the development of solutions to address any settlement issues identified.

3.3.2. Annual Report Continue development of annual traffic report. Inrix data have been ordered and will be analyzed. Atkins will submit a draft report to the Mobility Authority for review and comment.

3.3.3. Safety Analysis at US 290 / SH 130 intersection Continue to monitor any safety issues that may be identified at the frontage road intersection. Work may entail analysis to determine any problems, as well as traffic simulation modeling to determine potential solutions.

3.4. Post Construction Sampling

Conduct comprehensive sampling to obtain post construction data sets of various environmental measures of the Manor Expressway corridor from US 183 to east of SH 130. Data collected will be compared to pre-expansion data that had been collected previously in order to provide an assessment of the Project's impacts. An Environmental Sampling Survey Report will be developed and submitted to the Mobility Authority for review and comment. The survey consists of the following six main elements:

3.4.1. Air Quality Air testing is to be conducted at two locations along Manor Expressway: (1) the intersection of 290E and Springdale Road; and (2) 290E west of Giles Ln/Johnny Morris and east of Walnut Creek. The upwind and downwind concentration of seven compounds from the Mobile Source Air Toxic (MSAT) and six from the Nation Ambient Air Quality Standard (NAAQS) list during peak drive time periods will be determined and compared to the baseline data previous collected prior to the implementation of the tolled Manor Expressway project.

3.4.2. Travel Time Survey Travel time data is to be collected between US 183 and Parmer Lane and will be analyzed and compared to the baseline data of travel times, travel delay, and total vehicle hours of delay that was collected prior to the implementation of the tolled Manor Expressway project.

3.4.3. Public Opinion A public opinion survey is to be conducted in order to collect information from drivers who use the Manor Expressway in regards to their habits, perceptions, and future plans for using the facility. The data collected will be compared to similar data collected prior to the project being implemented in order to

ascertain how the proposed tolled facility may have changed the perceptions of drivers utilizing the 290E corridor.

- 3.4.4. Water Quality Water quality samples are being collected from Walnut Creek and an adjacent drainage ditch that drains US 290. Samples collected will be analyzed and compared to the baseline data obtained prior to the Manor Expressway expansion.
- 3.4.5. Traffic Noise Post construction noise levels will be measured at nine sites within the Manor Expressway corridor. The data collected will be analyzed and compared to the baseline data collected prior the construction of Manor Expressway.
- 3.4.6. Economic Characteristics Quantitative data from the American Community Survey (ACS) published by the U.S. Census Bureau for the study area will be collected and compared to the baseline set of economic conditions prior to the opening of the Manor Expressway project.

**Attachment B - Fee Estimate
Summary**

CTRMA General Engineering Consultant
Atkins - Man-hour Breakdown & Fee Estimate
290E Corridor GEC Services

ATKINS - Supplemental Work Authorization #5 to Work Authorization #1

290E Corridor GEC Services

TASK	<u>SUBTOTAL</u> Labor + Overhead +	<u>SUBTOTAL</u> Direct Expenses	<u>TOTAL</u>
1.0 WB Frontage Road at SH 130 Operational Analysis	\$ 198,072	\$ 7,267	\$ 205,338
2.0 WB Frontage Rd & SH130 Interim Solution Final Design	\$ 363,231	\$ 2,908	\$ 366,140
3.0 Project Close Out	\$ 824,623	\$ 7,471	\$ 832,094

Subtotals	\$ 1,385,926	\$ 17,646	\$ 1,403,572
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TOTAL (rounded) \$ 1,404,000

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A \$ 80.00	B \$ 70.00	C \$ 60.00	D \$ 45.00	E \$ 35.00	F \$ 25.00	
1.0 WB Frontage Road at SH 130 Operational Analysis							
1.1 Data Collection	6	22	36	24	20	10	118
1.2 Traffic Modeling	8	28	48	30	24	10	148
1.3 Alternatives Analysis	22	80	136	82	69	31	420
1.4 Coordination Meetings	4	15	25	14	12	6	76
1.5 Procurement Assistance - Direct Connector							
1.5.1 Coordination/Meetings	4	16	48	8	8		84
1.5.2 Procurement Production	4	16	120	20	8		168
1.5.3 Contract Development			16		8		24
1.5.4 Proposal Assistance/Pre-Proposal Activities	4	12	40	60			116
1.5.5 Evaluation Committee Support/Coordination	4	12	20	20			56
1.5.6 Contracting and Award	2	2	16	24			44

TOTAL DIRECT LABOR	58	203	505	282	149	57	1254
% Total by Classification	4.63%	16.19%	40.27%	22.49%	11.88%	4.55%	
Labor Costs	\$ 4,640	\$ 14,210	\$ 30,300	\$ 12,690	\$ 5,215	\$ 1,425	\$ 68,480
Overhead Costs	1.5825 \$ 7,343	\$ 22,487	\$ 47,950	\$ 20,082	\$ 8,253	\$ 2,255	\$ 108,370
Profit	12.0% \$ 1,438	\$ 4,404	\$ 9,390	\$ 3,933	\$ 1,616	\$ 442	\$ 21,222
Total Loaded Labor	\$ 13,421	\$ 41,101	\$ 87,640	\$ 36,705	\$ 15,084	\$ 4,122	\$198,072

Direct Expenses	
Plotting and Reproduction	\$ 555
Mail and Deliveries	\$ 48
Misc Expenses	\$ 1,500
Travel and Field Expenses	\$ 5,164
Total Direct Expenses	\$ 7,267

Total \$ 205,338

**Attachment B - Fee Estimate
Summary**

CTRMA General Engineering Consultant
Atkins - Man-hour Breakdown & Fee Estimate
290E Corridor GEC Services

2.0 WB Frontage Rd & SH130 Interim Solution Final Design

TASK	<u>SUBTOTAL</u>	<u>SUBTOTAL</u>	<u>TOTAL</u>
	Labor + Overhead +	Direct Expenses	
2.1 Environmental	\$ 24,904	\$ -	\$ 24,904
2.2 Utilities	\$ 5,206	\$ -	\$ 5,206
2.3 Signals, Signs & Markers, Illumination	\$ 46,278	\$ -	\$ 46,278
2.4 Structural Design	\$ 27,160	\$ -	\$ 27,160
2.5 Drainage Design	\$ 26,051	\$ -	\$ 26,051
2.6 Survey	\$ 31,132	\$ -	\$ 31,132
2.7 Cross Sections	\$ 24,701	\$ -	\$ 24,701
2.8 Design / CADD (Houston Atkins)	\$ 154,049	\$ 2,908	\$ 156,958
2.9 Geotechnical	\$ 23,750	\$ -	\$ 23,750
Subtotals	\$ 363,231	\$ 2,908	\$ 366,140

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)	A	B	C	D	E	F	TOTAL
	\$	80.00	\$ 70.00	\$ 60.00	\$ 45.00	\$ 35.00	\$ 25.00	HRS
2.1 Environmental								
Administrative								
2.1.1	Project Management		8	8				16
2.1.2	Coordination Meetings - Internal/External		8	8		8	2	26
	Subtotal							42
PS&E Plans Production								
2.1.3	Existing Data			8		16		24
2.1.4	Field Work					8		8
2.1.5	Write Up and Review		8	8		24	8	48
2.1.6	Document Prep			4		16	16	36
2.1.7	TxDOT District and ENV Response to Comments		8	8		16		32
	Subtotal							148

TOTAL DIRECT LABOR	0	32	44	0	88	26	190
% Total by Classification	0.00%	16.84%	23.16%	0.00%	46.32%	13.68%	
Labor Costs	\$ -	\$ 2,240	\$ 2,640	\$ -	\$ 3,080	\$ 650	\$ 8,610
Overhead Costs	1.5825 \$ -	\$ 3,545	\$ 4,178	\$ -	\$ 4,874	\$ 1,029	\$ 13,625
Profit	12.0% \$ -	\$ 694	\$ 818	\$ -	\$ 954	\$ 201	\$ 2,668
Total Loaded Labor	\$ -	\$ 6,479	\$ 7,636	\$ -	\$ 8,909	\$ 1,880	\$24,904

Direct Expenses

Plotting and Reproduction

Mail and Deliveries

Misc Expenses

Travel and Field Expenses

Total Direct Expenses \$ -

Total \$ 24,904

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A	B	C	D	E	F	
2.2 Utilities							
Administrative							
2.2.1 Project Management							0
2.2.2 Coordination Meetings - Internal/External							0
						Subtotal	0
PS&E Plans Production							
2.2.3 Utility Coordination				40			40
						Subtotal	40

TOTAL DIRECT LABOR	0	0	0	40	0	0	40
<i>% Total by Classification</i>	<i>0.00%</i>	<i>0.00%</i>	<i>0.00%</i>	<i>100.00%</i>	<i>0.00%</i>	<i>0.00%</i>	
Labor Costs	\$ -	\$ -	\$ -	\$ 1,800	\$ -	\$ -	\$ 1,800
Overhead Costs	1.5825 \$ -	\$ -	\$ -	\$ 2,849	\$ -	\$ -	\$ 2,849
Profit	12.0% \$ -	\$ -	\$ -	\$ 558	\$ -	\$ -	\$ 558
Total Loaded Labor	\$ -	\$ -	\$ -	\$ 5,206	\$ -	\$ -	\$5,206

Direct Expenses

Plotting and Reproduction
 Mail and Deliveries
 Misc Expenses
 Travel and Field Expenses
Total Direct Expenses

\$ -

Total \$ 5,206

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A	B	C	D	E	F	
	\$ 80.00	\$ 70.00	\$ 60.00	\$ 45.00	\$ 35.00	\$ 25.00	
2.3 Signals, Signs & Markers, Illumination							
Administrative							
2.3.1 Project Management							0
2.3.2 Coordination Meetings - Internal/External		8					8
						Subtotal	8
PS&E Plans Production							
2.3.3 Traffic Signal Layout Sheets							
2.3.3.1 Proposed Traffic Signal Pole/Cables		2	8	8	24		42
2.3.3.2 Adjust Signing/Striping at Intersection		2	4	4	16		26
2.3.3.3 Add Signs at Cross-Streets		2	2	2	8		14
2.3.3.4 Add Signal Standards			1	1	4		6
2.3.3.5 Revise Controller Timings			8				8
2.3.3.6 Field Visit/Review Meeting		4	8	8			20
						Subtotal	116
2.3.4 Revise Signing & Striping Sheets							
2.3.4.1 Small Sign, Markings & Delineation Layout (290)		2	2	2	8		14
2.3.4.2 Create Small Sign, Markings & Delineation Layout (290) sheet		2	4	4	16		26
2.3.4.3 Add Signs/Marking Standards			1	1	4		6
2.3.4.4 Create/Modify Sheets for Traffic Signal Adjustment		2	4	16	48		70
						Subtotal	116
2.3.5 Revise Illumination Sheets							
2.3.5.1 Relocate Exist. Illumination Poles in Conflict w/ Design Mods.		2	4	4	8		18
2.3.5.2 Create/Modify Sheets for Illumination Adjustment		2	4	8	24		38
2.3.5.3 Add Roadway Lighting Standards			1	1	4		6
2.3.5.4 Power Source Analysis/Elec Summary Sheet			8		4		12
						Subtotal	74
2.3.6 PS&E Package							
2.3.6.1 Quality Control/Quality Assurance		4	16				20
2.3.6.2 General Notes		1		4	3		8
2.3.6.3 Cost Estimates		1		2	6		9
						Subtotal	37

TOTAL DIRECT LABOR	0	34	75	65	177	0	351
<i>% Total by Classification</i>	0.00%	9.69%	21.37%	18.52%	50.43%	0.00%	
Labor Costs	\$ -	\$ 2,380	\$ 4,500	\$ 2,925	\$ 6,195	\$ -	\$ 16,000
Overhead Costs	1.5825 \$ -	3,766 \$	7,121 \$	4,629 \$	9,804 \$	- \$	25,320
Profit	12.0% \$ -	738 \$	1,395 \$	906 \$	1,920 \$	- \$	4,958
Total Loaded Labor	\$ -	\$ 6,884	\$ 13,016	\$ 8,460	\$ 17,918	\$ -	\$ 46,278

Direct Expenses	
Plotting and Reproduction	
Mail and Deliveries	
Misc Expenses	
Travel and Field Expenses	
Total Direct Expenses	\$ -

Total \$ 46,278

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A	B	C	D	E	F	
2.4 Structural Design							
Administrative							
2.4.1	Project Management						0
2.4.2	Coordination Meetings - Internal/External			8			8
						Subtotal	8
PS&E Plans Production							
2.4.3	163.10. Prepare MSE & Soil Nail Retaining Wall Layouts 3 Walls			20	30	35	85
2.4.4	163.10.A. Prepare Soil Nail Placement Layouts or Design for CIP Walls 3 Walls				55	40	95
2.4.5	163.11 Develop Miscellaneous Retaining Wall Details			4	8	8	20
2.4.6	163.12. Prepare Retaining Wall Summary Sheet			1	4	4	9
						Subtotal	209

TOTAL DIRECT LABOR		0	0	33	97	87	0	217
<i>% Total by Classification</i>		0.00%	0.00%	15.21%	44.70%	40.09%	0.00%	
Labor Costs		\$ -	\$ -	\$ 1,980	\$ 4,365	\$ 3,045	\$ -	\$ 9,390
Overhead Costs	1.5825	\$ -	\$ -	\$ 3,133	\$ 6,908	\$ 4,819	\$ -	\$ 14,860
Profit	12.0%	\$ -	\$ -	\$ 614	\$ 1,353	\$ 944	\$ -	\$ 2,910
Total Loaded Labor		\$ -	\$ -	\$ 5,727	\$ 12,625	\$ 8,807	\$ -	\$ 27,160

Direct Expenses	
Plotting and Reproduction	\$ -
Mail and Deliveries	\$ -
Misc Expenses	\$ -
Travel and Field Expenses	\$ -
Total Direct Expenses	\$ -

Total \$ 27,160

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A	B	C	D	E	F	
2.5 Drainage Design							
Administrative							
2.5.1 Project Management	2					10	12
2.5.2 Coordination Meetings - Internal/External			8	12			20
						Subtotal	32
PS&E Plans Production							
2.5.3 161.1. Drainage Technical Memorandum		2	8	24	2		36
2.5.4 161.3. Culvert and Storm Drain Design		6	12	72	24		114
2.5.5 161.4. Temporary Drainage Facilities			2	12			14
2.5.6 161.5. Layout, Structural Design and Detailing of Drainage Features.			4	12			16
						Subtotal	180

TOTAL DIRECT LABOR	2	8	34	132	26	10	212
<i>% Total by Classification</i>	<i>0.94%</i>	<i>3.77%</i>	<i>16.04%</i>	<i>62.26%</i>	<i>12.26%</i>	<i>4.72%</i>	
Labor Costs	\$ 133	\$ 507	\$ 1,700	\$ 4,530	\$ 737	\$ 235	\$ 7,842
Overhead Costs	1.5825 \$ 211	\$ 802	\$ 2,690	\$ 7,169	\$ 1,166	\$ 372	\$ 12,410
Profit	12.0% \$ 41	\$ 157	\$ 527	\$ 1,404	\$ 228	\$ 73	\$ 2,430
Total Loaded Labor	\$ 386	\$ 1,465	\$ 4,917	\$ 13,103	\$ 2,130	\$ 680	\$ 26,051

Direct Expenses
 Plotting and Reproduction
 Mail and Deliveries
 Misc Expenses
 Travel and Field Expenses
Total Direct Expenses

\$ -

Total \$ 26,051

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)							TOTAL HRS
	A	B	C	D	E	F	G	
Administrative								
2.6.1 Project Management								0
2.6.2 Coordination Meetings - Internal/External								0
							Subtotal	0
PS&E Plans Production								
2.6.3 RPLS	10							10
2.6.4 Field Coordinator		8						8
2.6.5 GPS Processing			4					4
2.6.6 Senior Survey Technician				24				24
2.6.7 Survey Technician					80			80
2.6.8 Survey Crew - 3 Man Crew						80		80
2.6.9 RTK Crew & Rover							20	20
							Subtotal	226
TOTAL DIRECT LABOR	10	8	4	24	80	80	20	226
	<i>% Total by Classification</i>							
	4.42%	3.54%	1.77%	10.62%	35.40%		8.85%	
Labor Costs	\$ 1,400	\$ 760	\$ 420	\$ 2,280	\$ 7,040	\$ 14,832	\$ 4,400	\$ 31,132
Overhead Costs	1.5825							\$ -
Profit	12.0%							\$ -
Total Loaded Labor	\$ 1,400	\$ 760	\$ 420	\$ 2,280	\$ 7,040	\$ 14,832	\$ 4,400	\$ 31,132
Direct Expenses								
Plotting and Reproduction								
Mail and Deliveries								
Misc Expenses								
Travel and Field Expenses								
Total Direct Expenses	\$ -							
Total	\$ 31,452							

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)	A	B	C	D	E	F	TOTAL
	\$	80.00	\$ 70.00	\$ 60.00	\$ 45.00	\$ 35.00	\$ 25.00	HRS
2.7 Cross Sections								
Administrative								
2.7.1	Project Management		8					8
2.7.2	Coordination Meetings - Internal/External		8		8			16
	Subtotal							24
PS&E Plans Production								
2.7.3	Develop Existing Cross Sections					16		16
2.7.4	Develop Proposed Cross Sections				60	40		100
2.7.5	Develop Proposed Cross Sections for Walls				8	8		16
2.7.6	Address Comments/ Make Changes				16	16		32
2.7.7	QA/QC			8				8
	Subtotal							172
TOTAL DIRECT LABOR		0	16	8	92	80	0	196
	<i>% Total by Classification</i>	0.00%	8.16%	4.08%	46.94%	40.82%	0.00%	
	Labor Costs	\$ -	\$ 1,120	\$ 480	\$ 4,140	\$ 2,800	\$ -	\$ 8,540
	Overhead Costs	1.5825 \$ -	\$ 1,772	\$ 760	\$ 6,552	\$ 4,431	\$ -	\$ 13,515
	Profit	12.0% \$ -	\$ 347	\$ 149	\$ 1,283	\$ 868	\$ -	\$ 2,647
	Total Loaded Labor	\$ -	\$ 3,239	\$ 1,388	\$ 11,975	\$ 8,099	\$ -	\$24,701
Direct Expenses								
	Plotting and Reproduction	\$ -						
	Mail and Deliveries	\$ -						
	Misc Expenses	\$ -						
	Travel and Field Expenses	\$ -						
	Total Direct Expenses	\$ -						
Total \$		24,701						

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A \$ 80.00	B \$ 70.00	C \$ 60.00	D \$ 45.00	E \$ 35.00	F \$ 25.00	
2.8 Design / CADD							
Administrative							
2.8.1 Project Management		20	16				36
2.8.2 Coordination Meetings - Internal/External		32	20		16		68
2.8.3 Project Coordination with Team (Internal/External)		32	16		12		60
						Subtotal	164
PS&E Plans							
Plans Production							
2.8.4 Existing Plans Research/Incorporation		4	8		40		52
2.8.5 Produce Title Sheet/General Notes/Index		2	16		8		26
2.8.6 Develop Typical Sections (Existing/Proposed)		4	16		28		48
2.8.7 Develop Project Layout Sheets		2	4		4		10
2.8.8 Develop Plan and Profile Sheets		10	36		80		126
2.8.9 Create Special Details		4	24		24		52
2.8.10 Develop Removal Plans		2	4		16		22
2.8.11 Incorporate Plans from other teams		12	20		40		72
2.8.12 Develop Utility Sheets		2	4		24		30
2.8.13 Develop Traffic Control Plan		4	32		40		76
2.8.14 Develop SW3P Plans		2	16		36		54
2.8.15 Incorporate Standard Details		4	12		36		52
						Subtotal	620
Plans Preparation/Submittal							
2.8.16 Prepare for 60% Plan Submittal		4	16		20		40
2.8.17 Prepare for Final Plan Submittal		4	20		40		64
2.8.18 Quality Control/Quality Assurance		8	50		16		74
2.8.19 Quantities/Cost Estimates		4	16		60		80
2.8.20 Develop Bid Documents		8	12		40		60
						Subtotal	318

	TOTAL DIRECT LABOR	0	164	358	0	580	0	1102
	% Total by Classification	0.00%	14.88%	32.49%	0.00%	52.63%	0.00%	
Labor Costs	\$ -	\$ 11,480	\$ 21,480	\$ -	\$ 20,300	\$ -	\$ 53,260	
Overhead Costs	1.5825 \$ -	\$ 18,167	\$ 33,992	\$ -	\$ 32,125	\$ -	\$ 84,284	
Profit	12.0% \$ -	\$ 3,558	\$ 6,657	\$ -	\$ 6,291	\$ -	\$ 16,505	
Total Loaded Labor	\$ -	\$ 33,205	\$ 62,129	\$ -	\$ 58,716	\$ -	\$154,049	

Direct Expenses - See PS&E Direct Expenses
Total Direct Expenses \$ 2,908.40

Total \$ 156,958

290E Corridor GEC Services

<i>PS&E Direct Expenses</i>				
Other Direct Expenses	Labor	Assumed Rate	Quantity	Cost
Lodging/Hotel (Taxes/fees not included)	day/person	\$ 100.00	4	\$ 400.00
Meals	day/person	\$ 36.00	0	\$ -
Mileage	mile	\$ 0.550	1800	\$ 990.00
Toll Charges	each	\$ 1.08	30	\$ 32.40
Photocopies B/W (8.5 X 11)	each	\$ 0.10	2000	\$ 200.00
Photocopies B/W (11 X 17)	each	\$ 0.15	5000	\$ 750.00
Photocopies Color (11 X 17)	each	\$ 0.60	400	\$ 240.00
Mylar (11" X 17")	sheet	\$ 1.00	200	\$ 200.00
Overnight Mail - Letter size	each	\$ 12.00	8	\$ 96.00
TOTAL: \$				2,908.40

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	TOTAL Cost
2.9 Geotechnical	
PS&E Plans Production	
2.9.3 Field Exporation	\$ 2,150.00
2.9.4 Laboratory Testing	\$ 3,250.00
2.9.5 Engineering Analysis	\$ 7,100.00
2.9.6 Geotechnical Report	\$ 5,800.00
2.9.7 Project Management	\$ 700.00
2.9.8 Drilling	\$ 2,500.00
2.9.9 Traffic Control	\$ 1,900.00
2.9.10 Shipping, etc.	\$ 350.00
Subtotal	\$ 23,750.00

Direct Expenses

Plotting and Reproduction

Mail and Deliveries

Misc Expenses

Travel and Field Expenses

Total Direct Expenses

\$ -

Total \$ 23,750

Attachment B - Fee Estimate

290E Corridor GEC Services

TASK / WORK DESCRIPTION	(Estimated Average Labor Rates)						TOTAL HRS
	A \$ 80.00	B \$ 70.00	C \$ 60.00	D \$ 45.00	E \$ 35.00	F \$ 25.00	
3.0 Project Close Out							
3.1 Project/Change Management Beyond 12/31/2014							
3.1.1 Project Administration	10		80			65	155
3.1.2 Project Coordination	10	120	80	180			390
3.1.3 Sub-Consultants					40	40	80
3.1.4 Program Reporting		80	25	80	40		225
3.1.5 Project Schedule		15	80				95
3.1.6 Change Order Processing & Management	40	60	160	60	80		400
3.1.7 Disputes/Claims Support	80	800			80		960
3.1.8 Project Meetings & Documentation			80		40	40	160
3.1.9 Document Controls					160	80	240
3.1.10 Tracking Database					60		60
3.1.11 Construction Oversight	40		20	160			220
3.2 Survey (Bridge Approaches)	24	72	165	120	90	36	507
3.3 Post Construction Support							
3.3.1 Bridge Settlement Analysis	4	20	20	80	80		204
3.3.2 Annual Report	8	40	110	270	100	90	618
3.3.3 Safety Analysis	4		40		40		84
3.4 Post Construction Sampling							
3.4.1 Air Quality	4	12		45		40	101
3.4.2 Travel Time Survey	4	8	40		80		132
3.4.3 Public Opinion	4	12	80	80	80		256
3.4.4 Water Quality	4	24	20	80	80		208
3.4.5 Traffic Noise	4	8	20	60		30	122
3.4.6 Economic Characteristics	4	8	80	180			272

TOTAL DIRECT LABOR	244	1279	1100	1395	1050	421	5,489
<i>% Total by Classification</i>	<i>4.45%</i>	<i>23.30%</i>	<i>20.04%</i>	<i>25.41%</i>	<i>19.13%</i>	<i>7.67%</i>	
Labor Costs	\$ 19,520	\$ 89,530	\$ 66,000	\$ 62,775	\$ 36,750	\$ 10,525	\$ 285,100
Overhead Costs	1.5825 \$ 30,890	\$ 141,681	\$ 104,445	\$ 99,341	\$ 58,157	\$ 16,656	\$ 451,171
Profit	12.0% \$ 6,049	\$ 27,745	\$ 20,453	\$ 19,454	\$ 11,389	\$ 3,262	\$ 88,352
Total Loaded Labor	\$ 56,460	\$ 258,957	\$ 190,898	\$ 181,570	\$ 106,296	\$ 30,443	\$824,623

Direct Expenses	
Plotting and Reproduction	\$ 3,290
Mail and Deliveries	\$ -
Misc Expenses	\$ 1,500
Travel and Field Expenses	\$ 2,681
Total Direct Expenses	\$ 7,471

Total \$ 832,094

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 15-___

**APPROVING A SUPPLEMENT TO THE WORK AUTHORIZATION WITH ATKINS
NORTH AMERICA, INC. FOR OVERSIGHT OF THE DESIGN-BUILD CONTRACT
FOR THE MANOR EXPRESSWAY (290E) PROJECT.**

WHEREAS, Atkins North America, Inc., (“Atkins”) serves as a general engineering consultant to the Mobility Authority under the Agreement for General Consulting Civil Engineering Services effective January 1, 2010 (the “GEC Agreement”); and

WHEREAS, Atkins currently provides general engineering consultant support services to the Mobility Authority under a work authorization for the Manor Expressway (290E) project (the “Project”) issued under the GEC Agreement; and

WHEREAS, the Executive Director and Atkins have discussed and agreed to a proposed supplement to the work authorization for Atkins to continue providing general engineering consulting and oversight services for the Project; and

WHEREAS, the Executive Director recommends approval of the proposed supplement to the work authorization in the form or substantially in the same form provided to the Board as agenda backup information.

NOW THEREFORE, BE IT RESOLVED that the proposed supplement to the work authorization with Atkins for oversight of the Project is hereby approved; and

BE IT FURTHER RESOLVED that the Executive Director may finalize and execute on behalf of the Mobility Authority the proposed supplement to the work authorization in the form or substantially in the same form provided to the Board as agenda backup information.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 29th day of 2015.

Submitted and reviewed by:

Approved:

Andrew Martin, General Counsel

Ray A. Wilkerson
Chairman, Board of Directors