



AGREEMENT FOR PROFESSIONAL SERVICES

**City of Killeen
Killeen, Texas
Project No. 18181083**

THIS AGREEMENT FOR PROFESSIONAL SERVICES is made by and between the City of Killeen of Killeen, Texas hereinafter referred to as "Owner," and **GARVER, LLC**, hereinafter referred to as the "GARVER".

The Owner intends to make the following improvements:

Generally, the scope of the proposed project includes rehabilitation of Taxiway B at the Killeen-Fort Hood Regional Airport and all associated improvements. See attached Appendix C for a project layout plan indicating the proposed Taxiway B improvements.

GARVER will provide professional services related to these improvements as described herein. Project improvements shall be in accordance with planning for the project.

The Owner and GARVER in consideration of the mutual covenants in this contract agree in respect of the performance of professional services by GARVER and the payment for those services by the Owner as set forth below. GARVER will begin the work under the Agreement within ten (10) days of a Notice to Proceed and will complete the work on a mutually agreeable schedule.

SECTION 1 - EMPLOYMENT OF GARVER

The Owner agrees to engage GARVER, and GARVER agrees to perform professional services in connection with the proposed improvements as stated in the sections to follow. These services will conform to the requirements and standards of the Owner and the Federal Aviation Administration, in accordance with regulations and procedures established for Federal Aid Projects. GARVER's services will be coordinated with the Owner, the FAA, and others required in the accomplishment of the work, and conform to the standards of practice ordinarily used by members of GARVER's profession practicing under similar conditions. For having rendered such services, the Owner agrees to pay GARVER compensation as stated in the sections to follow.

SECTION 2 - SCOPE OF SERVICES

GARVER's scope of services is described in attached Appendix A.

SECTION 3 - PAYMENT

For the work described under SECTION 2 - SCOPE OF SERVICES, the Owner will pay GARVER on a lump sum basis. The Owner represents that funding sources are in place with the available funds necessary to pay GARVER.

If any payment due GARVER under this agreement is not received within 60 days from date of invoice, GARVER may elect to suspend services under this agreement without penalty or liquidated damages assessed from the Owner.



The table below presents a summary of the fee amounts and fee types for this contract.

WORK DESCRIPTION	FEE AMOUNT	FEE TYPE
Preliminary Engineering Report	\$147,700.00	LUMP SUM
Surveys	\$64,100.00	LUMP SUM
Geotechnical Investigation	\$64,300.00	LUMP SUM
60% Design Design	\$229,000.00	LUMP SUM
90% Design	\$139,900.00	LUMP SUM
Bidding Documents	\$39,500.00	LUMP SUM
Bidding Services	\$16,900.00	LUMP SUM
TOTAL FEE	\$701,400.00	

The lump sum amount to be paid under this agreement is **\$701,400**. For informational purposes, a breakdown of GARVER's estimated costs is included in Appendix B.

The Owner will pay GARVER the lump sum fee on a monthly basis, based upon statements submitted by GARVER to the Owner indicating the estimated proportion of the work accomplished. Payments not received within 60 days of invoice date will be subject to a one percent monthly simple interest charge. Any unused portion of the fee, due to delays beyond GARVER's control, will be increased 6% annually with the first increase effective on or about July 1, 2019.

As directed by the Owner, some billable work may have been performed by GARVER prior to execution of this agreement. Payment for this work will be made in accordance with the fee arrangement established herein, as approved by the Owner.

Additional Services (Extra Work). For work not described or included in Section 2 – Scope of Services but requested by the Owner in writing, the Owner will pay GARVER, for time spent on the project for each classification of GARVER's personnel (may include contract staff classified at Garver's discretion) plus reimbursable expenses including but not limited to printing, courier service, reproduction, and travel. The rates shown in Appendix B will be increased annually with the first increase effective on or about July 1, 2019.

SECTION 4 - OWNER'S RESPONSIBILITIES

In connection with the project, the Owner's responsibilities shall include, but not be limited to, the following:

1. Giving thorough consideration to all documents presented by GARVER and informing GARVER of all decisions within a reasonable time so as not to delay the work of GARVER.
2. Making provision for the employees of GARVER to enter public and private lands as required for GARVER to perform necessary preliminary surveys and other investigations.
3. Furnishing GARVER such plans and records of construction and operation of existing facilities, available aerial photography, reports, surveys, or copies of the same, related to or bearing on the



proposed work as may be in the possession of the Owner. Such documents or data will be returned upon completion of the work or at the request of the Owner.

4. Providing legal, accounting, and insurance counseling services necessary for the project and such auditing services as the Owner may require.
5. Furnishing permits, permit fees, and approvals from all governmental authorities having jurisdiction over the project and others as may be necessary for completion of the project.
6. Giving prompt written notice to GARVER whenever the Owner observes or otherwise becomes aware of any defect in the project or other events which may substantially alter GARVER's performance under this Agreement.

SECTION 5 – MISCELLANEOUS

5.1 Instruments of Service

GARVER's instruments of service provided by this agreement consist of the printed hard copy reports, drawings, and specifications issued for the Assignment or Project; whereas electronic media, including CADD files, are tools for their preparation. As a convenience to the Owner, GARVER will furnish to the Owner both printed hard copies and electronic media. In the event of a conflict in their content, however, the printed hard copies shall take precedence over the electronic media.

GARVER's electronic media are furnished without guarantee of compatibility with the Owner's software or hardware, and GARVER's sole responsibility for the electronic media is to furnish a replacement for defective disks within thirty (30) days after delivery to the Owner.

GARVER retains ownership of the printed hard copy drawings and specifications and the electronic media. The Owner is granted a license for their use, but only in the operation and maintenance of the Project or Assignment for which they were provided. Use of these materials for modification, extension, or expansion of this Project or on any other project, unless under the direction of GARVER, shall be without liability to GARVER and GARVER's consultants. The Owner shall indemnify, to the extent allowed by law, defend, save harmless GARVER, GARVER's consultants, and the officers and employees of any of them from and against any and all claims, liabilities, damages, losses, and costs, including but not limited to costs of defense, arising out of the Owner's use of these materials for modification, extension, or expansion of this Project or on any other project not under the direction of GARVER.

Because data stored in electronic media form can be altered, either intentionally or unintentionally, by transcription, machine error, environmental factors, or by operators, it is agreed that the Owner shall indemnify, to the extent allowed by law, defend, save harmless GARVER, GARVER's consultants, and the officers and employees of any of them from and against any and all claims, liabilities, damages, losses, and costs, including but not limited to costs of defense, arising out of changes or modifications to the data in electronic media form in the Owner's possession or released to others by the Owner and for any use of the electronic media and printed hard copy drawings and specifications outside the license granted by this provision.



5.2 Opinions of Cost

Since GARVER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, GARVER's Estimates of Project Costs and Construction Costs provided for herein are to be made on the basis of GARVER's experience and qualifications and represent GARVER's best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but GARVER cannot and does not guarantee that proposals, bids or actual Total Project or Construction Costs will not vary from estimates prepared by GARVER.

The Owner understands that the construction cost estimates developed by GARVER do not establish a limit for the construction contract amount. If the actual amount of the low construction bid exceeds the construction budget established by the Owner, GARVER will not be required to re-design the project without additional compensation.

5.3 Underground Utilities

GARVER will not provide research regarding utilities and survey utilities located and marked by their owners as provided for in this agreement. Additionally, since many utility companies typically will not locate and mark their underground facilities prior to notice of excavation, GARVER is not responsible for knowing whether underground utilities are present or knowing the exact location of utilities for design and cost estimating purposes. Additionally, GARVER is not responsible for damage to underground utilities, unmarked or improperly marked, caused by geotechnical, potholing, construction, or other subconsultants working under a subcontract to this agreement.

5.4 Insurance

GARVER currently has in force, and agrees to maintain in force for the life of this Contract, the following minimum schedule of insurance:

Worker's Compensation	Statutory Limit
Automobile Liability (Combined Property Damage and Bodily Injury)	\$500,000.00
General Liability (Combined Property Damage and Bodily Injury)	\$1,000,000.00
Professional Liability	\$2,000,000.00

5.5 Records

FAA, Owner, Comptroller General of the United States or any of their duly authorized representatives shall have access to any books, documents, papers and records of GARVER, which are directly pertinent to a specific grant program for the purpose of making audit, examination, excerpts, and transcription. GARVER shall maintain all required records for 3 years after completion of each work assignment the Owner makes final payment and all other pending matters are closed.

After completion of the Project, and prior to final payment, GARVER shall deliver to the Owner submittals as indicated in Appendix A.



5.6 Indemnity Provision

Subject to the limitation on liability set forth in Section 5.8, GARVER agrees, to the extent allowed by law, to indemnify the Owner for damages, liabilities, or costs (including reasonable attorney's fees) to the extent the damages and costs are caused by negligent acts, errors, or omissions of GARVER, its sub consultants, or any other party for whom GARVER is legally liable, in the performance of their professional services under this contract.

The Owner agrees, to the extent allowable by law, to indemnify GARVER for damages, liabilities, or costs (including reasonable attorneys' fees recoverable under applicable law) to the extent the damages and costs are found to be caused by the negligent acts, errors, or omissions of the Owner, its agents, or any other party for whom the Owner is legally liable, in the performance of their professional services under this contract.

In the event claims, losses, damages, or expenses are found to be caused by the joint or concurrent negligence of GARVER and the Owner, they shall be borne by each party in proportion to its own negligence.

Owner agrees that any claim or suit for damages made or filed against GARVER by Owner will be made or filed solely against GARVER or its successors or assigns and that no member or employee of GARVER shall be personally liable to Owner for damages under any circumstances.

5.7 Design without Construction Phase Services

In the event GARVER's Scope of Services under this agreement is not amended to include project observation or review of the Contractor's performance or any other construction phase services, the Owner assumes all responsibility for interpretation of the Construction Contract Documents and for construction observation and supervision and waives any claims against GARVER that may be in any way connected thereto.

In addition, the Owner agrees, to the fullest extent permitted by law, to indemnify and hold GARVER harmless from any loss, claim or cost, including reasonable attorneys' fees and costs of defense, arising or resulting from the performance of such services by other persons or entities and from any and all claims arising from modifications, clarifications, interpretations, adjustments or changes made to the Construction Contract Documents to reflect changed field or other conditions, except for claims arising from the sole negligence or willful misconduct of GARVER.

If the Owner requests in writing that GARVER provide any specific construction phase services and if GARVER agrees in writing to provide such services, then they shall be compensated for the work as Additional Services.

5.8 Limitation of Liability

In recognition of the relative risks and benefits of the project to both the Owner and GARVER, the risks have been allocated such that the Owner agrees, to the fullest extent permitted by law, to limit the liability of GARVER and its sub consultants to the Owner and to all construction contractors and subcontractors on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims for expenses from any cause or causes, so that the total aggregate liability of GARVER and its sub consultants to all those named shall not exceed GARVER's collectable insurance proceeds on



this project. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contractor warranty, and indemnity obligations.

Notwithstanding any other provision to the contrary in this Agreement or a Work Authorization and to the fullest extent permitted by law, neither Owner nor Garver shall be liable, whether based on contract, tort, negligence, strict liability, warranty, indemnity, error and omission, or any other cause whatsoever, for any consequential, special, incidental, indirect, punitive, or exemplary damages, or damages arising from or in connection with loss of power, loss of use, loss of revenue or profit (actual or anticipated), loss by reason of shutdown or non-operation, increased cost of construction, cost of capital, cost of replacement power or customer claims, and Owner hereby releases Garver, and Garver releases Owner, from any such liability.

5.8.1 Hazardous Materials

Nothing in this agreement shall be construed or interpreted as requiring GARVER to assume any role in the identification, evaluation, treatment, storage, disposal, or transportation of any hazardous substance or waste. Notwithstanding any other provision to the contrary in this Agreement or a Work Authorization and to the fullest extent permitted by law, Owner shall indemnify, defend and save GARVER and its affiliates, sub consultants, agents, suppliers, and any and all employees, officers, directors of any of the foregoing, if any, from and against any and all losses which arise out of the performance of the Services and relating to the regulation and/or protection of the environment, including, without limitation, losses incurred in connection with characterization, handling, transportation, storage, removal, remediation, disturbance, or disposal of hazardous material, whether above or below ground.

5.9 Mediation

Deleted.

5.10 Litigation Assistance

This Agreement does not include costs of GARVER for required or requested assistance to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the Owner, unless Litigation Assistance has been expressly included as part of the work defined in Section 2 - Scope of Services. In the event the Owner requests such services of GARVER, this Agreement shall be amended in writing by both the Owner and GARVER or a separate written agreement will be negotiated between the parties.

SECTION 6 - CONTROL OF SERVICES

This is a Texas Contract and in the event of a dispute concerning a question of fact in connection with the provisions of this contract which cannot be disposed of by mutual agreement between the Owner and GARVER, the matter shall be resolved in accordance with the Laws of the State of Texas, and the venue shall be in Bell County.

This Agreement may be terminated by either party by seven (7) days written notice in the event of substantial failure to perform in accordance with the terms hereof by the one (1) party through no fault to the other party or for the convenience of the Owner upon delivery of written notice to GARVER. If this Agreement is so terminated, GARVER shall be paid for the time and materials expended to accomplish the services performed to date, as provided in SECTION 3 - PAYMENT; however, GARVER may be required to furnish an accounting of all costs.



SECTION 7 - SUCCESSORS AND ASSIGNS

The Owner and GARVER each bind themselves and their successors, executors, administrators, and assigns of such other party, in respect to all covenants of this Agreement; neither the Owner nor GARVER shall assign, sublet, or transfer their interest in this agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body, which may be a party hereto.

SECTION 8 – OTHER

Independent Contractor. Contractor shall act as an Independent Contractor. Under no circumstances shall Contractor be deemed as an employee or partner of Owner or County.

Standard of Care. The standard of care for all professional engineering and related services performed or furnished by Contractor under this Agreement will be the care and skill ordinarily used by members of the Contractor's profession practicing under similar circumstances at the same time and in the same locality.

Severability. If any provision of this Agreement shall, for any reason, be held to violate any applicable law, then the invalidity of such a specific provision in this Agreement shall not be held to invalidate the remaining provisions of the Agreement.

Survival. Any provision of this Agreement providing for indemnity, insurance or a duty that necessarily will not be completed until after the expiration or termination of this Agreement shall continue in full force and effect until such a time as all duties have been fully performed.

Non-waiver. Failure to enforce any provision of this Agreement by either party shall not constitute a waiver of that provision for purposes of the subsequent enforcement of that provision or the remainder of this Agreement.

Israel. By signing this contract, Vendor (or whatever term is used in the specific contract) hereby verifies that it does not boycott Israel and will not boycott Israel during the term of this contract. Boycotting Israel is defined in Texas Government Code section 808.001 to mean refusing to deal with, terminating business activities with, or taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

SECTION 9 – APPENDICES AND EXHIBITS

- 9.1 The following Appendices and/or Exhibits are attached to and made a part of this Agreement:
 - 9.1.1 Appendix A – Scope of Services
 - 9.1.2 Appendix B – Lump Sum Fee Summary and Details
 - 9.1.5 Appendix C, Project Layout Plan
- 9.2 This Agreement (consisting of pages 1 to 9, inclusive) together with the appendices and exhibits identified above constitute the entire agreement between the Owner and GARVER and supersede all prior written or oral understandings. This Agreement and said appendices and exhibits may only be amended, supplemented, modified or canceled by a duly executed written



instrument.

Acceptance of this proposed Agreement is indicated by an authorized agent of the Owner signing in the space provided below. Please return one signed original of this Agreement to GARVER for our records.



IN WITNESS WHEREOF, Owner and GARVER have executed this Agreement effective as of the date last written below.

City of Killeen, Texas

GARVER, LLC

By: _____
Signature

By: *[Handwritten Signature]*
Signature

Name: Ronald L. Olson
Printed Name

Name: Frank McIlwain
Printed Name

Title: City Manager

Title: Vice President

Date: _____

Date: December 14, 2018

Attest: _____

Attest: *[Handwritten Signature]*



APPENDIX A

SCOPE OF SERVICES CITY OF KILLEEN KILLEEN, TEXAS

2.1 General

Generally, the scope of services includes surveying, design, and bidding for improvements to the Killeen-Fort Hood Regional Airport located in Killeen, Texas. Improvements will consist primarily of the following:

Rehabilitation of Taxiway B and associated improvements. See Appendix C for a project layout plan.

2.2 Surveys

2.2.1 Design Surveys

Garver will provide field survey data from field work for designing the project, and this survey will be tied to the Client's control network.

Garver will conduct field surveys, utilizing radial topography methods, at intervals and for distances at and/or along the project site as appropriate for modeling the existing ground, including locations of pertinent features or improvements. Buildings and other structures, streets, drainage features, trees over eight inches in diameter, visible utilities as well as those underground utilities marked by their owners and/or representatives, and any other pertinent topographic features that may be present at and/or along the project site, will be located. Control points will be established for use during construction.

2.2.2 Property Surveys

Property surveys will not be part of this scope of services.

2.3 Geotechnical Services

Garver will be responsible for obtaining, interpreting, and evaluating geotechnical data necessary for the design of this project. Services include non-destructive falling weight deflectometer (FWD) testing/analysis including back-calculated in-situ strengths, geotechnical field investigations of up to 18 cores and borings on Taxiway B, laboratory testing of field samples, and preparation of a geotechnical report.

2.4 Preliminary Coordination

Garver will serve as the Client's representative in the preliminary phase of the project and furnish consultation and advice to the Client during the performance of this service. Garver will attend preliminary conferences alone or with Client's representatives, local officials, state and federal agencies, utility companies and others regarding the proposed project, its general design, functions, and impact. Garver will assist the Client in ordering and directing the accomplishment of such special services as soil borings and material tests as may be necessary. Garver will prepare a preliminary engineering report, supported by preliminary plans, and submit copies for review and approval to the Client and FAA in the number required. Garver will attend conferences for review



and conduct coordination conference of interested agencies and utilities, if required.

2.5 Utility Coordination

Garver will furnish plans to all known utility owners potentially affected by the project at each stage of development. Garver shall conduct coordination meetings among all known affected utility owners to enable them to coordinate efforts for any necessary utility relocations. Garver will include the surveyed locations of the observable and marked utilities in the construction plans. Garver will also include proposed and/or relocated utility information in the construction plans as provided by the utility companies.

2.6 Environmental Services

No environmental services will be performed as part of this project.

2.7 Drainage Study

There may be increases to impervious area because of this project. Drainage analysis and if required, drainage improvements will be designed. All proposed drainage analysis and improvements will be done to the extent required by local requirements and FAA advisory circulars.

2.8 Preliminary Engineering Report (PER)

The Preliminary Engineering phase submittal will include a Preliminary Engineering Report (PER) which will include an evaluation of existing conditions, design criteria and approach, and an opinion of probable construction cost. This submittal will be for the purpose of coordinating the proposed improvements with the Client and developing an order of magnitude cost estimate for the project. Garver will not begin preliminary design until the conceptual design is approved by the Client in writing.

2.9 Preliminary & Final Design

Garver will plan and direct the balance of soil borings and tests required for final design of the project.

Garver will prepare detailed construction drawings, specifications, instructions to bidders, general provisions and special provisions, all based on guides furnished to Garver by the Client and FAA. Contract Documents (Plans, Specifications, and Estimates) will be prepared for award of one (1) construction contract. These designs shall conform to the standards of practice ordinarily used by members of GARVER's profession practicing under similar conditions and shall be submitted to the FAA office from which approval must be obtained. Detailed specifications shall be developed using FAA "Standards for Specifying Construction for Airports" AC 150/5370-10 (latest edition) or other appropriate standards approved for use by the FAA. A specimen copy of the General Provisions and applicable prevailing wage rates will be obtained by Garver from the FAA or Department of Labor as appropriate for incorporation into the specifications for the proposed project.

Garver will submit to the FAA Airport's Regional Office advance copies of the plans and specifications and cost estimates for review. Garver will make any additions to respond to comments by the FAA, and when the documents have been approved, Garver will furnish plans to the FAA and to the Client for bidding and coordination purposes.

Garver will also prepare documentation for a Stormwater Pollution Prevention Plan (SWPPP), but the



Contractor will be responsible for obtaining the appropriate permit from TCEQ.

2.10 Property Acquisition Documents

Garver will not provide property acquisition services.

2.11 Bidding Services

Garver will assist the Client in advertising for and obtaining bids or negotiating proposals for each separate prime contract for construction, materials, equipment and services, attend pre-bid conferences. The Client will pay advertising costs outside of this contract. Garver will issue addenda as appropriate to interpret, clarify or expand the Bidding Documents. Garver will consult with and advise the Client as to the acceptability of subcontractors, suppliers and other persons and organizations proposed by the prime contractor(s) (herein called "Contractor(s)") for those portions of the work as to which such acceptability is required by the Bidding Documents. Garver will consult with the Client concerning and determine the acceptability of substitute materials and equipment proposed by Contractor(s) when substitution prior to the award of contracts is allowed by the Bidding Documents. Garver will attend the bid opening, prepare bid tabulation sheets and assist the Client in evaluating bids or proposals and in assembling and awarding contracts for construction, materials, equipment and services. Garver will assist the Client in the execution of all contract documents and furnish a sufficient number of executed documents for the Client, Contractor and FAA.

2.12 Construction Phase Services

Construction phase services are not included as part of this scope of work. It is anticipated that Construction Phase Services will be negotiated and contracted prior to construction.

2.13 Project Deliverables

The following will be submitted to the Client, or others as indicated, by Garver:

Agency Receiving Deliverables	Submittal Milestone	Submittal Document	Quantity
City of Killeen Dept. of Aviation	60%	Half Size Drawings (11" x 17")	2
Fort Hood Dir. of Public Works	60%	Half Size Drawings (PDF)	n/a
Fort Hood Dir. Of Aviation	60%	Half Size Drawings (11" x 17")	2
City of Killeen Dept. of Aviation	60%	Contract Documents and Specifications (8.5" x 11")	2
Fort Hood Dir. of Public Works	60%	Contract Documents and Specifications (PDF Copy)	n/a
Fort Hood Dir. Of Aviation	60%	Contract Documents and Specifications (8.5" x 11")	2
City of Killeen Dept. of Aviation	90%	Half Size Drawings (11" x 17")	2
Fort Hood Dir. of Public Works	90%	Half Size Drawings (PDF Copy)	n/a
Fort Hood Dir. Of Aviation	90%	Half Size Drawings (11" x 17")	2
City of Killeen Dept. of Aviation	90%	Contract Documents and Specifications (8.5" x 11")	2



Fort Hood Dir. of Public Works	90%	Contract Documents and Specifications (PDF Copy)	n/a
Fort Hood Dir. Of Aviation	90%	Contract Documents and Specifications (8.5" x 11")	2
City of Killeen Dept. of Aviation	100%	Half Size Drawings (11" x 17" & PDF Copy)	2
Fort Hood Dir. of Public Works	100%	Half Size Drawings (11" x 17" & PDF Copy)	6
Fort Hood Dir. Of Aviation	100%	Half Size Drawings (11" x 17" & PDF Copy)	2
City of Killeen Dept. of Aviation	100%	Contract Documents and Specifications (8.5" x 11" & PDF Copy)	2
Fort Hood Dir. of Public Works	100%	Contract Documents and Specifications (8.5" x 11" & PDF Copy)	6
Fort Hood Dir. Of Aviation	100%	Contract Documents and Specifications (8.5" x 11" & PDF Copy)	2
Utility Companies	60%	Digital files only	n/a
Utility Companies	100%	Digital files only	n/a
Contractor	100%	Contract Documents and Specifications (8.5" x 11")	3
Contractor	100%	Half Size Drawings (11" x 17")	3
City of Killeen Dept. of Aviation	Record	Half Size Drawings (11" x 17" & PDF Copy)	1
Fort Hood Dir. of Public Works	Record	Half Size Drawings (11" x 17" & PDF Copy)	3
Fort Hood Dir. Of Aviation	Record	Half Size Drawings (11" x 17" & PDF Copy)	1

2.14 Extra Work

The following items are not included under this agreement but will be considered as extra work:

1. Property Survey: Locate existing monuments representing right of way and/or easements based on record data which will be provided by the City.
2. Redesign for the Client's convenience or due to changed conditions after previous alternate direction and/or approval.
3. Submittals or deliverables in addition to those listed herein.
4. Design of any utilities relocations.
5. Retaining walls or other significant structural design beyond that required for a similar Taxiway Improvement project.
6. Preparing and obtaining appropriate permit from TCEQ. The construction contract documents will require the Contractor to prepare, maintain, and submit a SWPPP to TCEQ .
7. Construction materials testing.
8. Environmental Handling and Documentation, including wetlands identification or mitigation plans or other work related to environmentally or historically (culturally) significant items.
9. Coordination with FEMA and preparation/submittal of a CLOMR and/or LOMR.

Extra Work will be as directed by the Client in writing for an additional fee as agreed upon by the Client and Garver.



2.15 Schedule

Garver shall begin work under this Agreement within ten (10) days of a Notice to Proceed and shall complete the work in accordance with the schedule below:

<u>Phase Description</u>	<u>Calendar Days</u>
Preliminary Engineering Report (PER)	8 weeks from receipt of NTP
Preliminary Design (60%)	7 weeks from receipt of comments after review meeting
Final Design (90%)	5 weeks from receipt of comments after review meeting
Final Documents (100%)	3 weeks from receipt of comments after review meeting

Bidding To be determined on mutually agreeable schedule

Note: This does not include time for review by Client and FAA

APPENDIX B

KILLEEN-FORT HOOD REGIONAL AIRPORT TAXIWAY B REHABILITATION

FEE SUMMARY

Title I Services	Estimated Fees
Preliminary Engineering Report (PER)	\$147,700.00
<i>Surveys</i>	\$64,100.00
<i>Geotechnical Investigation</i>	\$64,300.00
Preliminary Design (60%)	\$229,000.00
Final Design (90%)	\$139,900.00
Bidding Documents	\$39,500.00
Bidding Services	\$16,900.00
Subtotal for Title I Services	\$701,400.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
TAXIWAY B REHABILITATION**

Preliminary Engineering Report (PER)

WORK TASK DESCRIPTION	E-5	E-4	E-3	E-1	T-2	X-2
	hr	hr	hr	hr	hr	hr
1. Civil Engineering						
Project Management and oversight/administration	6	2	4			2
Coordination with Airport/City	2		2			
Coordination with FAA	2		2			
Coordination with Geotechnical Engineer	1		2			
Predesign Conference						
Prepare for and Conduct predesign conference, site visit	6	8	8	6		
Documentation of existing conditions, including photographs						
Perform Field Surveys						
Coordination with Surveyor	1		2			
Analyze Survey data and prepare CAD base maps			4	24	32	
Geotechnical Report Review	1	4	2			
Prepare Preliminary Engineering Report						
Prepare Quality Control Plan	1	2	6	2		
Prepare for and conduct internal design kickoff meeting	2	2	3	2	2	
Records Review		2	6			
Document Existing Pavement Distresses for Rehabilitation		2	6	4		
Pavement Design	1	2	8	6		
Construction Safety & Phasing Plan (CSPP)	2	4	8	8	16	
Prepare for and attend Phasing Plan Stakeholder meeting	4	4	8	4		1
Project Layout Plan		2	4	8	8	
Analyze Existing Geometry to for Standardized Geometry			4	8		
Taxiway Typical Sections and Pavement Alternatives	2	4	8	16	24	
Connector Taxiways and Runway Intersection Analysis			2	16	8	
Drainage analysis for additional impervious area		8	24	8	4	
Pavement Marking Layout			1	6	12	
Quantities		4	8	24	8	
Develop Engineer's Opinion of Probable Cost	2	8	12	12		
Benefit Cost Analysis HMA/PCC		4	6	12		
Evaluation of modifications to standards	1	4	8			
Draft Preliminary Engineering Report	2	12	32	4	4	
Draft Report Internal QC Review	4	4	2	1		
Reproduction and delivery of draft report			2			4
PER Review Meeting, Prepare, Conduct, Report	4	6	6			
Contractor coordination for Constructibility		4	6	6		
Request for CATEX	2	8	16	8		
Submit CSPP to OE/AAA	1	2	4	10	8	
Revise and Finalize Report		4	8	4	4	
Final Report QC Review	2	1	1			
Reproduction and delivery of final report		2				4
Subtotal - Civil Engineering	49	109	225	199	130	11
4. Electrical Engineering						
Prepare for and attendance to pre-design conference (teleconference only)		3				2
Access electrical impacts and needs for signage and lighting		4	8			4
Edge light adjustment analysis and impact		4	4			1
Engineer's opinion of probable cost		2	4			2
Draft Preliminary Engineering Report		8	12			2
Draft Report QC Review		4	4			
Review Meeting: Prepare for and present Preliminary Engineering Report to Airport (teleconference only)		6	4			2
Revise and Finalize Report		4	8			4
Final Report QC Review		4	4			
Subtotal - Electrical Engineering	0	39	48	0	0	17

Hours 49 148 273 199 130 28

SUBTOTAL - SALARIES: \$145,682.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$840.00
Postage/Freight/Courier	\$200.00
Office Supplies/Equipment	\$100.00
Computer Modeling/Software Use	\$50.00
Travel Costs	\$828.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: \$2,018.00

SUBTOTAL: \$147,700.00

SUBCONSULTANTS FEE: \$0.00

TOTAL FEE: \$147,700.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
TAXIWAY B REHABILITATION**

Preliminary Design (60%)

WORK TASK DESCRIPTION	E-5	E-4	E-3	E-1	T-2	X-2	- Select Category -
	hr	hr	hr	hr	hr	hr	hr
1. Civil Engineering							
Project Management and oversight/administration	6	8	4			2	
General Coordination with Airport/FAA to obtain info, resolve design matters	2		8				
Prepare and Conduct Design Review Meeting (Near Completion of Preliminary Design)	8	8		2			
Establish Scope of additional testing, surveys, if required and arrange to complete work	1	1	2				
Preliminary Design Documents (DWGS, Specs, EOPC)							
Drawings							
Cover Sheet				1	2		
Sheet Index			1	2	4		
Quantity Sheet			2	4	8		
Summary of Materials Testing			2	4	2		
General Notes		1	2	4	2		
Project Layout Plan		1	4	6	4		
Survey Layout Plan		1	2	2	2		
CSPP Sheets	2	4	8	24	6		
CSPP Notes	1	2	4	8	2		
CSPP Details			2	6	2		
TCEQ Notes			2	3	2		
Erosion Control Notes			2	6	2		
SWPPP Layouts			2	6	6		
SWPPP Details			2	6	6		
Existing Conditions Sheets		2	8	8	8		
Demolition and Surface Preparation Plans		8	12	20	24		
Pavement Reconstruction / Rehabilitation Layouts	2	20	32	80	60		
Drainage Plans		4	10	12	16		
Pavement Marking Plan		2	12	40	16		
Typical Sections	2	12	16	30	16		
Pavement Reconstruction / Rehabilitation Details		2	4	8	8		
Pavement Marking Details		2	4	6	4		
Miscellaneous Details		2	4	8	8		
Cross sections		4	6	16	36		
Drainage Analysis and Design		8	16	24			
Preliminary Specifications: Index and Boilerplate Specs		4	8	24		4	
Develop Bid Proposal Form with Alternatives	1	2	4	10			
Preparation for and conduct contractor workshop	4	4	6	8	8	1	
Internal QC Review	4	6	4	6	2		
Address QC Review Comments		4	6	12	8		
Reproduction of preliminary design submittal and delivery		2	4		2	8	
Update submittal based on Review Meeting Comments		6	8	18	16		
Submit CSPP to OE/AAA	1	2	4	10	8		
Revised Engineer's Opinion of Probable Cost (EOPC)							
Quantity Takeoff		2	4	8	20		
Develop Engineers Estimate for Unit Prices		2	8				
Subtotal - Civil Engineering	34	126	229	432	310	15	0
4. Electrical Engineering							
Preliminary Design Documents (DWGS, Specs, EOPC)							
Lighting Notes		2	4		2	2	
Lighting Demolition		12	32		30	6	
Lighting Installation Plans		12	32		30	6	
Lighting Details		2	4		4	2	
Preliminary Specifications: Index and Boilerplate Specifications		16	4				
Revised Opinion of Probable Cost		2	4		16		
Internal QC and Revisions	2	4	4		8		
Attend Review Meeting (Phone)		4					
Subtotal - Electrical Engineering	2	54	84	0	90	16	0

Hours 36 180 313 432 400 31 0

SUBTOTAL - SALARIES: \$226,852.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$1,200.00
Postage/Freight/Courier	\$200.00
Office Supplies/Equipment	\$100.00
Computer Modeling/Software Use	\$50.00
Travel Costs	\$598.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: \$2,148.00

SUBTOTAL: \$229,000.00

SUBCONSULTANTS FEE: \$0.00

TOTAL FEE: \$229,000.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
TAXIWAY B REHABILITATION**

Final Design (90%)

WORK TASK DESCRIPTION	E-5	E-4	E-3	E-1	T-2	X-2
	hr	hr	hr	hr	hr	hr
1. Civil Engineering						
Project Management and oversight/administration	4	4	2			2
General Coordination with Airport/FAA to obtain info, resolve design matters	2	8				
Final Design Documents (DWGS, Specs, EOPC)						
Drawings						
Cover Sheet				1	1	
Sheet Index			1	2	2	
Quantity Sheet			1	2	4	
Summary of Materials Testing			1	2	1	
General Notes		1	1	2	1	
Project Layout Plan		1	2	4	2	
Survey Layout Plan		1	1	2	1	
CSPP Sheets	2	4	8	16	3	
CSPP Notes	1	2	4	4	1	
CSPP Details			2	4	1	
TCEQ Notes			2	2	1	
Erosion Control Notes			2	4	1	
SWPPP Layouts			2	4	3	
SWPPP Details			2	4	3	
Existing Conditions Sheets		1	2	4	4	
Demolition and Surface Preparation Plans		4	8	10	12	
Pavement Reconstruction / Rehabilitation Layouts	2	12	20	40	30	
Drainage Improvements Plan		2	6	6	8	
Pavement Marking Plan		1	4	20	8	
Typical Sections	2	4	8	16	8	
Pavement Reconstruction / Rehabilitation Details		1	2	6	4	
Pavement Marking Details		1	4	4	2	
Miscellaneous Details		1	4	6	4	
Cross sections		2	4	12	18	
Specifications: Full Specifications		4	8	16		4
Develop Bid Proposal Form with Alternatives	1	2	4	8		
Contractor Coordination for Constructability Input	1	4		6		
Internal QC Review	4	6	4	4	1	
Address QC Review Comments		4	6	8	4	
Reproduction of preliminary design submittal and delivery		2	4		1	8
Update submittal based on Review Meeting Comments		6	8	10	8	
Submit CSPP to OE/AAA		1		2		
Revised Engineer's Opinion of Probable Cost (EOPC)						
Quantity Takeoff		2	4	6	4	
Develop Engineers Estimate for Unit Prices	1	2	4			
Prepare and Conduct Design Review Meeting	8	10		4	1	
Subtotal - Civil Engineering	28	93	135	241	142	14
4. Electrical Engineering						
Preliminary Design Documents (DWGS, Specs, EOPC)						
Lighting Notes		2	4		2	2
Lighting Demolition		6	16		24	4
Lighting Installation Plans		6	16		24	4
Lighting Details		2	4		4	2
Preliminary Specifications: Index and Boilerplate Specifications		8	2			
Revised Opinion of Probable Cost		4	6		12	
Internal QC and Revisions	2	4	4		8	
Attend Review Meeting (Phone)		4				
Subtotal - Electrical Engineering	2	36	52	0	74	12
Hours	30	129	187	241	216	26
Salary Costs	\$8,190.00	\$28,638.00	\$35,156.00	\$32,535.00	\$30,672.00	\$2,600.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$1,200.00
Postage/Freight/Courier	\$200.00
Office Supplies/Equipment	\$100.00
Computer Modeling/Software Use	\$50.00
Travel Costs	\$559.00
SUBTOTAL - DIRECT NON-LABOR EXPENSES:	\$2,109.00
SUBTOTAL:	\$139,900.00
SUBCONSULTANTS FEE:	\$0.00
TOTAL FEE:	\$139,900.00

APPENDIX B

KILLEEN-FORT HOOD REGIONAL AIRPORT
TAXIWAY B REHABILITATION

Bidding Documents

WORK TASK DESCRIPTION	E-5	E-4	E-3	E-1	T-2	X-2
	hr	hr	hr	hr	hr	hr
1. Civil Engineering						
Project Management and oversight/administration	2	1	2			1
Respond to 100% Comments, Finalize Documents		4	6	14	12	
Final Sealed, Signed, and Dated Drawings			2	2	2	
Final Specifications		2	4	4		4
Finalize OPC and Bid Proposal Form with Alternatives		1	4			
Internal QC Review and Revise	2	2	2	2	4	4
Develop a Construction Management Plan (CMP)		2	8	30		
Meetings and Coordination with Airport and TxDOT						
General Coordination with Airport/TxDOT to obtain info, resolve design matters	2		4			
Revise PER as necessary	2	4	10	12		
Submit CAD dwgs of Geometry to TxDOT		1		2	2	
Notice of Intent to TCEQ if Applicable			4	6		
Subtotal - Civil Engineering	8	17	46	72	20	9
4. Electrical Engineering						
Respond to Review Meeting Comments		4	6		12	
Final QC and Revisions	2	4	6		12	
Revise EOPC		4	6			
Coordination to Provide Deliverables		2				1
Subtotal - Electrical Engineering	2	14	18	0	24	1

Hours **10 31 64 72 44 10**

SUBTOTAL - SALARIES: **\$38,612.00**

DIRECT NON-LABOR EXPENSES	
Document Printing/Reproduction/Assembly	\$500.00
Postage/Freight/Courier	\$200.00
Office Supplies/Equipment	\$50.00
Computer Modeling/Software Use	\$50.00
Travel Costs	\$88.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: **\$888.00**

SUBTOTAL: **\$39,500.00**

SUBCONSULTANTS FEE: **\$0.00**

TOTAL FEE: **\$39,500.00**

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
TAXIWAY B REHABILITATION**

Bidding Services

WORK TASK DESCRIPTION	E-5	E-4	E-3	E-1	T-2	X-2
	hr	hr	hr	hr	hr	hr
1. Civil Engineering						
Project Management	2	1				
Dispense plans and specs to prospective bidders		1				2
Bidder's Inquiries		8		12		
Addendums		8		12		
Prepare for and Attend Pre-Bid Meeting		6				
Bid Opening		5				
Prepare Bid Tabulation		1				1
Evaluate Bids and Recommend Award		2				
Coordinate with Contractor for Securities, Insurance, and Contracts						1
Prepare Construction Contracts		2				
Issue Notice of Award		1				
Subtotal - Civil Engineering	2	35	0	24	0	4
4. Electrical Engineering						
Bidder's Inquiries		6	4			
Addendums		6	4			1
Subtotal - Electrical Engineering	0	12	8	0	0	1

Hours	2	47	8	24	0	5
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SUBTOTAL - SALARIES:	\$16,224.00
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DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$126.00
Postage/Freight/Courier	\$50.00
Office Supplies/Equipment	\$50.00
Computer Modeling/Software Use	\$50.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$400.00
<hr/>	
SUBTOTAL - DIRECT NON-LABOR EXPENSES:	\$676.00

SUBTOTAL:	\$16,900.00
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SUBCONSULTANTS FEE:	\$0.00
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TOTAL FEE:	\$16,900.00
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8701 John Carpenter Freeway, Suite 250
Dallas, Texas 75247-4640
214.678.0227 Ph
214.678.0228 Fax
www.hvj.com

October 11, 2018 (**Revised October 12, 2018**)

Derek Mayo, PE, PMP
GARVER, LLC
3765 S. Capital of Texas Highway, Suite 325
Austin, Texas 78704

Re: Geotechnical Investigation
Killeen-Fort Hood Regional Airport Taxiway B Rehabilitation
Killeen, Texas
Owner: City of Killeen
HVJ Associates® Project No. DG-15-17541.3 – **Revision 1**

Dear Mr. Mayo:

HVJ Associates® is pleased to submit this letter for providing a geotechnical study for the above referenced project. This letter outlines our understanding of the scope of the project and presents our approach and our fees for providing the study. This scope and fee were revised at the request of the client for 18 borings and reduce the testing program.

Project Background

The Killeen-Fort Hood Regional Airport is located at 8101 South Clear Creek Road, Killeen, Texas. We understand that the project involves pavement rehabilitation of Taxiway B. As part of the rehabilitation, geotechnical investigation is required to support the pavement design. The geotechnical services requested include: pavement borings, and laboratory testing results.

Scope of Work

As requested by GARVER, subsurface conditions will be evaluated by drilling Eighteen (18) 10 foot deep borings along the taxi apron as shown in the boring location plan provided by GARVER and attached to this proposal. We anticipate that truck mounted drill rig is required to access the boring locations.

Sampling will be performed continuously to a depth 10 feet with a SPT test below the pavement. The pavement surface will be cored prior to drilling at all boring locations and patched to match the existing thickness upon completion. The borings will be used to determine site stratigraphy and to obtain samples for laboratory testing. Shelby tube sampling will be performed in cohesive soils and split spoon sampling will be performed in cohesionless soils.

In addition, bulk samples will be collected from five locations within the upper 5 feet in addition to borings drilled off the shoulder of the taxiway paved surfaces for modified proctor and CBR testing. A total of four modified proctors and CBR testing will be conducted on bulk samples collected.

Selected laboratory testing will be conducted on samples that are representative of the materials obtained during the field exploration. The tests will be used to evaluate and classify the soils, identify subsurface site characteristics, and provide data for analysis. All the field and laboratory tests will be performed according to ASTM standards, where applicable, or with other established procedures.

A geotechnical report of our study will be prepared by an engineer specializing in soil mechanics and foundation engineering after reviewing available structural, geological, boring, and laboratory data. In general, the following items will be included in our report:

- Plan of borings,
- Boring logs,
- Pavement Core Pictures
- Generalized subsurface conditions,
- Groundwater level observations,
- Table of laboratory results,
- Modified Proctor and CBR test results,
- Resilient Modulus test results,
- Lime Series test results, and
- Estimate Potential Vertical Rise.

Schedule

HVJ Associates® expects to complete this assignment in approximately 6 to 8 weeks following receipt of a written notice to proceed and all the right of entries required to complete the field work, as per the following estimated schedule:

- Field Work (Marking boring locations, clearing utilities, obtaining permits if necessary, coordinating and completing drilling): 2-3 weeks
- Laboratory Testing: 2-3 week
- Engineering & Report Preparation: 2 week

HVJ Associates® assumes that right of entry for the properties will be obtained by GARVER. If requested, verbal recommendations can be provided throughout the progress of the investigation as testing is completed.

A draft report will be submitted for review by GARVER. After approval of HVJ Associates® draft report, a final report of the study will be submitted. Additional revisions and/or supplements to the report following approval may be considered additional services.

Fee and Conditions

Based on the scope of work outlined, the lump sum fee for our services is **\$55,868.26**. Our accounting procedures call for the submittal of invoices on a month-end basis or at the conclusion of the project should its duration last less than a month. Our credit terms are net 30 days. Our total invoiced amount versus completed work can be expected as follows:

- Completion of Field Work: 60% Fees
- Completion of Lab Work: 80% Fees
- Submitted Draft Report: 95% Fees
- Submitted Final Report: 100% Fees

Mr. Derek Mayo, PE, PMP
DG-15-17541.3 – Revision 1
October 12, 2018

The following assumptions were made in preparing this letter:

- Boring locations are accessible to truck mounted drill rig.
- Field survey of the borings locations and elevations is not part of our scope.
- The exact boring locations will be determined by HVJ.
- Right of Entry to the properties, if any will be obtained by GARVER.
- Permits and coordination for drilling at the airport will be obtained by GARVER.GARVER
- and the City of Killeen will locate any other known utilities near boring locations not provided by the Texas One Call System.
- Traffic control will not be required and cones and signs will be all that is required during drilling (not flaggers).
- Site specific training for drilling at the airport is not required.
- Field work will be work between 8 AM and 6 PM.
- While the airport is in operation, the maximum standby time per day will be less than 2 hour to accommodate air traffic.
- Pavement will be patched to match the existing pavement thickness with 5,000 psi high strength Quikcrete or equivalent.
- Laboratory samples will be held for no more than a period of 60 days following completion of the final report or 120 days following completion of the draft report, whichever is less.

The scope of services described is appropriate for the project configuration presented to us. If anomalous conditions are encountered, or if the project configuration changes significantly, a change in work scope may be required. HVJ Associates® will recommend such changes when and if it is deemed necessary. No changes will be implemented without prior authorization GARVER.

HVJ Associates® will contact the Texas One Call System, to locate buried utilities. We will take care to minimize damage to existing facilities; however, our activities may result in some damage to vegetation or unidentified existing utilities. This letter specifically excludes any costs associated with restoration of vegetation or repair of utilities damaged by our operations that were not previously identified by Texas One Call.

If this letter meets with your approval, please sign and complete the indicated spaces below and forward a copy of the letter to us. HVJ Associates® is pleased to be of service on this project. Please call us if you have any questions or require additional information.

Sincerely,

HVJ NORTH TEXAS - CHELLIAH CONSULTANTS, INC.



Sandip Tamrakar, P.E.
Project Manager

Mr. Derek Mayo, PE, PMP
DG-15-17541.3 – Revision 1
October 12, 2018

Agreed to this _____ day of _____, 20_____

By: _____

Title: _____

Firm: _____

Phone No. _____

Date to Start Work: _____

Estimate for Geotechnical Investigation

Killen-Fort Hood Regional Airport Taxiway B Rehabilitation

Owner: City of Killeen

Garver, LLC

HVJ Project No.: DG-15-17541.3 - Revision 1

October 11, 2018 (Revised October 12, 2018)

Geotechnical Fee Estimate Breakdown**Geotechnical Field Work:****- Eighteen (18) 10-foot Borings**

Mob/Demob of Drill Rig	1	@	\$1,500.00	LS	\$1,500.00
Drill Rig Support Truck	3	@	\$125.00	per day	\$375.00
Drilling and Sampling Soil (0 to 10' with a SPT)	180	ft @	\$25.00	per ft	\$4,500.00
Bulk Sample Collection (upper 5-ft from multiple borings at 5 locations)	5	@	\$100.00	each	\$500.00
Grouting Borings	205	ft @	\$18.00	per ft	\$3,690.00
Traffic Control (assumed cones and signs only)	0	@	\$1,000.00	per day	\$0.00
Pavement Coring/Patching (5000 psi concrete)	18	@	\$350.00	per ft	\$6,300.00
Stand By Time	6	@	\$250.00	per ft	\$1,500.00
Staff Engineer/Geologist (Field Coordination and Logging)	40	hr @	\$110.22	per hour	\$4,408.80
Per Diem (3 people)	3	days @	\$400.00	per day	\$1,200.00
Vehicle Trips	2	@	\$175.00	per trip	\$350.00
				Subtotal	\$24,323.80

Laboratory Testing:**Soil**

Moisture Content	90	ea @	\$15.00	each	\$1,350.00
Atterberg Limits	36	ea @	\$80.00	each	\$2,880.00
Percent Passing No. 200 Sieve	36	ea @	\$75.00	each	\$2,700.00
Sieve Analysis and Hydrometer	8	ea @	\$150.00	each	\$1,200.00
California Bearing Ratio (3 Point)	4	ea @	\$550.00	each	\$2,200.00
Modified Proctor	4	ea @	\$225.00	each	\$900.00
Resilient Modulus	3	ea @	\$1,500.00	each	\$4,500.00
Lime Series	10	ea @	\$200.00	each	\$2,000.00
Chemical Analysis (Sulfates, Chlorides & pH)	10	ea @	\$250.00	each	\$2,500.00
Swell Tests	12	ea @	\$250.00	each	\$3,000.00
Unconfined Compressive Strength - Soil	18	ea @	\$60.00	each	\$1,080.00
Unconfined Compressive Strength - Rock	0	ea @	\$70.00	each	\$0.00
				Subtotal	\$24,310.00

Geotechnical Engineering:

Senior Engineer, P.E.	4	hr @	\$210.80	per hour	\$843.20
Project Manager, P.E.	12	hr @	\$130.10	per hour	\$1,561.20
Staff Engineer	40	hr @	\$110.22	per hour	\$4,408.80
Clerk/Typist	6	hr @	\$70.21	per hour	\$421.26
				Subtotal	\$7,234.46

Total **\$55,868.26**



5700 W. Plano Pkwy. Suite 1000
Plano, TX 75093
214.440.3600

October 12, 2018

Garver Engineers
Attn: Derek Mayo

RE: Killeen Fort Hood Regional Airport – Taxiway B Rehabilitation

Dear Mr. Mayo

Per your request, Lamb-Star Engineering, L.P. is pleased to submit a letter proposal for professional survey services to provide a topographic survey of Taxiway B at Killeen Fort Hood Airport for the area shown on the attached Exhibit and defined in the attached scope of work.

The lump sum fee for this scope of services, as defined on the attached Survey Scope is **\$55,735.50**

All fees are in addition to sales tax, if applicable, and reimbursable expenses. Services and products not specifically included in this proposal shall be considered additional services and are not included in the lump sum fee. Additional services will be negotiated and contracted as an addendum to or separately from this agreement, as agreed upon by Garver, LLC. and Lamb-Star Engineering, LP.

Please provide a Task Order as defined in the Master Services Agreement between Garver, LLC and Lamb-Star Engineering, LP dated November 9, 2012. Work will begin upon receipt of a fully executed Task Order and notice to proceed (NTP). All deliverables will be provided within 30 calendar days from written NTP. This proposal is valid for 6 months from the date above in heading.

Thank you for the opportunity to submit this letter proposal. Lamb-Star looks forward to working with you in the future. Please call me at (214) 440-3600 if you have any questions or comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert Davis".

Robert Davis, R.P.L.S.



Survey Scope of Work

- 1) Establish horizontal & vertical control. All coordinates shall be in Texas Coordinate System of 1983 (NAD83). Utilize existing PACS and SACS, if available.
- 2) The accuracy of survey data shall be industry standard for design surveying. The proposed project will use existing ground data to analyze the existing surface in accordance with FAA standard pavement grades, for designing transition paving from proposed model to existing surface, and to develop quantities of construction materials
- 3) Provide runway end coordinates and elevations for Runway 15-33 at each end of the runway threshold, on the centerline. Collect data on the existing runway monument, if one exists and take and provide pictures
- 4) Project limits are shown in the attached sketch.
 - a. Topographic Surveys
 - i. Areas outside of pavement: Provide data within 50 feet outside of pavement within the project limits. Collect at a maximum of 50 ft stations
 - ii. Feature data collection: Provide survey of features, within 50' of pavement edges, that include, but are not limited to, pavement edges, existing utilities, existing structures, drainage flow patterns, ditch top of banks and toe of slopes, and other items identified within the project limits.
 - iii. On concrete pavements within project area, collect data at each panel corner.
 - iv. For asphalt taxiways, collect data at 50 foot stations, and 9 shots across asphalt and natural ground, unless there are noticeable low-points or grade breaks, collect additional shots as necessary to develop a representative existing ground model. All cross-section shots will be taken as noted in attached sketch
 - v. Electrical structures, cable and duct marker, including description of existing electrical features.
 - vi. Utilities within project limits (within 50' pavement edges). Any other data that may be useful to the design should also be collected



5) Product Submittal

- a. Collect and process the survey data and provide Garver with the following:
 - i. Topographic file (contours and existing features) provided in an AutoCAD format. Include an existing ground Civil 3D surface model. The topographic file shall be inclusive of the contours, features, property line and monuments, in one file.
 - ii. Digital survey points (not blocks) provided in an AutoCAD Civil 3D format. If requested, surveyor shall also provide a point file of collected data in ASCII or csv format.
 - iii. Electronic submittal is preferred, either through email, thumb drive, dropbox, or ftp submittal. All previously mentioned submittals, raw data files for ASCII files of the survey, and drawing files. The XYZ files shall be formatted as Point Number; Northing; Easting; Elevation; and Description.
 - iv. PDF of the entire survey itemized into sheets at 1" = 50' scale to be utilized within the construction drawings, signed and sealed by a Professional Surveyor licensed in the State of Texas. The pdf should include a legend, all control information, and datums used.

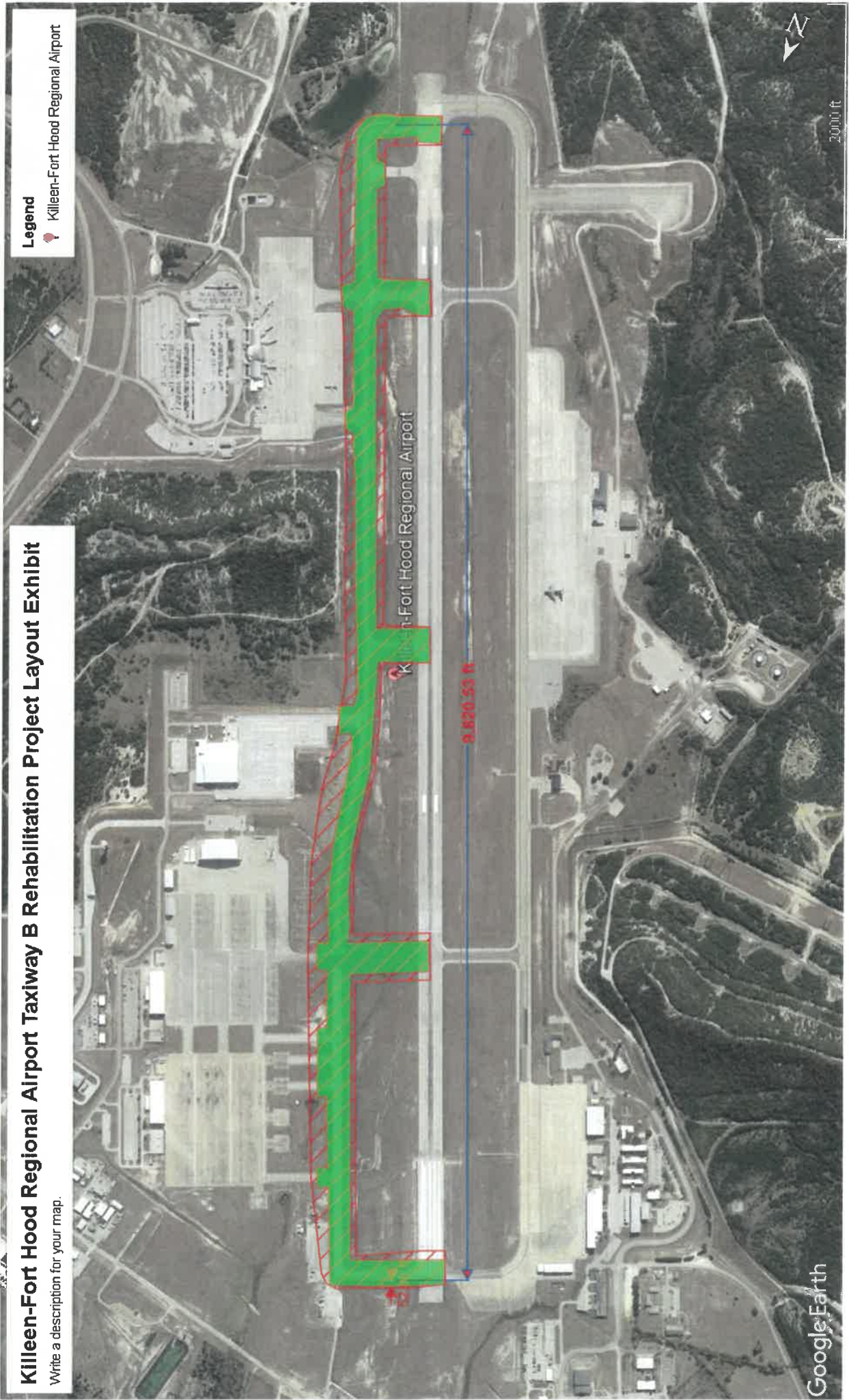
— Limits

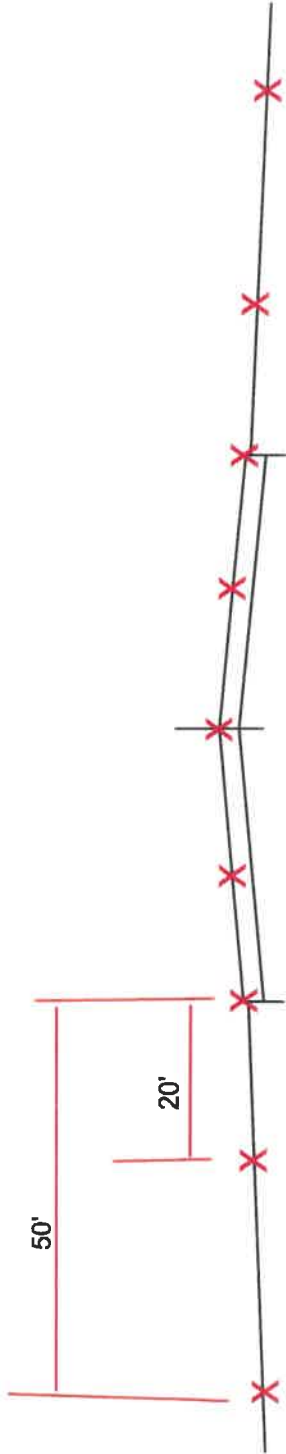
Killeen-Fort Hood Regional Airport Taxiway B Rehabilitation Project Layout Exhibit

Write a description for your map.

Legend

 Killeen-Fort Hood Regional Airport






Killeen-Fort Hood Regional Airport Taxiway B Rehabilitation Project Layout Exhibit

Write a description for your map.

Legend

-  Killeen-Fort Hood Regional Airport




 2000 ft