

October 14, 2021

Williamson County Purchasing Department
100 Wilco Way, Suite P101
Georgetown, Texas 78626

RE: Williamson County Road & Bridge Division: Small Drainage and Small Roadway Projects RFQ

Dear Selection Team:

At K Friese + Associates (KFA) our identity is rooted in helping local communities solve engineering challenges, no matter how big or small. From projects like the Forest North Drainage Improvements here in Williamson County and street repairs for the Cities of Woodcreek and Castroville, we're familiar with considering the larger context of existing systems for each improvement so that something like an overlay or a culvert replacement solves the issue at hand without disrupting drainage patterns or creating unintended consequences like increased maintenance costs.

We're grateful for the opportunity to illustrate our team's capabilities in designing small drainage and roadway improvements. Our key qualifications include the following:

- ▶ **Roadway and Drainage Expertise.** We understand that small projects aren't necessarily less complex. Williamson County will receive best-in-class solutions within budget due to the oversight of veteran engineers like Mark Tomlinson and Pete Ring who can quickly assess project needs accurately and identify and mitigate risks early. Quality plans will be produced by our team of design engineers, Austin Messerli, Dan Cryan, Jeremy Carson, and Geoff Elfers, who have experience working on similar projects across Texas, as we'll describe in the following pages. We've also teamed with trusted subconsultants (Raba Kistner, SAM, and PE Structural) to deliver full-service design for the County.
- ▶ **Dedicated Team.** At KFA, what you see is what you get. The engineers we've proposed are committed to being available for small roadway and drainage projects at the County's request. The size and scale of KFA (currently 71 team members) means we're able to quickly mobilize design teams for small projects as needs arise, without the bureaucracy of a larger firm.
- ▶ **Public Sector Exclusivity.** As a locally owned engineering firm that solely serves public sector clients, we have significant depth of experience in all aspects of public sector engineering services including preliminary engineering, design, permitting, interjurisdictional coordination, and construction services. Our commitment to the public sector means we'll keep the interests of Williamson County as our priority, and we'll never have a conflict of interest with a private client.

KFA is registered with the Texas Board of Professional Engineers (Firm No. 6535), and our office headquarters is located at 1120 S. Capital of Texas Highway, CityView 2, Suite 100, Austin, Texas 78746.

Thank you for your consideration. Please feel free to contact me at kfriese@kfriese.com or 512.338.1704 with any questions about KFA's submission or qualifications.

Sincerely,



Karen A. Friese, PE
President



YOUR KFA TEAM

LOCATIONS

AU Austin
RR Round Rock
SA San Antonio



TEAM

KFA K Friese + Associates
RKI Raba Kistner, Inc.
PES P.E. Structural Consultants
SAM Surveying and Mapping, Inc.

PROJECT PRINCIPAL

Karen Friese, PE | **KFA-AU**

QA/QC LEAD

Abe Salinas, PE, CFM | **KFA-SA**

PROJECT MANAGER

Mark Tomlinson, PE | **KFA-RR**

Roadway + Drainage

ROADWAY DESIGN
(EXCLUDING DRAINAGE)

Pete Ring, PE, LGPP | **KFA-AU**
Jeremy Carson, PE | **KFA-SA**

SEAL COAT + OVERLAY
PLAN DEVELOPMENT

Austin Messerli, PE, LGPP | **KFA-AU**

DRAINAGE, PLANNING, +
DRAINAGE CONVEYANCE DESIGN

Geoff Elfers, PE, CFM | **KFA-AU**
Dan Cryan, PE, LGPP | **KFA-AU**

Support Services

ENVIRONMENTAL

Sam Blanco, AICP, PMP | **RKI-AU**

GEOTECHNICAL

Gabriel Ornelas, PE | **RKI-AU**

STRUCTURES

Joelle Rosentswieg, PE | **PES-AU**

SURVEY

Scott Brashear, RPLS | **SAM-AU**

SUE

Heath Hilbig | **SAM-AU**



Mark Tomlinson, PE

PROJECT MANAGER

Mark's 38-year career includes 29 years of service in the Texas Department of Transportation (TxDOT), starting in the San Angelo District as a recent graduate from the University of Texas at Austin. Mark gained roadway design and construction experience before progressing through the positions of District Traffic Engineer, District Design Engineer, and Director of Transportation Planning & Development.

Mark then served as District Engineer in Amarillo, in charge of all planning, design, construction and maintenance in the 17-county district for 12 years before taking over as the Texas Turnpike Authority Division Director in Austin. Since his retirement from TxDOT in 2011, Mark has served in various consultant roles including PM for Williamson County's Corridor E5 new location freeway planning project. He also served as PM for TxDOT's SH 71 Express accelerated schematic and environmental contract near the Austin Bergstrom International Airport entrance, which cleared the way for TxDOT to procure a \$142 million design/build contract to complete the project. He was also PM for an extensive planning project for TxDOT's Austin district on the environmentally and politically sensitive Loop 360 corridor. Finally, he was the PM on a \$25 million ROW Program Management Contract, overseeing ROW acquisition for TxDOT's design/build and Concession P3 program. This included ROW acquisition oversight on the SH 99 Grand Parkway in Houston, the Corpus Christi Harbor Bridge and SH 360 in Arlington. All of these roles have given him extensive experience in transportation planning, design, construction, survey, ROW, environmental and developing estimates and will enable him to effectively lead small drainage and roadway projects for Williamson County.

In the San Angelo District, seal coating is considered a vital preventative maintenance technique to preserve pavements. As District Design Engineer, Mark was in charge of the annual districtwide seal coat program for six years. He set an overall program goal to raise pavement scores on the 3,200 centerline miles of roadways in the district with an annual budget of \$5 million. A secondary goal was to seal every road on a seven-year cycle if needed. He developed an evaluation system to identify and rank potential projects using pavement scores out of TxDOT's Pavement Management Information System (PMIS).

Every section of roadway in the district was ranked using the following inputs:

- ▶ Area Engineer ranking
- ▶ PMIS cracking score
- ▶ Annual daily traffic
- ▶ Year last sealed
- ▶ PMIS flushing score
- ▶ PMIS patching score
- ▶ Roadway surface area
- ▶ Cost estimate

After projects were selected, Mark would go out in the field to measure roadways and develop more refined estimates of quantities. He would then develop the PS&E for the seal coat project and submit them for letting. During his oversight of the seal coat program, the San Angelo District had some of the best overall pavement scores in the state.

During his six years in the District Design Office, Mark was also responsible for reviewing PS&E prepared in the district's three Area Offices, approximately 10 projects per year. These roadway PS&E included overlays, rehabilitations, reconstructions, widenings, on/off system bridges and capacity expansions. Mark's responsibility was to ensure that the PS&E was free of significant errors and ready to let.

Mark's small project roadway design experience includes a five-span Dove Creek Bridge replacement project on FM 2335 in Knickerbocker, Texas. Mark led the survey crew for the project, including profiling the channel for hydraulic modeling. He did the roadway design and bridge layout. After the Bridge Division designed the bridge, Mark completed the design and PS&E for the project. After letting, he did the construction inspection and material testing, including survey work to set grades for the slab and rails.

Mark performed design work on the SH 208 Yellow Wolf Creek Bridge widening in Coke County. For this three-span bridge, Mark again led the survey, roadway design, and PS&E, while the bridge design was done by the Bridge Division. After letting, Mark did the construction inspection, including material testing, through completion of the project.



Austin Messerli, PE, LGPP
7 Years of Experience

With more than seven years of experience on various municipal and county transportation projects, Austin has designed and developed numerous seal coat and overlay plans in Central Texas. His experience covers all aspects of a project's life span from start to finish. His background with Municipal and County clients provides diverse experience that delivers a consistent approach to successful, on-time, and under-budget projects.

2021 STREET IMPROVEMENTS | Castroville, TX |

Austin Messerli, PE, LGPP, served as Project Manager for a complete bid set of a PS&E design to reconstruct five residential city streets in Castroville for a total of 0.60 miles of pavement improvements. The existing streets included hot mix asphalt, chip seal, and flexible base surface courses. Austin analyzed a pavement report previously performed by the City and worked alongside the geotechnical engineer to determine the appropriate pavement improvement solution to maximize the City's limited budget and complete construction in a timely manner. Three combinations of surface course and subgrade improvement options were analyzed, including hot mix asphalt (HMA), chip seal, seal coat, lime stabilized subgrade reclamation, and full-depth patching. The final design included HMA and chip seal surface courses, with lime stabilized subgrade reclamation improvements to extend the street's life cycle while considering the budget constraints.

WOODCREEK DRIVE OVERLAY | Woodcreek, TX |

Austin also served as Project Manager for a complete bid set of a PS&E design to reconstruct 0.93 miles of a residential street through the heart of the City. Following up on a PCI index report performed by KFA that rated the City's roadways, Austin implemented recommendations to improve Woodcreek Drive. Improvements included edge milling and overlaying to reduce the elevation change from strictly performing an overlay at driveways that could impact existing

drainage patterns and driver comfort. In addition, the project team conducted a site visit to observe and determine locations for full-depth patching that required additional work to extend the street's life cycle and maximize the value to the City's limited budget.

CITY OF BROKEN ARROW WASHINGTON STREET FROM GARNETT RD TO ASPEN ST | Broken Arrow, OK |

Prior to joining KFA, Austin served as Project Engineer responsible for roadway and drainage design to overlay and widen two 1-mile sections of an urban major arterial street from three lanes to five lanes with an intersection. Washington St is a significant corridor located on the southern edge of the City that connects to US-169 that acts as a connection for Broken Arrow to Tulsa and surrounding cities. The existing three-lane roadway pavement section was still adequately performing, but due to the increase in the development traffic, the roadway limited capacity. Austin helped recommend overlaying the existing pavement along with a full-depth widening outside of the pavement to four lanes with a two-way left-turn lane. This recommendation provided the City and roadway to remain open to traffic during construction, speed up the construction timeline, reduce the project cost and maximize the roadway life cycle. In addition to the pavement, the design included an open and closed storm drainage system with a parallel ditch containing sequential 10-foot wide RCB and 10-foot-wide ADA accessible shared-use path on a retaining wall. He was also responsible for construction elements, like traffic control plans to keep the existing facility in place to increase construction and driver safety, signing and striping plans that incorporate a traffic signal replacement, stormwater pollution prevention plan (SWPPP) report self-permitting municipality, and 404 environmental documentation required for construction.



Pete Ring, PE, LGPP
38 Years of Experience

Pete's 30 years of experience as a Project Manager include coordinating all aspects of project design specializing in roadway alignments, traffic control, retaining walls, utility coordination, specifications, quantities and cost estimation, and pavement design. The Project Management role enables him to see the entire project and how the different specialties relate, informing his decisions when acting in the roadway design capacity.

TRAVIS COUNTY 2017 BOND PROGRAM | TX | Pete is currently serving as Project Manager for three of Travis County's 2017 bond projects through Travis Transportation Partners (TTP), a joint venture of K Friese + Associates and another engineering firm. TTP was formed to provide GEC services to the County for the implementation of its \$275M bond program. As PM Pete is responsible for coordinating efforts with the projects' design teams, County, and GEC staff. He's in charge of design, plan review, and construction management of Hog Eye Road, to upsize low water crossing culverts at two locations within the Lockwood Watershed (\$1.1M); Tom Sassman Road, to replace a low water crossing with a multiple span bridge over Maha Creek (\$5.4M); and Fitzhugh Road, to widen two miles of two-lane roadway to include shoulders (\$4.6M).

LIME KILN ROAD, HAYS COUNTY | Hays County, TX | Pete serves as PM for the alternative route analysis and PS&E for Lime Kiln Road where it crosses San Marcos River and at Sink Creek. Pete led the design team to develop plans for a bridge crossing of the San Marcos River and a bridge class culvert at Sink Creek. Lime Kiln Road is the only access to a rural community outside San Marcos and was experiencing frequent flooding. The bridge was raised, box culvert designed, to pass the 100-year storm and the approaches were modified accordingly. Pete developed the Roadway horizontal and vertical alignments, signing and pavement markings, TCP, and SWPPP plans. The TxDOT Roadway Design Manual, TxMUTCD, etc. were utilized in the design. Construction is due to be completed by the end of 2021.



Jeremy Carson, PE
14 Years of Experience

Jeremy has 14 years of transportation engineering experience throughout Texas. His responsibilities include project management and oversight of roadway design, including traffic control plans, retaining walls, super elevations, cross sections, intersections, signing, pavement markings and storm sewers. He is proficient in the use of MicroStation, Geopak and OpenRoads.

UNIVERSITY BOULEVARD BRIDGE, CITY OF

SUGAR LAND | Sugar Land, TX | Jeremy served as project manager for the design of the University Boulevard Bridge project. His responsibilities include overseeing design of the roadway, retaining walls, signs, pavement marking, traffic control plan and coordinating with the design of the bridge and storm sewer. The bridge had to span over both a railroad and a creek. Due to the proximity of the creek, soil conditions were extremely poor and due to the railroad, the height of the bridge was substantial. The project required constant coordination between the bridge designer, geotechnical sub-consultant and client to ensure that there would be no issues once the roadway was constructed. The retaining wall foundations required concrete modulus columns in order to help with global stability. Although this method was costly, it would ensure the integrity of the walls over the life of the roadway.

FM 1900 (SLIDE ROAD), TXDOT LUBBOCK DISTRICT | Lubbock, TX | Jeremy designed two miles of roadway in Lubbock, TX. The project consisted of widening an arterial from two lane ditch section to a seven-lane curb and gutter section. Jeremy was responsible for developing the set of plans, including the plan and profile, traffic control, signing, pavement markings, SW3P and storm sewer. Jeremy also acted as utility coordinator in order to help facilitate the relocation of multiple utilities along the corridor.

Sam Blanco, AICP, PMP (Raba Kistner) will lead our environmental team in gaining clearance for Williamson County projects. He has over 18 years of environmental experience, including the following projects:

KLEIN ROAD ROADWAY IMPROVEMENTS (PHASE I); MORNINGSIDE DRIVE AND SOLMS ROAD IMPROVEMENTS; AND RUECKLE ROAD IMPROVEMENTS | New Braunfels, TX | Sam conducted a Phase I Environmental Site Assessment (ESA-I) for three roadway improvement projects under the City of New Braunfels' previous Bond program. The assessments were conducted in accordance with ASTM E 1527-05, Environmental Site Assessments: Phase I Environmental Site Assessment Process. They included a review of regulatory databases, public data (historical topographic maps, historical aerial photographs, landfill inventories, well data, and others), a site reconnaissance, and interviews. Raba Kistner (RK) included relevant conclusions and recommendations, where required, based on the thorough assessments that were conducted for these three projects.

LIVE OAK STREET & KATY DRAINAGE IMPROVEMENTS | New Braunfels, TX | Sam supported the City of New Braunfels with two Bond projects calling for the reconstruction of Live Oak Street, as well as drainage improvements at the Katy Street intersection. RK provided environmental constraints support during the feasibility stage, and conducted archaeological, hazardous materials, biological, and waters of the U.S. assessments. RK coordinated with the Texas Historical Commission on the City's behalf. In addition, RK prepared a Section 404 permit, working closely with the City of New Braunfels, its engineering consultant, and the U.S. Army Corps of Engineers in order to (a.) minimize impacts on the Katy Drainage project, and (b.) avoid a costly and lengthy permitting process, while achieving project objectives.

QUINTANA ROAD ROADWAY AND DRAINAGE | San Antonio, TX | Sam prepared a NEPA document for Port San Antonio and the City of San Antonio's roadway and drainage project. The project involved residential and business displacements and hazardous materials concerns related to Kelly Air Force Base's known contaminant plume. The project required

the use of a portion of a publicly-owned, publicly-accessible park, which triggered DOT Section 4(f) and PWC Chapter 26 compliance. RK also analyzed park impacts and coordinated public hearing requirements to satisfy Section 4(f) of the DOT Act, working closely with project sponsors throughout the process.

WETLAND DELINEATION FOR THE SALADO CREEK HIKE AND BIKE TRAIL | Bexar County, TX | Sam prepared a delineation report that documented resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE) including wetlands and waters of the United States, for the Salado Creek Hike-and-Bike Trail. The delineation identified a total of 0.34 acres of impacts to wetlands and 0.06 acres of impacts to waters of the United States within the project area. The delineation was conducted as part of the construction of a Hike-and-Bike trail adjacent to Salado Creek in eastern San Antonio. Sam conducted a formal field delineation for potential resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE) along Salado Creek in the vicinity of U.S. Interstate 10. The purpose of this delineation was to identify jurisdictional waters of the U.S. (including wetlands) that may occur on, or immediately adjacent to the proposed alignment of the trail at this location.

CATEGORICAL EXCLUSION (CE) FOR HAYS STREET BRIDGE REHABILITATION PROJECT | Bexar County, TX | Sam prepared a Categorical Exclusion for the Hays Street Bridge Rehabilitation Project between Austin Street to Mesquite Street, in San Antonio, Bexar County, Texas. Hays Street Bridge, which served as a vehicle crossing over the Union Pacific Railroad in the past, was abandoned and out of service. The City of San Antonio and TxDOT proposed to rehabilitate the bridge for recreational purposes as part of a pedestrian and bicycle trail. Sam coordinated with the City of San Antonio and TxDOT to address any concerns during the CE process. The document addressed socioeconomics, air and noise, water resources, floodplains, water quality, vegetation, endangered species, cultural resources, section 4(f), hazardous materials, and public involvement.

BALCONES HEIGHTS DRAINAGE MANAGEMENT | San Antonio, TX | Sam conducted a biological biological survey, tree survey, Section 404 evaluation, and cultural resources evaluation for the construction and development of flood control structures.



Geoff Elfers, PE
16 Years of Experience



Geoff has 16 years of experience in roadway and transit drainage design. Geoff has extensive experience in identifying difficult interdisciplinary and drainage constraints and developing creative solutions. An example of a small roadway drainage project Geoff recently completed includes the development of PS&E plans for FM 1187 roadway improvements in Tarrant County, a project proposing an additional turn lane to the County's Sheriff's Department. The proposed turn bay conflicted with the existing 2-36" RCP storm sewer system, located just outside the existing edge of pavement with minimal cover. Geoff successfully developed alternatives for the client's consideration using special junction box details and a proposed box culvert to maintain the existing system to the extent practical and limit roadway reconstruction. The project is expected to enter the construction phase shortly.

Since joining KFA, Geoff has served as the drainage task lead for the Bud Stockton Williamson County Corridor schematic design which included ditch design, bridge hydraulic design, detention, and water quality per TCEQ EAPP regulations. During the execution of the Bud Stockton schematic, Geoff coordinated with the roadway design team to incorporate an inverted crown to portions of the project to eliminate structural water quality BMPs for the interim design while allowing the project to be easily adapted to the ultimate design with minimal reconstruction. Geoff was able to mitigate drainage impacts caused by the ultimate schematic by providing stacked detention over required water quality facilities to reduce ROW acquisition. Prior to joining KFA, Geoff worked as a task lead on multiple design build projects providing services from preliminary engineering through construction. Geoff's strategy in providing value has been to always develop multiple options before arriving at a recommendation to ensure construction costs, schedules, and ROW acquisitions are optimized to the project constraints.



Dan Cryan, PE, LGPP
9 Years of Experience



Dan is experienced in roadway/transit, roadway drainage, and site facilities design. Williamson County retained KFA to complete the 2011 Forest North Phase I preliminary planning study to identify factors of local flooding, identify targeting projects focused on the most significant recurring issues, provide public education on individual risk reduction actions, and develop a prioritized list of local street flood risk reduction improvement projects.

During the planning study, maps of structure finished floor elevations, and hydraulic models were created for culvert crossings using LiDAR and GIS data. KFA's approach of leveraging available data allowed the County to limit survey costs by targeting smaller project areas.

Dan supported the design, plans, cost estimate, specifications, and construction administration for each of the project zones in the implementation phase of the project. The final design included combinations of channel restoration grading, storm drain system and culvert improvements to efficiently capture and convey the frequent drainage issues experienced throughout the neighborhood. Design of these improvements focused on optimizing the project designs to maximize the improvements to frequent drainage issues while minimizing the impacts to properties and improvements. Dan also obtained a Site Plan Permit from the City of Austin for one of the project zones that discharged to an existing storm drain system along Anderson Mill Road within City Limits. Dan has also designed numerous culvert replacement and extensions to support roadway widenings and reconstructions analyzed storm drain and culvert systems using HY-8, HEC-RAS & Geopak Drainage; and designed standard and unique headwall and outlet structures, developing 3D grading models using OpenRoads tools. Dan has developed TCP layouts for the phasing of culvert extensions and replacements on rural, narrow roads, along with busy arterials, and understands the need for site specific solutions to each individual design.

MANAGING SCOPE AND COSTS

A small project is not necessarily a simple one; small roadway and drainage projects like the ones included under this solicitation require careful planning and attention to detail because any design change can significantly impact both the cost and scope of the project.

A critical step in the life cycle of a small project is conducting a site evaluation (in person or online) prior to scoping to identify potential issues and develop a scope allocating the proper resources for the work. Something as simple as adding a right turn lane to a rural roadway can lead to tie-in slopes no longer working, which in turn can lead to reconstruction of culverts and driveways, as well as adding riprap and metal beam guard fence. These components can cause up to a 50% increase in construction cost, which is important for the owner to understand early for accurate budgeting. Identifying these potential cost issues early also allows alternatives to be considered; for example, instead of adding 12 feet of pavement for a right turn lane, it might be possible to add six feet to each side and restripe. Even if the culvert and driveways still need to be replaced, eliminating the metal beam guard fence would create long-term cost savings on maintenance.

The main disadvantage of smaller projects is that unit prices tend to be higher because the projects aren't able to leverage economies of scale as much as larger projects. To manage cost expectations, a larger contingency should be used when developing early estimates for smaller projects. If the preliminary estimate is higher than expected, it's important to discuss whether to try to reduce the project scope or continue with design as-is while additional funding is secured. Another option may be to bundle multiple small projects and let them together to increase quantities and make them more attractive to bidders.

SPECIFIC PROJECT TYPES

The scope of these projects varies widely from safety improvements – such as shoulder widening, adding or replacing guard rail, constructing pedestrian improvements, or replacing headwalls with safety end treatments (SETs) – to pavement rehabilitation projects, such as mill & overlay, seal coat, and pavement repair jobs.

Safety Improvement Projects

The type of solution recommended for safety improvement projects usually depends heavily on site conditions. Adding a shoulder to a roadway, for example, can require a number of related improvements, depending on the width of the shoulder: typically, culverts need to be lengthened, end treatments need to be rebuilt, and additional metal beam guard fence may be necessary due to an increase in side-slope. Surveying the entire project area may not be necessary for safety improvement projects, but it is recommended when modifying drainage elements. Adding a safety end treatment can greatly impact the flowline of a ditch, and survey is important to ensure that any changes do not adversely affect the site. If a culvert is extended, it may cause a safety end treatment to no longer fit in the given area, requiring a switch to a headwall with metal beam guard fence.

Traffic control for these types of projects is almost always handled by general notes and a standard since the work is performed on the shoulder or beyond. In cases where there is a drop-off condition during construction, there is typically already a metal beam guard fence or some sort of other barrier in place for the contractor to work behind. If not, temporary concrete or water-filled barrier may be necessary.

Pavement Rehabilitation Projects

When it comes to seal coats and mill & overlay, typically the main priority is to discuss the application rates to be used and incorporate them into the plan sheets. Another important aspect of a mill & overlay job is the site evaluation; if any area is having base failure, full depth repair could be necessary, which may require geotechnical investigation. During our scoping phase for maintenance projects in the City of West Lake Hills, a quick examination of the site on Google Earth showed areas with signs of base failure. The issue was brought to the client's attention and additional time was scoped for fieldwork to document locations in need of full depth repair.

As with safety improvements, traffic control for pavement rehabilitation projects is typically handled by simple standards; however, if full depth repair is needed, some locations like intersections may require a designed traffic control plan.

TEAM AVAILABILITY

AVAILABILITY DURING PHASES



Our team is available and committed to serving Williamson County

		Project Scoping + Planning	Preliminary Engineering	Detailed Design + Cost Estimates (60%, 90%, 100%)	ROW Identification	Environmental Documents	Project Closeout
Project Manager	Mark T.	30%	50%	50%	30%	30%	30%
Project Principal	Karen F.	10%	10%	10%	10%	10%	10%
QA/QC Lead	Abe S.	10%	20%	20%	20%	20%	10%
Seal Coat + Overlay	Austin M.	20%	60%	60%	30%	30%	20%
Roadway Design	Pete R. Dan C.	20%	60%	60%	30%	30%	20%
Drainage, Planning, Conveyance Design	Geoff E. Dan C.	20%	60%	60%	30%	30%	20%
Environmental	Sam B.	10%	40%	40%	20%	60%	20%
Geotechnical	Gabriel O.	10%	40%	40%	20%	20%	20%
Structures	Joelle R.	10%	40%	40%	30%	20%	20%
Survey	Scott B.	10%	40%	40%	20%	5%	5%
SUE	Heath H.	10%	40%	40%	20%	5%	5%



"I have had the pleasure of working with Karen Friese and her team since K Friese + Associates first began. They have consistently delivered our transportation and drainage projects on time and on budget, often dealing with challenging public involvement issues." - Joe England, County Engineer (Retired), Williamson County



"KFA has consistently recommended the most economical path forward for the City of Castroville. They have consistently provided valuable input to our challenges and been a consistent team player on anything that comes up. We would highly recommend them to anyone looking for an excellent civil engineering consultant." - John Gomez, Director of Public Works, City of Castroville



MARK TOMLINSON, PE **Project Manager**

A former TxDOT District Engineer, Mark brings more than 38 years of experience in the management and design of major transportation projects throughout Texas, most recently focusing primarily on leading TxDOT bridge, schematic & environmental and PS&E contract pursuits. Mark has served in the following TxDOT roles across the state: Director of the Texas Turnpike Authority Division in Austin; District Engineer in the Amarillo District; and Director of Transportation Planning and Development, District Design Engineering, and District Traffic Engineer in the San Angelo District.

EDUCATION: BS, Civil Engineering, University of Texas-Austin

REGISTRATIONS: Professional Engineer, State of Texas #62823

TxDOT PRECERTS: 1.1.1 ♦ 1.2.1 ♦ 1.8.1 ♦ 4.2.1 ♦ 7.1.1 ♦ 7.3.1 ♦ 7.5.1 ♦ 8.1.1 ♦ 8.3.1 ♦ 11.1.1

Since retiring from TxDOT and joining the private sector, Mark has focused his career primarily on leading TxDOT bridge, schematic & environmental and PS&E contract pursuits. His team was successful in being selected for two prime on & off system bridge contracts and three subconsultant roles (traffic, bridge and schematic & environmental).

***CORRIDOR E5 SCHEMATIC & ENVIRONMENTAL PROJECT | Williamson County, TX |** Mark has served as Project Manager for this schematic & environmental contract for a nine-mile new location freeway on 350' of right of way.

***TXDOT SH 30 SCHEMATIC & ENVIRONMENTAL PROJECT | Bryan District, TX |** As Project Manager, Mark led the SH 30 schematic & environmental project that replaced two bridges and approaches that were two lane and upgraded them to four lane divided using federal funds.

***DISTRICT DESIGN ENGINEER | San Angelo, TX |** While serving as District Design Engineer for the San Angelo District, Mark oversaw all design and PS&E production. As part of his role, Mark was in charge of the annual districtwide seal coat program for six years. He was also responsible for reviewing PS&E prepared in the district's three Area Offices (approximately 10 projects per year) which included overlays, rehabilitations, reconstructions, widenings, on/off system bridges and capacity expansions. He led coordination with TxDOT's Design and Bridge Divisions in Austin. Mark also served as district's first consultant selection manager and oversaw the bridge inspection program.

***TXDOT LOOP 360 PUBLIC OUTREACH AND NEEDS ASSESSMENT | Austin, TX |** Mark served as Project Manager for this \$1.3 million effort to gain public input in assessing needs and developing future project concepts throughout this heavily congested

corridor. Project challenges included working in a politically active, environmentally sensitive area and analyzing an iconic arch bridge structure. Some of the project concepts developed by the team have now been taken to construction.

***TXDOT RIGHT OF WAY PROGRAM MANAGEMENT CONSULTANT (PMC) | Austin, TX |** Mark served as Program Manager for this \$25 million PMC contract overseeing right of way acquisition and utility relocations on TxDOT design-build and concession P3 projects statewide. TxDOT made the selection of Mark's team through a proposal and interview. His team served as an extension of TxDOT's staff, providing services such as procurement support, cost estimating, right-of-way acquisition oversight, business and residential relocations and utility adjustments on the SH 99 Grand Parkway in Houston, the Corpus Christi Harbor Bridge and SH 360 in Arlington.

MARK TOMLINSON, PE

***TXDOT SH 71 SCHEMATICS AND ENVIRONMENTAL DOCUMENT | Austin, TX |** As Project Manager, Mark led the fast-track development of schematics and an environmental document for this \$142 million design/build project in Austin. Under his leadership, the team was able to attain environmental clearance in only 12 months and allowed TxDOT to meet a strategic goal set by the Texas Legislature.



***DISTRICT ENGINEER | Amarillo, TX |** Mark provided regional leadership and management of a 17-county TxDOT district. His responsibilities included all planning, design, construction and maintenance on a 4,000-centerline mile highway system. Mark served in a leadership role in coordinating with city, county, state and federal officials and with members of the public throughout the district. He served as Chairman of a Statewide Rest Area Task Force, which developed a new system of safety rest areas with enhanced standards across the state

***DIRECTOR OF THE TEXAS TURNPIKE AUTHORITY DIVISION | Austin, TX |** Mark served as Executive Level Manager in charge of TxDOT's P3 program. He successfully led the final procurement stages for the North Tarrant Express, Lyndon Baines Johnson Freeway, and Dallas-Fort Worth Connector P3 projects. Total construction cost of the projects was \$7.5 billion. Mark also directed operations of all TxDOT toll roads including SH 130, SH 45 N, Loop 1, SH 45 SE, Loop 49 and Camino Columbia.

***DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT | San Angelo, TX |** Mark led all project development efforts throughout the district including all planning, public involvement, environmental, right-of-way acquisition, design and preparation of construction plans for letting to contract. Served on a work group which developed new funding formulas for TxDOT's Statewide Project Development Plan.

***DISTRICT TRAFFIC ENGINEER | San Angelo, TX |** As District Traffic Engineer, Mark developed traffic signal plans for the RM 584 Knickerbocker Rd. corridor upgrade. Reviewed traffic engineering elements of all district PS&E. He also supervised traffic signal, pavement marking, and sign shop personnel.

***ENGINEERING ASSISTANT | San Angelo, TX |** As Engineering Assistant, Mark worked in a Special Design Section for the US 67 East-West Freeway in San Angelo. Developed large guide sign plans for two US 67 project segments. Mark also did PS&E for SH 208 bridge widening project. Later, he moved to the San Angelo Area Engineer Office, where he performed construction inspection on the SH 208 project, a county road bridge replacement and various ACP overlay projects.



KAREN FRIESE, PE Project Principal

As Project Principal, Karen has total authority and responsibility for ensuring that the project is adequately staffed; that any necessary resources are obtained; and that quality control measures are met. Karen has more than 30 years of experience as an engineer in the State of Texas. She has been responsible for hundreds of projects in central Texas as a Design Engineer, Project Manager, and Project Principal. She is an experienced Project Principal of multi-disciplined teams and, as President of K Friese + Associates, is both personally and professionally committed to the success of each project.

EDUCATION: BS, Civil Engineering, University of Illinois

REGISTRATIONS: Professional Engineer, State of Texas #66959

TXDOT PRECERTS: 2.4.1 ♦ 2.5.1 ♦ 2.13.1 ♦ 3.2.1 ♦ 4.2.1 ♦ 8.1.1 ♦ 10.4.1

BILL PICKETT TRAIL | Taylor, TX |

Karen was the project principal for the planning and design of Bill Pickett Trail for the Williamson County Road Bond Program. The project constructed two interim lanes of an ultimate four lane divided minor arterial. The project included a new bridge over the Turkey Creek floodplain. It also required extensive coordination with the engineer for an expansion to an adjacent park. The design phase was required to be completed in three months with a construction duration of 100 days to coincide with the opening of the park.

HAYS COUNTY RM 150 WEST ALIGNMENT STUDY | Hays County, TX |

Karen served as the Project Principal on this multi-disciplinary team focused on providing a schematic design as part of a larger environmental and schematic study being undertaken by Hays County for the relocation of an approximately 5-mile portion of RM 150 that runs from Arroyo

Ranch Road east through the City of Kyle to Interstate Highway 35. This project involves working within a previously defined corridor and with city and county elected officials, community stakeholders, and potentially affected property owners to determine a set of specific alignments to be evaluated through the federal environmental process.

HAYS COUNTY RM 150 WEST CORRIDOR STUDY | Hays County, TX |

Karen served as the Project Principal on this multi-disciplinary team that focused on selecting a corridor from which an alignment for the relocation of an approximately 5-mile portion of Farm to Market (FM) 150 that runs from Arroyo Ranch Road east through the City of Kyle to Interstate Highway 35 would be chosen. This project involved working with city and county elected officials, community stakeholders, and potentially affected property owners to define the overall study area, narrow the

study area into four sub-areas, and assessing and evaluating each to select one for further study.

HAYS COUNTY FM 150 WEST CORRIDOR STUDY | Hays County, TX |

Karen is currently serving as the Project Principal on this multi-disciplinary team assembled to develop a corridor plan and nature and character plan to address the capacity and safety performance of the FM 150 West Corridor from the vicinity of Arroyo Ranch Road to Ranch Road 12 in Dripping Springs. The intent of the study is to work with the community to allow its character to define the future location and design of the roadway, not let the location and design of the roadway define the character of the community. The first phase of work involved working with a Citizens Advisory Panel and community stakeholders to identify transportation issues and community assets within the corridor and to develop high level segment and intersection concepts that increase safety and efficiency

KAREN FRIESE, PE

within the corridor while preserving its character. The second phase of work is currently underway and is focused on further defining the concepts defined in the first phase of work through the development of preliminary planning alignments and intersection improvements.

LIME KILN ROAD | Hays County, TX | Karen served as Project Principal on this project to perform the alternative route analysis of Lime Kiln Road which crosses Sink Creek just upstream of Aquarena Springs. Starting with effective FEMA HEC-2 models of Sink Creek, duplicate effective, existing, and proposed conditions HEC-RAS models were created to evaluate relative impacts of the roadway alternative alignments to the floodplain and the floodway.

BAGDAD ROAD RECONSTRUCTION | Cedar Park, TX | Karen served as the Project Principal for this project that included the reconstruction of a 7,600 linear foot segment of Bagdad Road. The existing roadway consisted of four 12-foot lanes that was experiencing pavement failure in several areas due to age. The project included a full depth reconstruction with a final cross-section of two 12-foot wide inside lanes and two 15-foot wide outside lanes, and left and right turn bays. The corridor is a combination of rural and urban cross sections with both open drainage and storm sewer and included nonstructural vegetative filter strips were integrated throughout the rural sections of the project to achieve water quality treatment in accordance with the TCEQ Edwards Aquifer Protection Program (EAPP) regulations within the existing ROW. KFA permitted a Contributing Zone Plan (CZP) with the TCEQ EAPP. The project included over one mile of sidewalk to complete gaps within the pedestrian network.

CHISHOLM TRAIL/CHISHOLM PARKWAY RECONSTRUCTION | Round Rock, TX | Karen served as the Project Principal for this project which included overseeing the design of utility relocations associated with the widening of Chisholm Trail to a 5-lane arterial for the City of Round Rock as well as upgrading an existing waterline located in the pavement. Present and future design flows for all existing water and wastewater facilities to be relocated will be determined. In addition, KFA provided the necessary permitting documents for the utility relocations and construction phase assistance.

COUNTY GLEN ROADWAY IMPROVEMENTS | Leander, TX | The County Glen subdivision was constructed in the 1980s with surface storm water conveyance. KFA was retained by the City of Leander to alleviate local flooding conditions by designing a new storm sewer system and preparing PS&E for the overlay and reconstruction of approximately 1.5 miles of roadway, and Karen served as Project Principal. KFA designed a storm sewer collection system parallel to the two main roadways as well as replacing these central roads with standard curb and gutter road sections. Due to financial constraints, the City had to scale back a previous pledge to put the recently annexed neighborhood's drainage underground with sidewalks, curbs, and gutters, and residents were resentful of the limitations of the proposed plan. Amid contentious public outreach, Karen provided coaching and guidance to KFA's Project Manager and Assistant PM, so that KFA was able to perform both the technical design and the public involvement with such detail and clarity that the project finished on time with a positive response from residents. Another project challenge was the development of a multi-phase traffic control plan for the project coordinating street and lane shut-downs so that access to all residences was available at all times.

COUNTY ROAD 108 | Hutto, TX | Karen was the Project Principal for this project under which KFA prepared PS&E package for County Road 108 in Hutto as part of the Williamson County Road Bond Program. This 7,700 linear-foot roadway project replaced an old two-lane county road with a new 38-foot wide three-lane roadway.

COUNTY ROAD 179 | Leander, TX | Karen served as the Project Principal for this project where KFA prepared PS&E package for the full reconstruction of County Road 179 in Leander Texas. The 7,800 linear foot roadway was to be expanded from a two-lane, 20-foot wide configuration to a three-lane, 45-foot wide configuration. All aspects of the roadway design were in accordance with TxDOT standards and specifications. The project also included a two-span, 160-foot long bridge designed to TxDOT standards and a new traffic signal at the intersection with Ronald Reagan Boulevard.



ABE SALINAS, PE, CFM QA/QC Lead

Abe has 15 years of experience in the planning, design and construction of civil engineering related projects. Abe serves as KFA's Drainage Business Practice Lead and is a specialist regarding stormwater related projects for the purposes of flood control, erosion control, and improved water quality. His expertise encompasses both 1D steady-state and 2D unsteady-state hydraulic modeling, grant funding and cost benefit analysis, FEMA floodplain mapping, USACE environmental permitting, natural channel bank stabilization, and closed storm drain systems.

EDUCATION: BS, Civil Engineering, Rice University

REGISTRATIONS: Professional Engineer, State of Texas #105144
 Certified Floodplain Manager #2661-14N

TXDOT PRECERTS: 2.4.1 ♦ 2.4.2 ♦ 10.1.1 ♦ 10.2.1 ♦ 10.3.1 ♦ 10.5.1 ♦ 10.7.1 ♦ 17.5.1

CDBG-DR MIDTOWN DRAINAGE IMPROVEMENTS | San Marcos, TX | Abe served as Project Principal and was responsible for providing oversight and administration of duties associated with the project management, design, and quality control of a CDBG-DR funded project consisting of 4,500 linear foot open channel that is located within the FEMA Zone AE Floodplain. Channel improvements include an MSE wall limestone block wall system, natural channel design components, water quality features and a special concrete stepped chute spillway discharging into the Blanco River.

CDBG CARTHAGE PLACE STORM DRAINAGE IMPROVEMENTS PROJECT | Eagle Pass, TX | Abe served as Project Engineer for a CDBG grant project comprised constructing a new storm drain system within the Carthage Place subdivision to remove a threat to public safety and to improve access during inclement weather. The

new storm drain system included a new outfall at an existing channel, 1,500 linear feet of storm drain, ranging from 18-inch pipes to 6-foot by 2-foot box culverts, and eight sets of inlets. Design included adjustments to an existing water main and sewer main to allow for construction of the proposed storm drain system. The project was designed on an accelerated schedule to meet the required grant deadlines.

***MERRITT ROAD RECONSTRUCTION | Rowlett, TX |** Abe served as Project Lead Drainage Engineer for the design and reconstruction of a 2-mile corridor that connects with the nearby President George Bush Turnpike. The drainage design included a storm water vegetated swale and bioretention BMP system in the roadway medians to protect water quality, and eliminate irrigation and mowing needs. Additional drainage components included modifications to a low-hazard dam, a broken-back culvert,

gabion walls and analysis of various boxed culvert and open channel configurations.

***CIBOLO TURNPIKE DRAINAGE IMPACT STUDY | Cibolo, TX |** As Drainage Task Lead, Abe was responsible for the drainage design for a 7.2 mile, privately financed, toll road located within the City of Cibolo and portions of Guadalupe County. Tasks included performing an inventory of the existing drainage systems, delineating major watersheds and sub-basins for the project area and created a hydrologic model utilizing HEC-HMS to analyze and calibrate flows. The project area crosses several riverine floodplains and contains low-lying areas with shallow widespread flooding and complex backwater conditions. Hydraulic analysis included the development 2D unsteady flow models utilizing XPSTORM to assess overland flow patterns and distribution, impacts of the roadway embankment and strategies for minimizing adverse

ABE SALINAS, PE, CFM

impacts downstream utilizing a system of open channels and detention ponds to reduce peak flows at the outfalls.

***CITY-WIDE DRAINAGE STUDY | Aransas Pass, TX |** As Project Manager, Abe was responsible for developing a city-wide drainage study to inventory the city's existing storm drainage infrastructure, perform condition assessments, sizing recommendations, drainage improvement needs, project priority list, review current drainage policy and criteria, and evaluate the condition of the city's three stormwater pump station facilities.

***STORMWATER MASTER PLAN | Kerrville, TX |** As Project Manager, Abe was responsible for developing the city's stormwater master plan which includes a review of the city's current drainage policy and criteria, mapping of the city's overall major watersheds and drainage patterns, a GIS inventory of the existing storm drainage network, and an evaluation of city identified localized drainage problems throughout the city. Planning included a review of city historical and projected growth to develop policy guidance and prioritization of capital improvement projects for implementation. In addition, a stormwater utility fee rate comparison was performed to assess potential revenue generation for the city and has since been adopted.

***FEMA HMGP FLOOD STUDY FOR MEDIO CREEK | Bee County, TX |** Abe served as Project Manager for the preparation of a preliminary engineering report for the application of a FEMA Hazard Mitigation Grant. The project consisted of documenting the causes and extents of the flooding occurring within the 86.5 square mile watershed, provided numerous design solutions for mitigating flood risk, and recommendations for implementation. Improvements were focused on maintaining safe passage along US Highway 181 during a hurricane evacuation, alleviating flood damage risks and providing improved public safety for the rural community of Pettus. Analysis included the development of hydrologic and hydraulic models, performing damage calculations for numerous flood scenarios, and calculating benefit-cost ratios using the FEMA Benefit-Cost Analysis (BCA) software tool to determine the most cost effective and beneficial solution.

***FEMA HMGP – HORTON LANE DRAINAGE IMPROVEMENTS | Poteet, TX |** As Project Manager, Abe was responsible for preparing a FEMA Hazard Mitigation Grant application, design and construction administration for drainage relief and public safety improvements associated with a critical roadway intersection that provide access to nearby school campuses. Tasks included preparation of grant application, a benefit cost analysis, conceptual drawings of alternatives, inundation mapping, cost estimation, scheduling, construction documents and administration.

***LORENCE CREEK PRELIMINARY ENGINEERING REPORT | San Antonio, TX |** Abe served as Project Manager for a preliminary engineering report for approximately 2.8 miles of the FEMA Zone AE regulatory floodplain for Lorence Creek. The report examined existing conditions and explored various alternatives such as detention and channel improvements to reduce the floodplain and damage to property and habitable structures.

***SLICK RANCH CREEK PRELIMINARY ENGINEERING REPORT | San Antonio, TX |** As Project Design Engineer, Abe was responsible for evaluating the flooding extents along an approximately 1.5-mile section of the Slick Ranch Creek Tributary. This segment of the reach is situated in an 11.7 square mile watershed that is highly urbanized and relatively flat. Modeling included utilization of XPStorm 2D to evaluate mitigating solutions for the split flow conditions.

***UNIVERSITY CHANNEL BANK STABILIZATION AND EROSION CONTROL | Garland, TX |** Abe served as Project Engineer for the design of a 3,700-linear foot long landscaped waterway that included stabilization of the vertical walls and stream bed using a combination of concrete segmental walls, interlocking concrete blocks and other materials to mimic the characteristics of natural hard armoring. The design saved the city nearly \$600,000 in environmental mitigation costs and eliminated the need to purchase property from adjacent residents. The project was named a 2010 Engineering Excellence Gold Award by the Texas Council of Engineering Companies and an ACEC national finalist.



AUSTIN MESSERLI, PE, LGPP Seal Coat + Overlay

Austin is a Project Engineer with more than seven years of experience with various municipal and county transportation projects. His responsibilities range from project management assistance to supervising plan and production documents to reviewing technical design and reports. His experience covers all aspects of a project's life span from start to finish. His unique background with Municipal and County clients provides diverse experiences that deliver a consistent approach to successful, on-time, and under-budget projects.

EDUCATION: MS, Civil Engineering, University of Oklahoma
 BS, Civil Engineering, University of Oklahoma
 BS, Environmental Studies, Oklahoma City University

REGISTRATIONS: Professional Engineer, State of Texas #135510
 TxDOT Local Government Project Procedures (LGPP) Qualified

TxDOT PRECERTS: 4.2.1 ♦ 8.1.1 ♦ 8.6.1 ♦ 9.1.1

2021 STREET IMPROVEMENTS | Castroville, TX | Austin served as Project Manager for a complete bid set of a PS&E design manual to construct five (5) residential streets for 0.60 miles across the City for pavement improvements. The existing streets included hot mix asphalt, chip seal, and flexible base surface courses. Austin analyzed a pavement report previously performed by the City, worked alongside the geotechnical engineer to determine the appropriate pavement improvement solution to maximize the City's limited budget and timely construction. Three combinations of surface coarse and subgrade improvements options were analyzed, hot mix asphalt (HMA), chip seal, seal coat, lime stabilized subgrade reclamation and full-depth patching. The final design included HMA and chip seal surface courses, with lime stabilized subgrade reclamation

improvements to extend the street's life cycle while considering the budget constraints.

WOODCREEK DRIVE OVERLAY | Woodcreek, TX | Austin served as Project Manager for a complete bid set of a PS&E design manual to construct 0.93 miles of a residential street through the heart of the City. Following up on a PCI index report performed by KFA that rated the City's roadways, Austin followed recommendations to improve Woodcreek Drive. Improvements included edge milling and overlaying to reduce the elevation change from strictly performing an overlay at driveways that could impact existing drainage patterns and driver comfort. In addition, the project team conducted a site visit to observe and determine locations for full-depth patching that required additional work to extend the street's life cycle and maximize the value to the City's limited budget.

***COUNTY ROAD 366 SCHEMATIC DESIGN | Williamson Co, TX |** Austin served as Project Engineer responsible for Schematic design and clearance for 2.9 miles of a rural arterial roadway. The existing facility included two lane roadways with a stop-controlled T-intersection located on a horizontal curve. The proposed four lane facility with center turn lane replaces the existing facility. Along with the roadway and drainage design the Schematic phase included traffic analysis and signal warrant for realigning the intersection to a six-lane signalized T-intersection. For environmental investigation and clearance, the project passed both TxDOT and Williamson County approval. The design includes both Williamson County and TxDOT facilities.

AUSTIN MESSERLI, PE, LGPP

Additional work responsible for developing cost estimates and coordinating with subconsultants performing environmental and public involvement to meet requirements.

***COUNTY ROAD 366 PLANS, SPECIFICATIONS, AND ESTIMATE DESIGN | Williamson Co, TX |** Austin served as Deputy Project Manager responsible for PS&E design and project management assistance for 2.9 miles of the rural arterial roadway. The proposed four-lane facility with a center turn lane replaced the existing two-lane facility with two stop-controlled T-intersection, one located on a horizontal curve. The design met both Williamson County and TxDOT criteria and clearances due to improvements in both jurisdictions. Realigned FM 397 to create a six-lane signalized T-intersection with complete signing and striping plans. Open channel drainage design included one bridge class RCB and one bridge structure, roadside ditches, and multiple driveway culverts. A three-phase traffic control utilized the existing facility to limit existing traffic impacts and maximize construction to reduce construction time. Utility investigation and coordination were required to avoid the potential effects that increase cost and project time. Also responsible for client and subconsultant coordination to meet the desires and schedule for the client.

***TXDOT AUSTIN DISTRICT ADA RAMP INVESTIGATION AND IMPROVEMENTS (ON-CALL TRAFFIC SERVICES) | Austin, TX |** As Project Engineer, Austin was responsible for site investigation, design, and project management assistance on three separate ADA improvement contracts for three consecutive fiscal years. All three projects include similar process and work with locations varying across the 11 County Austin District. FY19 project investigated ADA compliance on 11.7 miles of 13 corridors in eight cities, in FY20 there was 8.7 miles of 10 corridors in four cities FY20, in FY21 there was 4.5 miles for 13 corridors in 8 cities. Each project included site investigations to determine existing site constraints (urban vs. rural; utility/right-of-way and drainage; building access; existing topography) and ADA compliance by investigating existing longitudinal and cross slopes, ramp types, existing sidewalk extents, deteriorated or missing sidewalk areas, drainage, right-of-way constraints, signalized intersections for pedestrian push buttons, and signal facilities. All the existing data and information was used to create a working GIS web application for TxDOT to interactively track and locate ADA compliance and issues. Designed ADA compliant upgrades and improvements using the existing information that would allow for the most construction within the project budget and one year construction constraints.

***TRAVIS COUNTY LINDEN ROAD DRAINAGE IMPROVEMENTS | Austin, TX |** As Project Engineer, Austin was responsible for roadway design and project management assistance for plans, specifications, and estimate for 0.4 miles of a rural local non-arterial street, which included horizontal and vertical alignments, roadway and corridor modeling, drainage design for an open channel system with multiple culverts, and analysis. The design included realigning and extending an existing driveway by 600 feet to connect outside the floodplain. Performed utility investigation to eliminate potential impacts during construction and coordinated with subconsultants and design team on milestone submittals and review meetings.

***E 116TH ST FROM MINGO RD TO GARNETT RD | Owasso, OK |** As Project Engineer, Austin was responsible for roadway and drainage design to reconstruct a 1-mile urban major arterial street from two to four lanes with an elevated median and left-turn lane. The proposed facility also included bike lanes, two sidewalks, with two traffic signal improvements. Austin prepared a conceptual engineering report with alternative design options with geometry improvements and corresponding cost estimates. Final PS&E included re-alignment of the City park entrance with a parking lot, open and closed storm drainage systems, traffic control plans, and signing and striping plans for roadway and on-street bicycle facilities.



PETE RING, PE, LGPP Roadway Design

Pete has 38 years of experience in roadway and highway design, including 14 years with the Texas Department of Transportation (TxDOT). During his tenure with TxDOT, Pete was responsible for project design, plan review, and contract administration. This included managing the flow of roadway design, hydraulics, traffic management, and structural design documents for final submission to TxDOT, Austin and provided guidance to consultants and in-house designers on TxDOT policies and procedures. Pete's 29 years of experience as a PM include coordinating efforts of engineers and technicians in areas of alignments, drainage, traffic control, utility adjustments, specifications, quantities and cost estimation, and pavement design.

EDUCATION: BS, Civil Engineering, University of Houston

REGISTRATIONS: Professional Engineer, State of Texas #79256
TxDOT Local Government Project Procedures (LGPP) Qualified

TXDOT PRECERTS: 1.5.1 ♦ 3.2.1 ♦ 4.2.1 ♦ 4.4.1 ♦ 4.5.1 ♦ 8.1.1 ♦ 9.1.1 ♦ 10.2.1

2017 ROAD BOND PROGRAM

GEC | Travis County, TX | Pete is current serving as the Project Manager for three of Travis County's 2017 bond projects through Travis Transportation Partners (TTP), a joint venture of K Friese + Associates and another engineering firm. TTP was formed to provide general engineering consulting (GEC) services to Travis County for the implementation of its approximately \$275 million bond program. As Project Manager Pete is responsible for coordinating efforts with the projects' design teams, County, and GEC staff. Pete is responsible for design, plan review, and construction management of Hog Eye Road consisting of the upsizing of low water crossing culverts at two locations within the Lockwood Watershed (\$1.1M); Tom Sassman Road consisting of the replacement of a low water crossing with a multiple span bridge over Maha Creek (\$5.4M); and Fitzhugh Road consisting of the widening of two

miles of two-lane roadway to include shoulders (\$4.6M).

LIME KILN ROAD, HAYS COUNTY | Hays County, TX | Pete serves as Project Manager for the alternative route analysis update and PS&E for Lime Kiln Road where it crosses San Marcos River just upstream of Aquarena Springs and at Sink Creek. Pete leads the design team to develop plans for a bridge crossing of the San Marcos River. Hydrologic modeling of the bridge began with the effective FEMA HEC-2 models of the San Marcos River. Duplicate effective, existing, and proposed conditions HEC-RAS models were created for the project to evaluate relative impacts of the roadway alternative alignments to the floodplain and the floodway. In a similar fashion Sink Creek was evaluated to determine if a bridge or multiple box culverts were warranted. Roadway, drainage, bridge, signing and pavement markings, and TCP plans are being developed along

with a Water Pollution Abatement Plan (WPAP). The estimated construction cost for the selected alternative is \$3.7 million.

US 380 WIDENING | Collin County, TX | Pete serves as PM for this current project to widen 7.5 mi of US 380 from CR 457 in Princeton to Airport Drive in McKinney. The existing facility is a 4-lane divided roadway with a raised median, turn lanes, & open ditch drainage throughout. The proposed improvements include widening to a 6-lane roadway while maintaining the existing raised median, curb & gutter with storm drain, sidewalk on both sides of the roadway, bridge widenings, retaining walls, more than 240 driveway extensions, & modifications to 38 side street intersections including various turn lane configurations. TCP, signing, pavement markings, traffic signals, & SWPPP are also included. US 380 has a 14-foot outside shared use lane & includes bridges within FEMA Zone AE

PETE RING, PE, LGPP

floodways. KFA's H&H analysis of 12 crossings includes 3 Zone AE bridge structures with floodways defined at three locations & 4 bridge class culverts within FEMA flood hazard area Zone A. Due to recent changes in land use, KFA determined that a negative freeboard exists at the Tickey Creek bridge. Pete directed KFA in preparing and analyzing several alternatives including replacing/raising the existing bridge and widening the structure as originally proposed on the schematic. Pete directed the development of a GIS database depicting crash locations with data from TxDOT's CRIS system. The database was used to determine locations where additional safety measures might be employed, such as a flashing beacon warning drivers of a traffic signal ahead over a hill with limited sight distance. When the Dallas District considered splitting the projects into two PS&E packages, Pete directed KFA staff in preparing a recommend location based on roadway geometrics, TCP, and storm sewer limitations. The project is currently at 30% & design is scheduled to be completed in early 2022 (\$66.7M).

SH 161, TXDOT DALLAS | Dallas, TX | Pete served as Project Manager for the widening of SH 161 from south of SH 183 to north of Belt Line Road in Dallas, TX. The project widened the existing six lane facility, including two Peak Hour Lanes to eight general purpose lanes and provided for ramp reconstruction. Horizontal and vertical geometry were designed to accommodate the existing underpasses. Existing direct connectors (DC), and future DCs for managed lanes, at SH 183 are accounted for in the design. Drainage facilities were amended to handle the increase in impervious cover. A noise wall, signing and pavement markings, illumination, ITS, and complex traffic control plans are included.

POST ROAD, HAYS COUNTY | Hays County, TX | Pete served as Project Manager for the alternatives analysis update for the Post Road crossing of the Blanco River. The existing Post Road bridge at the Blanco River, located just downstream of the Union Pacific Railroad bridge was built as a low-water crossing and has multiple deficiencies that affect its ability to safely convey the ever increasing traffic volumes along Post Road. A major design consideration was the design of a new bridge which meets the county's requirements for overtopping without impacting upstream flooding elevations. Three additional alternatives were considered beyond what was prepared in an earlier study. The estimated construction cost for the selected alternative is \$5 million.

FM 1344, TXDOT SAN ANTONIO | Wilson County, TX | Pete serves as Project Manager to reconstruct 4.0 miles of FM 1344 from FM 541 to north of CR 209 in Wilson County, scheduled for a September 2021 letting. Originally funded as a Systemic Safety Widening project, FM 1344 became a reconstruction project due to existing pavement conditions. Because additional funding needed to be secured, Pete worked closely with the geotech subconsultant preparing the pavement design in evaluating several cost-effective alternatives for widening and reconstruction. While the mixed funding sources led to discussions on the appropriate design criteria, 3R criteria were ultimately selected because the horizontal and vertical geometry were not significantly changed. The team also evaluated the potential to extend the project limits from FM 541 to Wilson/Karnes County Line. PS&E was developed for the reconstruction within the original limits. The PS&E includes roadway and drainage design, a bridge class culvert, Traffic Control Plans, signing and pavement marking layouts, and SWPPP (\$6.2M).

US 281, TXDOT SAN ANTONIO–HNTB | San Antonio, TX | Pete served as Deputy Task Manager for the drainage and water quality design for the conversion of 2.0 miles of US 281 from a four-to-six-lane divided roadway to a six-lane controlled access freeway with two two-lane frontage roads and a high occupancy vehicle (HOV) lane. The project extends from Loop 1604 to Stone Oak Parkway in San Antonio, TX. Six cross culverts and two bridge class culverts were designed along with a storm sewer system, detention ponds, water quality ponds and features, and miscellaneous drainage and water quality details. Drainage Area Maps were developed, flows evaluated, and drainage systems designed using the Rational Method, HY-8, HEC-RAS, and GeoPak Drainage according to the TxDOT Hydraulic Design Manual (\$210M).



JEREMY CARSON, PE Roadway Design

Jeremy has 16 years of transportation engineering experience throughout Texas. His responsibilities include project management and oversight of roadway design, including traffic control plans, retaining walls, super elevations, cross sections, intersections, signing, pavement markings and storm sewers. He is proficient in the use of MicroStation, Geopak Road, Geopak Drainage and Criteria Based Cross Sections.

EDUCATION: MBA, Business Administration, Texas Tech University
BS, Civil Engineering, Texas Tech University

REGISTRATIONS: Professional Engineer, State of Texas #109766

TXDOT PRECERTS: 1.5.1 ♦ 4.2.1 ♦ 8.1.1

***SAM HOUSTON TOLLWAY EAST, HCTRA | Houston, TX |** Jeremy was the project manager for a 1.3 mile section of the Sam Houston Tollway East widening project for the Harris County Toll Road Authority. His responsibilities included leading the design efforts for the main lane widening, ramp reconstruction, retaining walls, and cross sections. He also oversaw the efforts for the drainage and traffic control design and coordinated with the client and program manager to make sure all issues were addressed.

***UNIVERSITY BOULEVARD BRIDGE, CITY OF SUGAR LAND | Sugar Land, TX |** Jeremy served as project manager for the design of the University Boulevard Bridge project. His responsibilities include overseeing design of the roadway, retaining walls, signs, pavement marking, traffic control plan and coordinating with the design of the bridge and storm sewer. The bridge had to span over both a railroad and a creek. Due to the proximity

of the creek, soil conditions were extremely poor and due to the railroad, the height of the bridge was substantial. The project required constant coordination between the bridge designer, geotechnical sub-consultant and client to ensure that there would be no issues once the roadway was constructed. The retaining wall foundations required concrete modulus columns in order to help with global stability. Although this method was costly, it would ensure the integrity of the walls over the life of the roadway.

***ELYSIAN VIADUCT, TXDOT HOUSTON DISTRICT | Houston, TX |** Jeremy was the project manager for the roadway portion of the Elysian Viaduct Bridge project. The project consisted of rebuilding a bridge going over IH-10 in downtown Houston. The major challenges of the project were centered on the traffic control. Access still needed to be maintained to the local streets in

the project area, and there were many minor streets that were being affected by the project, either by being rebuilt or by the work zone from drilling the shafts. Multiple detour layouts were created in order to properly handle the local traffic during the construction of the project. The traffic control would also require both temporary and full closure of IH-10. The proximity of multiple ramps and the interchange with IH-45 created a complex situation which needed to be carefully detailed out, as a fix in the field could lead to costly delays.

***FM 1900 (SLIDE ROAD), TXDOT LUBBOCK DISTRICT | Lubbock, TX |** Jeremy designed two miles of roadway in Lubbock, TX. The project consisted of widening an arterial from two lane ditch section to a seven lane curb and gutter section. Jeremy was responsible for developing the set of plans, including the plan and profile, traffic control, signing, pavement

JEREMY CARSON, PE

markings, SW3P and storm sewer. Jeremy also acted as utility coordinator in order to help facilitate the relocation of multiple utilities along the corridor.

***US 62/82 (MARSHA SHARP FREEWAY – PHASE 5B) SCHEMATIC, TXDOT LUBBOCK DISTRICT | Lubbock, TX |** Jeremy designed the schematic for 2.5-mile section of US 62/82 in Lubbock, Texas. The project consisted of converting a 4-lane highway, to a 4-lane freeway with ramps and frontage roads. At the interchange of Spur 327, a new interchange would be required in order to accommodate the realignment of US62/82. An alternatives analysis was performed of the ramp configurations. There was a presentation at a public meeting in which the preliminary design was presented and feedback was requested from the public. Adjustments to the ramp locations were made based on feedback.

***CITY OF LUBBOCK BOND PROJECTS | Lubbock, TX |** Jeremy was the lead designer for 4 miles of arterial widening projects for various City of Lubbock streets. The projects consisted of widening from two lanes to seven lanes, adding curb and gutter, sidewalk and drainage improvements. The project was originally scheduled to be let as one project, but for funding reasons and to try to get more competitive bids, the City decided to break the projects up into 3 separate projects. In addition to breaking out the plan set, this required adjustments to the TCP to accommodate the proposed order in which the projects would be constructed.

***US 87 OVERPASS, TXDOT LUBBOCK DISTRICT | Lubbock, TX |** Jeremy designed an overpass with ramps along US 87, just south of Lubbock. The rural highway was the primary access road for multiple schools in the area, which caused for a drastic rise in traffic in the area during rush hour. In order to help improve flow and reduce accidents along the corridor due to the at grade intersection, an overpass was put in place as well as some adjustments to the existing cross road.

***MOPAC EXPRESSWAY AT SLAUGHTER LANE, TXDOT AUSTIN DISTRICT | Austin, TX |** During the design of the Diverging Diamond Interchange project for Loop 1 in Austin, Jeremy was tasked with creating phased cross sections for the project. The phased cross sections were necessary to determine drainage issues and profile issues within the project. The phased cross sections allowed to find grade issues for both the roadway and drainage items that would have arisen during construction, but were able to be alleviated either by adjusting the design or adding temporary measures.

***34TH STREET RECONSTRUCTION, CITY OF LUBBOCK | Lubbock, TX |** Jeremy helped with the public involvement of the 34th Street reconstruction project in Lubbock, Texas. The road was located in the heart of the city, and because of the age of the road, it was in need of a full rebuild. Due to the amount of businesses in the area, public involvement was a large aspect of the project. Jeremy was tasked with going door to door, talking to people about the project and attending multiple public hearings to discuss and listen to the concerns of the stakeholders of the project.

***FITZHUGH SAFETY IMPROVEMENTS, TXDOT AUSTIN DISTRICT | Austin, TX |** The Fitzhugh Road project consisted of safety improvements along a 2-mile corridor. The responsibilities for Jeremy on the project included determining the location and length of metal beam guard fence, providing layouts for the extension of culverts, which included either adding headwalls or safety end treatment, depending on space constraints and drainage flow patterns.

***SPUR 601, TXDOT EL PASO DISTRICT | El Paso, TX |** This design build project included the design of utility corridors along the roadway. The proposed design consisted of multiple large duct banks that were to be installed along the project in order to accommodate multiple telecommunication companies in the area. Jeremy helped the project managers on the project to properly size the casing and place the duct banks. A large portion of the project would require twenty or more conduit runs in order to properly accommodate all the companies and allow for future growth.



DAN CRYAN, PE, LGPP **Drainage Design**

Dan has eight years of design experience on transportation and drainage projects in Central Texas. He has worked on a broad range of public projects for cities, counties, and state agencies, from airfield site design, to transportation drainage, roadway, and interstate highway design. Dan has over two years of experience as a Project Manager with experience in coordinating efforts of engineers and technicians in the design of roadway alignments and profiles, hydrology and hydraulics, 3D corridor modeling and site design, traffic control, signing & pavement marking, specifications, quantities and cost estimates. During Dan's career, he has acquired experience using MicroStation, Geopak Site and Corridor Modeler, Bentley OpenRoads, AutoCAD, FHWA HY-8, USACE HEC-HMS and HEC-RAS.

EDUCATION: BS, Civil Engineering, Rensselaer Polytechnic Institute

REGISTRATIONS: Professional Engineer, State of Texas #127122
 TxDOT Local Government Project Procedures (LGPP) Qualified

TxDOT PRECERTS: 4.2.1 ♦ 4.5.1 ♦ 8.1.1 ♦ 10.1.1 ♦ 10.2.1

WILLIAMSON COUNTY CORRIDOR H | Round Rock, TX | Dan served as Project Engineer assisting with obtaining County approval for the schematic design of realigning and widening an interim and ultimate roadway corridor for approximately 2 ½ miles of Sam Bass Road, through a dense residential neighborhood in Williamson County. The schematic development involved significant input from the surrounding community, including several public workshops and meetings with residents along the corridor. The schematic design considered the traffic control plans for constructing the interim and ultimate phases and minimized future costs by ensuring the ultimate design was compatible with the interim project. Dan was responsible for developing preliminary 3D corridor model for both phases of the project to determine drainage infrastructure needs and proposed right of way requirements.

SEWARD JUNCTION SOUTHWEST | Liberty Hill, TX | Serving as a project engineer, Dan assisted in the overall roadway and drainage design for this new county road between SH 29 and US 183 in Liberty Hill, Texas, as part of the Williamson County Road Bond Program. The 1.5-mile roadway consists of an interim two-lane roadway with an ultimate design of a four-lane divided roadway. Dan assisted in the roadway design by developing cross sections using MicroStation Corridor Modeler and developed the drainage design including onsite storm sewer, ditch capacity analysis, and seven new culvert crossings. Dan has also developed the proposed water quality design using Best Management Practices for the permitting of a Contributing Zone Plan for the Edwards Aquifer for the Texas Commission on Environmental Quality (TCEQ).

EAST WILLIAMSON COUNTY EVENTS CENTER ACCESS ROAD | Williamson County, TX | As Engineer-In-Training, Dan assisted in the overall roadway and drainage design for this new access road to the East Williamson County Events Center in Taylor, Texas, as part of the Williamson County Road Bond Program. The 1.25-mile road consisted of an interim two-lane roadway with an ultimate design of a four-lane divided roadway. Dan was responsible for production of roadway, drainage, signing, pavement marking, and erosion control design and plans for the project, utilizing MicroStation Corridor Modeler to develop cross sections. All aspects of the roadway design were in accordance with Williamson County and TxDOT standards and specifications.

HAYS COUNTY FM 150 WEST CORRIDOR STUDY | Hays County, TX | Dan served as Engineer-In-Training for part of a multi-firm team assigned to develop a

DAN CRYAN, PE, LGPP

corridor plan and a nature and character plan to address the capacity and safety performance of the existing FM 150 West Corridor in Hays County, TX. This study worked with the community through monthly Citizens Advisory Panel meetings and multiple public open houses to allow the local residents to assist in defining the character of the roadway and determine future improvement locations and needs.

HAYS COUNTY FM 150 WEST ALIGNMENT STUDY | Hays County, TX | Dan is serving as Engineer-In-Training on this project, which is a feasibility and alignment study for FM 150 West in Hays County. Dan's role includes data gathering, alignment analysis, and public involvement. He is using MicroStation to analyze the alignment alternatives and ArcGIS to develop maps for public workshops.

TXDOT WALTERS STREET BRIDGE | San Antonio, TX | KFA is a sub-consultant to Jacobs Engineering Group providing roadway, drainage, and traffic control design for the widening of approximately 0.3 miles of Walters Street including a bridge over the Union Pacific Rail Road, along with the reconstruction of Larry St, a local road beneath Walters Street. Dan is assisting by developing a 3D roadway model for the existing and proposed structures using MicroStation OpenRoads tools.

TXDOT IH 30 AT FM 2642 | Royse City, TX | Dan served as Project Engineer during the design phase of this project, in which KFA was the prime design consultant for this interstate bridge replacement project. KFA provided roadway and drainage plans for raising the existing IH-30 bridge over FM 2642 by approximately three feet and associated roadway improvements including mainlane widening, retaining wall design, converting the existing frontage roads from two-way traffic to one-way, constructing new entrance and exit ramps, widening and improving approximately ½ mile of FM 2642, and widening and rehabilitating approximately 1.25 miles of County Road 2515 to assist in the traffic control plan during construction. Dan developed the proposed roadway cross sections for the mainlanes, ramps, frontage roads, FM 2642 and FM 2515, and assisted in design and plans production for the roadway and retaining walls. Dan is also managing KFA's construction phase services by reviewing and responding to RFI's and change orders as necessary throughout the completion of the construction phase.

NORTHERN WALNUT CREEK HIKE AND BIKE TRAIL PHASE 1A | Austin, TX | Dan served as a project engineer for this new hike and bike trail located within Balcones District Park in the City of Austin, Texas. The approximately ½ mile concrete shared use path connects two existing segments of trail and includes ADA accessible sidewalk connections to existing adjacent sidewalks. Dan developed the trail design in accordance with City of Austin and AASHTO trail standards and compiled the project construction manual and associated bid documents. The design was developed using MicroStation Corridor Modeler, and two new culvert crossings were analyzed using FHWA HY-8. The project is located within the Edwards Aquifer Recharge Zone, Dan completed a TCEQ Water Pollution Abatement Plan Permit Exception application, documenting that the limited increase in impervious cover and surrounding natural vegetation exempt the project from requiring a comprehensive WPAP permit. Dan is the project manager at K Frieese & Associates for the construction phase services portion of the project.

TXDOT FM 3005 | Galveston, TX | Dan served as Project Manager for KFA, as a sub-consultant to H&H Resources (HHR). The project improves the serviceability of the primary access roadway along the western portion of Galveston Island by raising the roadway elevation to a minimum elevation of 7.5 feet above sea level and regrading the roadside and outfall ditches to provide positive drainage to the outfalls. KFA's portion of this project involved designing the roadside parallel ditches, driveway culverts, and storm sewer systems to tie to proposed cross culverts designed by HHR. Due to the extremely flat topography of Galveston Island, ditches were designed for positive conveyance and to minimize construction disturbance at driveways.



GEOFF ELFERS, PE Drainage Design

Geoff has 13 years of experience working on transportation projects with a focus on stormwater management and drainage design. His recent experience has included drainage and utility infrastructure for Tollway, DOT, and mass transit agencies. In addition to drainage engineering, his experience includes coordinating and assisting with projects across disciplines. He has experience in roadway engineering, utility engineering, maintenance of traffic, and erosion control.

EDUCATION: BS, Civil Engineering, University of Texas-Austin

REGISTRATIONS: Professional Engineer, State of Texas #133555, State of Illinois #062063942

TXDOT PRECERTS: 4.2.1 ♦ 4.5.1 ♦ 10.1.1 ♦ 10.2.1 ♦ 17.5.1

ROSS ROAD FROM PEARCE LANE TO HEINE FARM ROAD | Travis County and within the ETJ of Austin, TX | Geoff served as Lead Drainage Designer for the schematic and PS&E design of Ross Road, consisting of converting approximately one mile of 2-lane rural roadway to an urban 3-lane roadway with a center turn lane, bike lanes and sidewalks. In addition, planning was required for ROW acquisition to accommodate the ultimate 5-lane urban section. The project required improving an existing low water crossing that currently overtops between the 2- and 10-year design storms. A regional detention pond was proposed to control flow from offsite and allow the existing small diameter culverts to be replaced with a bridge class culvert without impacting downstream properties. The proposed design removed roadway overtopping for the 100-year design storm. In addition, the project required water quality controls for suspended solids, heavy metals, and fertilizers per

the City of Austin environmental criteria. Special Jellyfish Filter inlet devices were proposed and incorporated into the design to reduce ROW acquisition needs while achieving water quality goals. PS&E design was completed through the 100% design package and is currently awaiting construction.

SOUTH MOPAC ENVIRONMENTAL ASSESSMENT | Austin, TX | Geoff serves as Lead Designer for the drainage component of the S. MoPac environmental assessment extending from downtown Austin to Slaughter Lane. The project extends across six watersheds within the environmentally sensitive Edwards Aquifer Recharge Zone. Geoff is responsible for the hydrologic and hydraulic impact analysis report and water quality report. The study requires updates to three existing effective hydrologic models to incorporate recently published Atlas 14 precipitation data and the analysis of six bridge crossings,

two bridge class culvert crossings, and numerous other major culvert crossings. Geoff is responsible for coordinating the floodplain and water quality impacts with the City of Austin floodplain managers and TCEQ staff. Preliminary reports for the drainage impact analysis and water quality impacts have been developed by Geoff and submitted to the CTRMA for review.

SH 6 | Bryan and College Station, TX | Geoff served as Lead Drainage Designer for the schematic planning phase of SH 6 through the cities of Bryan and College Station. The project consists of 12 miles of highway improvements between SH 21 to SH 40. The project includes 7 floodplain crossings within FEMA Zone AE. A major challenge of the project was developing the hydrologic and hydraulic models in HEC-HMS and HEC-RAS. The floodplain analysis originally completed by FEMA in the late 1970s was largely out of date and no effective computer model was available. The project

GEOFF ELFERS, PE

incorporates the latest Atlas 14 precipitation data and seeks to mitigate existing flooding problems identified by the City of Bryan and City of College Station.

***59N/PTH 101 NEW INTERCHANGE AND PTH 59/PR 202 INTERCHANGE UPGRADES DESIGN-BUILD, WINNIPEG | Manitoba, CA |** Geoff served as Lead Drainage Designer for this \$160 million design-build project located in the northeast quadrant in the City of Winnipeg. The scope generally consisted of design and construction of a systems interchange at PTH 59N/PTH 101 and intersection upgrades to PTH 59/PR 202, including 6.5 km of highway reconstruction and widening and three loop ramps. Geoff managed the final drainage design and reports in addition to responding to requests for information during the construction phase and certifying the final as-built condition based on the project requirements. The proposed drainage system was modeled in XP-SWMM with a runoff management goal of reducing the existing flow rate to the Red River to mitigate an existing drainage problem under which the drainage ways to the Red River become flooded and cause ramp and lane closures through the interchange during intense storm events. He traveled to Winnipeg to present the designs and drainage model to Manitoba Infrastructure at weekly task force meetings. He provided support for the development of roadway and maintenance of traffic plans and details. He also reviewed and approved shop drawings and manufacturer's specifications with regards to project requirements.

***ILLINOIS TOLLWAY, I-88 ROADWAY RECONSTRUCTION | DuPage and Cook Counties, IL |** A portion of I-88 was constructed to provide a new westbound auxiliary lane, retaining and noise abatement walls, and drainage system improvements. Geoff led the design of the drainage and utility infrastructure under this contract. Proposed improvements included over 10,000 linear feet of storm drainage and pipe culverts. Quantity runoff was managed through a system of oversized detention storage pipes and overland ponds. Storm water management and runoff quantity mitigation was modeled in TR-20 to achieve a maximum allowable release rate of 0.1 cfs/acre for new impervious cover. Storm sewer networks were modeled using Bentley StormCAD. Additional major drainage improvements included the jacking in place of 42" and 60" concrete culverts under I-88 and adjacent ramp pavement as to not disrupt traffic flow. In addition, Geoff worked closely with ComEd transmission and distribution, Nicor Gas, and G4S to facilitate the relocation and design of utilities in conflict with the project construction. He designed all necessary municipal water and sanitary sewer relocations and worked to obtain necessary IEPA permits for water and sewer construction.

***ILLINOIS DOT DRAINAGE STUDY, US 30 FROM IL 47 TO IL 31 | Village of Montgomery, IL |** IDOT initiated a Phase I Preliminary Engineering study for US Route 30 (Baseline Road) through the Village of Montgomery. The proposed corridor will replace a rural two-lane section with an urban four-lane section consisting of curb and gutter and a closed drainage system. Sections of the corridor are currently prone to extensive flooding causing damage to residential subdivisions. Geoff wrote the Phase I location drainage study which included provisions to substantially reduce flooding both within the project corridor and offsite by building a 72" diversion storm sewer to route flow around affected properties to downstream existing detention facilities and to the downstream receiving waters. The study included floodplain management, detention, compensatory storage, and extensive water quality controls. The project was modeled in HEC- HMS and HEC-RAS and improvements were shown to remove residences from the floodplain overview.

The hydraulic model was calibrated to an aerial video depicting the flooding extents associated with a recent extreme storm event estimated to be in excess of the 100-year events. Geoff conducted plan review meetings with the Village of Montgomery to address and incorporate the Village's comments and concerns into the project report.



SAM BLANCO, AICP, PMP **Environmental**

Sam brings more than 18 years of relevant environmental experience. He oversees Raba Kistner's Environmental Planning and Permitting program, which is heavily focused on environmental clearance for TxDOT projects. In 2019, he was selected to serve as Project Manager for the TxDOT Houston District's Environmental Documentation and Technical Services (NEPA) contract, and most recently on the similar statewide contract. During his career, he has served as Environmental Task Lead or participated in highway projects located in over a dozen TxDOT Districts, and in all corners of the state, including Dallas.

EDUCATION: MS, Environmental Science, Texas A&M University-Corpus Christi
BS, Biology, Texas A&M University-Kingsville

REGISTRATIONS: American Institute of Certified Planners
Project Management Professional

TXDOT PRECERTS: 1.8.1 ♦ 2.1.1 ♦ 2.3.1 ♦ 2.3.2 ♦ 2.4.1 ♦ 2.4.2 ♦ 2.4.3 ♦ 2.6.1 ♦ 2.6.2 ♦ 2.6.3 ♦ 2.6.4 ♦ 2.7.1 ♦ 2.12.1 ♦ 2.13.1 ♦ 2.14.1

TXDOT SH 114, DAL DISTRICT | Dallas, TX | In 2019-2020, Sam served as Environmental Task Lead for 2.84 miles of SH 114 improvements, including 116-foot wide freeway (six lanes), inside/outside shoulders, access ramps, and replacement of bridges over Elizabeth Creek, an unnamed tributary to Elizabeth Creek, and an unnamed tributary to Denton Creek. Six wetlands totaling 3.14 acres were identified in the ROW and directly within the project area. His team worked closely with the LAN, Inc. (design consultant) to communicate permit and mitigation thresholds applicable in the USACE Fort Worth District, and carefully proposed temporary construction mat placement to minimize wetland impacts. This demonstrated no "losses" to wetlands, avoided extensive permitting, and mitigation. NEPA was cleared one month ahead of schedule and 20% under budget.

TXDOT US 69 CORRIDOR, BMT DISTRICT | Beaumont, TX | In 2019-2021, Sam served as 2.14.1 Task Lead for this 13-mile project, which is flanked by the NPS Big Thicket National Preserve and Texas A&M Forest Service property. His environmental team developed a comprehensive screening matrix, which incorporated qualitative and quantitative screening criteria (engineering and environmental), which followed AASHTO's 2007 guidance "Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects." This matrix and accompanying technical report laid the foundation for alternatives development and selection. This resulted in alternatives that all stakeholders were confident presenting to the public, and which were in line with primary concerns expressed regarding corridor needs (e.g. capacity, emergency evacuation,

ecotourism, compatibility with the unique natural environment, and others). The alternatives analysis was approved with minimal comment, and allowed the NEPA study (EA), design, and overall project development process to advance without impeding the schedule.

KLEIN ROAD ROADWAY IMPROVEMENTS (PHASE I); MORNINGSIDE DRIVE AND SOLMS ROAD IMPROVEMENTS; AND RUECKLE ROAD IMPROVEMENTS | New Braunfels, TX | Sam conducted a Phase I Environmental Site Assessment (ESA-I) for three roadway improvement projects under the City of New Braunfels' previous Bond program. The assessments were conducted in accordance with ASTM E 1527-05, Environmental Site Assessments: Phase I Environmental Site Assessment Process. They included a review of regulatory databases, public data (historical topographic

SAM BLANCO, AICP, PMP

maps, historical aerial photographs, landfill inventories, well data, and others), a site reconnaissance, and interviews. RK included relevant conclusions and recommendations, where required, based on the thorough assessments that were conducted for these three projects

LIVE OAK STREET & KATY DRAINAGE IMPROVEMENTS | New Braunfels, TX | Sam supported the City of New Braunfels with two Bond projects calling for the reconstruction of Live Oak Street, as well as drainage improvements at the Katy Street intersection. RK provided environmental constraints support during the feasibility stage, and conducted archaeological, hazardous materials, biological, and waters of the U.S. assessments. RK coordinated with the Texas Historical Commission on the City's behalf. In addition, RK prepared a Section 404 permit, working closely with the City of New Braunfels, its engineering consultant, and the U.S. Army Corps of Engineers in order to (a.) minimize impacts on the Katy Drainage project, and (b.) avoid a costly and lengthy permitting process, while achieving project objectives.

QUINTANA ROAD ROADWAY AND DRAINAGE | San Antonio, TX | Sam prepared a NEPA document for Port San Antonio and the City of San Antonio's roadway and drainage project. The project involved residential and business displacements and hazardous materials concerns related to Kelly Air Force Base's known contaminant plume. The project required the use of a portion of a publicly-owned, publicly-accessible park, which triggered DOT Section 4(f) and PWC Chapter 26 compliance. RK also analyzed park impacts and coordinated public hearing requirements to satisfy Section 4(f) of the DOT Act, working closely with project sponsors throughout the process.

WETLAND DELINEATION FOR THE SALADO CREEK HIKE AND BIKE TRAIL | San Antonio, TX | Sam prepared a delineation report that documented resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE) including wetlands and waters of the United States, for the Salado Creek Hike-and-Bike Trail. The delineation identified a total of 0.34 acres of impacts to wetlands and 0.06 acres of impacts to waters of the United States within the project area. The delineation was conducted as part of the construction of a Hike-and-Bike trail adjacent to Salado Creek in eastern San Antonio. Mr. Blanco conducted a formal field delineation for potential resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE) along Salado Creek in the vicinity of U.S. Interstate 10. The purpose of this delineation was to identify jurisdictional waters of the U.S. (including wetlands) that may occur on, or immediately adjacent to the proposed alignment of the trail at this location.

CATEGORICAL EXCLUSION (CE) FOR HAYS STREET BRIDGE REHABILITATION PROJECT | Bexar County, TX | Sam prepared a Categorical Exclusion for the Hays Street Bridge Rehabilitation Project between Austin Street to Mesquite Street, in San Antonio, Bexar County, Texas. Hays Street Bridge, which served as a vehicle crossing over the Union Pacific Railroad in the past, was abandoned and out of service. The City of San Antonio and TxDOT proposed to rehabilitate the bridge for recreational purposes as part of a pedestrian and bicycle trail. Mr. Blanco coordinated with the City of San Antonio and TxDOT to address any concerns during the CE process. The document addressed socioeconomics, air and noise, water resources, floodplains, water quality, vegetation, endangered species, cultural resources, section 4(f), hazardous materials, and public involvement.

BALCONES HEIGHTS DRAINAGE MANAGEMENT | San Antonio, TX | Sam conducted a biological survey, tree survey, Section 404 evaluation, and cultural resources evaluation for the construction and development of flood control structures.

HUEBNER CREEK REALIGNMENT | San Antonio, TX | Sam conducted Cultural resources determination, Section 404 wetlands delineation and Individual Permit application, biological assessment for the realignment and redesign of a 2 mile section of Huebner Creek.



GABRIEL ORNELAS, PE, PMP **Geotechnical**

Gabriel has more than 22 years of work experience involving management and execution of construction quality control testing and inspection services on major construction projects in Texas. He has technical and managerial expertise in concrete and soils testing and inspection, drilled pier inspection, and asphalt testing. Gabriel's construction materials testing and engineering experience includes several public, private, and industrial projects.

EDUCATION: BS, Civil Engineering, University of Texas-San Antonio

REGISTRATIONS: Professional Engineer, State of Texas #87851
Project Management Professional

TXDOT PRECERTS: 12.1.1 ♦ 12.1.2 ♦ 14.1.1 ♦ 14.2.1 ♦ 14.3.1 ♦ 14.4.1

CR 119 - LIMMER LOOP TO CHANDLER ROAD | Williamson County, TX | Gabriel served as Principal-In-Charge for the proposed extension of CR 110/Ed Schmidt Boulevard from Limmer Loop to Chandler Road; 2 lanes of a future 4-lane roadway with shoulders and a traffic signal. He conducted the geotechnical engineering study.

Sam Bass Road/Chisholm Trail | Round Rock, TX | Gabriel served as Principal-In-Charge for the construction of a portion of Sam Bass Road to a 4-lane divided roadway from Meadows Drive to the IH 35 SB frontage road, and a small portion of Chisholm Trail was reconstructed north of Sam Bass Road. In his role, he performed construction materials testing and observation services.

SAN GABRIEL PARKWAY EXTENSION | Leander, TX | Gabriel served as Principal-in-Charge for the proposed extension

of San Gabriel Parkway from CR 270 to Ronald Reagan Boulevard as a 4-lane divided roadway with curb and gutter, storm sewers, water quality, detention, street lighting, landscaping, temporary irrigation system, 6' and 10' (dual use) sidewalks and a 24-inch water line. In this role, he performed the geotechnical engineering study.

HERITAGE TRAIL WEST CHISHOLM TRAIL | Round Rock, TX | Gabriel served as Principal-in-Charge for the realignment of Chisholm Trail Road along the segment of roadway extending from Brushy Creek to Sunset Drive. In this role, he performed geotechnical engineering study – drilling borings along the existing Chisholm Trail Road performing laboratory testing to classify and characterize subsurface conditions, preparing an engineering report presenting foundation design and construction recommendations for the proposed realignment of Chisholm Trail Road, as well as

providing pavement design and construction guidelines.

PEER REVIEW OF HR 79 BODENMAN TRACT | Round Rock, TX | Gabriel served as Principal-in-Charge for a study peer review for the HR 79 Bodenman Tract. In this role, he reviewed subsurface conditions, engineering reports presenting foundation design and construction recommendations.

PEER REVIEW OF TURTLE CREEK VILLAGE | Round Rock, TX | Gabriel served as Principal-in-Charge for the study peer review for the Turtle Creek Village construction. In this role, he reviewed subsurface conditions, engineering reports presenting foundation design and construction recommendations.

ROUNDVILLE LANE RECONSTRUCTION | Round Rock, TX | Gabriel served as Principal-in-Charge for a geotechnical engineering study for the reconstruction of Roundville Lane.

GABRIEL ORNELAS, PE, PMP

In this role, he performed drilling borings along the existing Roundville Lane performing laboratory testing to classify and characterize subsurface conditions, preparing an engineering report presenting foundation design and construction recommendations for the proposed reconstruction of Roundville Lane, as well as providing pavement design and construction guidelines

US 79 WIDENING HARRELL PARKWAY | Round Rock, TX | Gabriel served as Principal-in-Charge for the geotechnical engineering study for the US 79 Widening Harrell Parkway. In this role, he performed drilling borings along the existing Harrell Parkway, performing laboratory testing to classify and characterize subsurface conditions, preparing an engineering report presenting foundation design and construction recommendations for the proposed widening of Harrell Parkway as well as providing pavement design and construction guidelines.

HEATHERWILDE BOULEVARD IMPROVEMENTS | Pflugerville, TX | Gabriel served as Geotechnical Engineer for the geotechnical engineering study for the Heatherwilde Boulevard Improvements. In this role, he performed subsurface investigation and analysis.

WATER OAK PARKWAY MAJOR ARTERIAL IMPROVEMENTS | Georgetown, TX | Gabriel served as Geotechnical Engineer for the geotechnical engineering study for the Water Oak Parkway Major Arterial Improvements. In this role, he performed subsurface investigation and analysis.

RETAINING WALL AND PAVEMENT DESIGN FOR FM 110 | Hays County, TX | Gabriel served as Geotechnical Engineer for the geotechnical engineering study for the Retaining Wall and Pavement Design for FM 110. The project consists of the construction of a new roadway alignment to be located near its intersection with SH 123 and extending 0.25-mile west in Hays County. In this role, he performed drilling soil borings in the vicinity of the proposed Mechanically Stabilized Embankment (MSE) walls; perform laboratory testing to classify and characterize subsurface conditions; prepare an engineering report presenting foundation design and construction recommendations; a Global Stability Analysis.

COUGAR AVENUE & BRUSHY CREEK ROAD REHABILITATION | Cedar Park, TX | Gabriel served as Geotechnical Engineer for the geotechnical engineering study for the proposed roadway section of Brushy Creek Road and South Cougar Avenue located in Cedar Park. In this role, he performed drilling borings along the existing roadway, performing laboratory testing to classify and characterize subsurface conditions, preparing an engineering report presenting foundation design and construction recommendations for the roadway section, as well as providing pavement design and construction guidelines.

HERO WAY-COUNTY ROAD 269 EXTENSION | Leander, TX | Gabriel served as Geotechnical Engineer for the geotechnical engineering study for the Hero Way-County Road 269 Extension project in Leander. In this role, he performed drilling borings along the existing roadway, performing laboratory testing to classify and characterize subsurface conditions, preparing an engineering report presenting foundation design and construction recommendations for the roadway section, as well as providing pavement design and construction guidelines.



JOELLE ROSENTSWIEG, PE Structures

Joelle has more than 24 years of experience serving as Structural Design Engineer, Engineer of Record and Project Manager on projects ranging from simple standard bridges to complex interchange Direct Connectors. She has developed expert level knowledge of AASHTO specifications and TxDOT design practices. Projects include a wide variety of structures: bridges for new roadway systems, bridge replacements, widenings, evaluations and repair, rail and safety improvements, bridge-class culverts, and retaining walls. Joelle is TxDOT pre-certified in all bridge design categories, Route Studies & Schematic Design, Roadway Design, and Constructability Review.

EDUCATION: MS, Structural Engineering, University of Texas-Austin
BS, Civil Engineering, University of Texas-Austin

REGISTRATIONS: Professional Engineer, State of Texas #89451

TxDOT PRECERTS: 3.2.1 ♦ 4.2.1 ♦ 4.5.1 ♦ 5.2.1 ♦ 5.3.1 ♦ 5.5.1 ♦ 11.1.1 ♦ 11.2.1 ♦ 14.3.1 ♦ 14.4.1 ♦ 17.1.1

MANDA CARLSON ROAD AND LITTIG ROAD CULVERT REPLACEMENTS | Travis County, TX | Joelle was Project Manager to replace two existing functionally obsolete culverts for Travis County. She provided three replacement options (bridge-class culvert option, slab beam, and decked slab beams). Joelle prepared and presented the TCP, construction timeline and bridge options to the local community at Open Houses. TxDOT standard slab beams were used Manda Carlson to limit profile increase and keep grades accessible to a nearby driveway for tractor trailers. Decked slab beams were used at Littig Rd to minimize the approach embankment's impact to a parallel railroad. Accommodates Atlas14.

BITTING SCHOOL ROAD CULVERT REPLACEMENT | Travis County, TX | Joelle was Project Manager and Engineer of Record to replace an existing functionally obsolete multi-box culvert in east Travis

County. Joelle worked with the drainage and roadway engineers to prepare preliminary designs for five replacement options: 2 Tx-girder options, 2 slab beam options and one bridge-class multi-box culvert option. She prepared exhibits and a report summarizing the options, their pro's/con's and estimated construction costs. While the Tx-girder and slab beam options provided overall better hydraulic performance, the multi-box culvert option was selected due to its significantly lower construction cost. New culvert is a 5-box 12x12 bridge class structure with long parallel wingwalls. Design includes a 6ft wide raised sidewalk with combination railing. Stone riprap apron on each side of the culvert protects the channel from erosion/scour.

SUNRIDGE SUBDIVISION BRIDGE AND WATER QUALITY POND | Austin, TX | Joelle was Project Manager and Engineer of Record to provided structural design

for a single-span prestressed I-girder vehicular bridge to allow access into a new urban subdivision (private development in south Austin). Utilized TxDOT standard designs and plans to minimize bridge costs. Stone riprap and stone wingwall facades incorporated to improve aesthetic qualities. Designed and detailed cast-in-place spread footing retaining walls for a new water quality pond. Provided extensive construction phase services and bridge inspection on behalf of the owner to verify compliance with the contract documents.

GREAT OAKS DRIVE AT BRUSHY CREEK BRIDGE | Williamson County, TX | As Project Manager, Joelle managed the PS&E phase, providing design services to address operational and capacity improvements at the intersection of Great Oaks Drive and Brushy Creek Rd/Hairy Man Rd and to replace the existing bridge. The Project includes phased

JOELLE ROSENTSWIEG, PE

replacement of the existing bridge that carries Great Oaks Drive over Brushy Creek (4-span box beam currently overtopped by the 25yr storm event), raising both roadways above 100-yr WSE, adding 8 new retaining walls, 2 new pedestrian tunnels, a new parking lot and improving the surrounding pedestrian trails. Detailed phasing plans allow intersection to remain operational at all times. Performed structural evaluation of the existing bridge and 2 existing culverts and developed extensive bridge study to determine the most economical and practical options. Responsible for overall project coordination and oversight, and for the layout and design of the new bridge, pedestrian tunnels and retaining walls.

WILLIAMSON COUNTY N. MAYS EXTENSION | Williamson County, TX | As part of the schematic development for the North Mays Street Extension project, Joelle led an in-depth structural alternatives study to identify the most suitable bridge system to cross Chandler Branch and meet the project's constraints. The study investigated 6 unique bridge configurations and included preliminary engineering for each bridge option to size bridge components. Developed estimated construction costs for each option and identified the most economical option. Final bridge configuration has 10 I-girder spans with an overall length of 1,224ft and width of 76ft. Bridge carries two lanes of traffic in each direction and includes a 10ft raised SUP on one side, a 5ft raised sidewalk on the other and a 5ft raised center median. Bridge framing required a thin superstructure (Tx34s) to achieve adequate vertical clearance over an existing parking lot driveway adjacent to the south abutment; a deeper superstructure type (Tx54s) with longer span lengths was utilized for the remaining spans in order to minimize number of foundations required within the FEMA floodplain. A 126ft span clears the Waters of the US without impact.

TXDOT IH 35 AT US 183 INTERCHANGE | Travis County, TX | Joelle served as Project Manager for three new direct connector bridge structures, reconstruction of one existing direct connector bridge entrance, reconstruction of the existing St. John's bridge plus 2 new adjacent turn-around bridges, construction of new retaining walls, and new shared use paths (SUP's) along the frontage roads. Under Ms. Rosentswieg's direction, PESC provided structural engineering design services for the US183-NB to IH35-NB Direct Connector: 35 spans of concrete U-beams & steel tub girders with column heights up to 68ft, 6 MSE retaining walls, and 3 cast-in-place footing walls to support SUP's. She designed and detailed both cast-in-place and precast alternatives for the bridge's bent caps and columns at TxDOT's request. Bridge structures have aesthetic treatments to blend with the existing interchange. Construction is currently in progress and PESC is providing construction phase services.

LITTIG ROAD CULVERT REPLACEMENT | Travis County, TX | As Prime Consultant, PESC provided design services and led the design team to replace an existing functionally obsolete culvert for Travis County. Serving as Project Manager, Joelle performed prelim designs for three replacement options: a bridge-class culvert option, a 2-span slab beam option and a 1-span decked slab beam option. She prepared for and presented all three options to the local community at an Open House. The team determined best superstructure type was the single-span decked slab beams. Utilized TxDOT standard designs and plans. Design challenge: keep superstructure thin to minimize approach embankment's impact to parallel railroad.

CTRMA US290E MANOR EXPRESSWAY | Travis County, TX | PESC provided design and post-design services for 2 major mainlane bridges and 3 frontage road creek crossings, mainlanes over Parmer Lane, WBFR over Gilleland Creek Trib 1C, Mainlanes over Gilleland Creek Trib 1C, EBFR over Gilleland Creek Trib 1C, and EBFR over Gilleland Creek. The bridges consist of prestressed concrete I-girder superstructures, and standard as well as aesthetic reinforced concrete bent caps and columns. Joelle provided corridor-wide aesthetic design and detailing of multicolumn, hammerhead and straddle bents, retaining walls and special railing details.



SCOTT BRASHEAR, RPLS Survey

Scott has more than 12 years of experience in land surveying and currently provides project leadership, communication, and outreach for the transportation, federal, institutional, and municipal business at SAM. He spent two years in the field, primarily as a Crew Chief, and now applies that hands-on experience to lead and mentor employees. His responsibilities include allocating personnel to ensure on time, on budget project work and implementing best practices in methodology, technology, software, and tools to improve efficiency and quality of service. Scott is responsible for overall project management.

EDUCATION: BS, Geographic Information Science (Geomatics), Texas A&M University-Corpus Christi

REGISTRATIONS: Registered Professional Land Surveyor, State of Texas #6660

TXDOT PRECERTS: 15.1.1 ♦ 15.2.1 ♦ 15.2.2 ♦ 15.3.5

RONALD REAGAN BOULEVARD DESIGN AND PROJECT CONTROL SURVEY | Williamson County, TX |

As a subconsultant, Scott was the Survey Project Manager for this 5-mile roadway design survey. He immediately recognized that the key to making this project a success was going to require the mobilization of multiple field crews to the project to meet an aggressive project schedule. The team located existing topographic features within existing right-of-way lines; collected design features for utility, bridge structures, drainage structures, and cross sections; and set primary and secondary control monuments. SAM used aerial LiDAR, collected digital aerial imagery, terrestrial LiDAR technology to collect bridges, features, and conventional surveying within the existing traveled lanes of Ronald Reagan. Surveying work included 2D and 3D base mapping deliverables.

CR 118 DESIGN & RIGHT-OF-WAY SURVEY | Williamson County, TX |

Scott was the Survey Project Manager for two separate projects (TxDOT & Williamson County) related to the realignment of CR 118. Survey services for the TxDOT project included design survey to assist with the drainage design of the future location. Services for the Williamson County project included locating existing right-of-way, boundary survey, right-of-entry coordination, and the creation of parcel plats for the properties affected by the proposed right-of-way. The surveying work included 2D and 3D base mapping deliverables.

CR 401/404 DESIGN AND RIGHT-OF-WAY SURVEY | Williamson County, TX |

Scott served as Survey Project Manager for a roadway improvement project along the existing CR 401 and CR 404 corridors. Survey services included establishing project control, topographic survey to supplement existing aerial LiDAR data sets,

design survey along the UPRR right-of-way, boundary survey, and the creation of parcel plats for the properties affected by the new right-of-way for the future road expansions. The surveying work included 2D and 3D base mapping deliverables.

RM 2243 DESIGN AND PROJECT CONTROL SURVEY | Williamson County, TX |

As the Survey Project Manager for a 10-mile roadway design survey, Scott provided leadership for the setting of primary project control and the creation of a static control network for future construction. SAM used aerial LiDAR and collected digital aerial imagery. The surveying work included 2D and 3D base mapping deliverables.

CR 279 BAGDAD ROAD DESIGN SURVEY AND RIGHT-OF-WAY MAPPING | Williamson County, TX |

As a subconsultant, Scott served as Survey Technician for improvements to CR 279 Bagdad Road. Scott provided technician

SCOTT BRASHEAR, RPLS

support for services involving horizontal and vertical control, design surveys, tree surveys, creating a digital basemap, right-of-way parcel surveys, and mapping for approximately 6 parcels in connection with the future extension of CR 278.

CR 258 DESIGN SURVEY AND RIGHT-OF-WAY MAPPING | Williamson County, TX | As a subconsultant, Scott served as Project Task Leader responsible for overseeing design survey and right-of-way mapping efforts for an approximately 0.6 mile future extension of CR 258 which will tie into US 183. Services included creating a Digital Terrain Model, digital basemap, right-of-way parcel surveys, and mapping for approximately six parcels in connection with improvements along CR 258.

CORRIDOR A1 | Williamson County, TX | As a subconsultant, Scott served as Project Manager for an approximate 5.9-mile roadway design project. Services included setting secondary control, aerial LiDAR flight, locating planimetric features, and creating right-of-way parcel acquisition documents for approximately 75 properties.

SAM BASS ROAD | Williamson County, TX | As a subconsultant to K Friese + Associates, Scott served as Project Manager for an approximately 2.5 mile roadway widening project. Services included setting secondary control, aerial Lidar, supplemental ground survey, locating existing right-of-way, and creating parcel plats for approximately 40 right-of-way acquisitions.

US 183 CORRIDOR F | Williamson County, TX | As a subconsultant, Scott served as Project Task Leader for an approximately 12.5 mile roadway improvement project along US 183 from S.H. 29 to the Williamson County Line. Services included supplemental ground survey of drainage structures and utilities, locating bridge substructures, and re-establishing the existing right-of-way.

DESIGN, PROJECT CONTROL, AND RIGHT-OF-WAY DELINEATION SURVEY, LIVE OAK AND SOUTH SAN GABRIEL RANCHES SUBDIVISIONS | Williamson County, TX | Scott served as Project Manager for a 5.2-mile roadway design survey within existing subdivisions. Ground survey services included locating existing topographic features within existing right-of-way lines, collected design features for utility, drainage structures, and cross sections, and set primary and secondary control monuments. Surveying included 2D and 3D base mapping deliverables.



HEATH HILBIG, PE SUE

Heath is a key team member and leader in SAM's Subsurface Utility Engineering (SUE) Department. With more than seven years of experience in SUE and utility coordination, he constantly improves the workflow and productivity of his team, while enhancing deliverables to exceed client standards. Heath has built a substantial knowledge base working for state, federal, and municipal clients and continues to gain invaluable experience working across multiple industries throughout the company. He is proficient in both MicroStation and AutoCAD software, and has experience working directly for TxDOT as an intern and subconsultant in the Austin District.

EDUCATION: BS, Civil Engineering, Texas A&M University

REGISTRATIONS: Professional Engineer, State of Texas #133670

TXDOT PRECERTS: 18.2.1 ♦ 18.4.1

CAP METRO 4TH ST SUE | Austin, TX | Heath served as Phase Manager responsible for locating, surveying, generating horizontal mapping, and excavating seven test holes for all utilities within a four block stretch along 4th Street in downtown Austin. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, and producing QL-B and QL-A SUE Sheets.

TXDOT I-35 AT RIVERSIDE INTERCHANGE | Austin, TX | Heath served as Phase Manager responsible for locating, surveying, generating horizontal mapping, and excavating 17 test holes for all utilities within a 1.3-mile alignment of IH-35 at the Riverside intersection in Austin. Exercising extreme caution to ensure the safety of the field staff, his team developed innovative solutions to obtain the flow lines in several wastewater manholes that were

over 30 feet deep. His team also shifted several test hole locations to avoid the use of traffic control and excavation in pavement, significantly reducing cost and saving the state time and money. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, designing and implementing traffic control plans in the field, and producing QL-B and QL-A SUE Sheets.

US 90 | San Antonio, TX | Heath served as Phase Manager responsible for providing SUE QL-D utility mapping within a 2.1-mile alignment of US 90, between Old Hwy 90 and Raymond E. Stotzer Jr Fwy, in San Antonio. Primary roles included performing utility record requests and reviewing QL-D sheets drafted from collected utility records.

MANOR EXPRESSWAY PHASE III | Austin, TX | Heath served as Phase Manager responsible for

locating, surveying, generating horizontal mapping, and excavating 10 test holes for all utilities within a 3.3-mile alignment of IH-35 at the Manor Expressway and Texas 130 intersection in Austin. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, and producing QL-B and QL-A SUE Sheets.

FM 1560 CULVERT REPLACEMENT WITH BRIDGE | Helotes, TX | Heath served as Phase Manager responsible for locating, surveying, generating horizontal mapping, and excavating six test holes on existing utilities within a 0.1-mile alignment of FM 1560 near Alto Loma near Helotes. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and the utility designated in the field, and producing QL-A SUE Sheets.

HEATH HILBIG, PE

TXDOT BOYCE LANE SUE | Austin, TX | Heath served as Project Manager responsible for locating, surveying, generating horizontal mapping, and excavating two test holes for all utilities within a 0.1-mile alignment of Boyce Lane near the intersection of Farmhaven Road in Austin. Project concerns included the designating and excavating to expose a waterline that was in conflict on the project. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, and producing QL-B and QL-A SUE Sheets.

TXDOT US 290 AND SH 71 | Austin, TX | Heath served as Project Manager responsible for providing SUE QL-D through QL-B utility mapping within a 5.5-mile alignment of US 290 and SH 71 in Austin. Primary roles included performing utility record requests, oversight of field crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, compiling a utility conflict matrix, and reviewing QL-B sheets drafted from collected utility records and field investigation.

TXDOT 10X10 ROUND ROCK | Round Rock, TX | Heath served as Phase Manager responsible for locating, surveying, generating horizontal mapping, and excavating 18 test holes for all utilities within a 2.6-mile alignment of IH-35 between TX 45 and Sam Bass Road in Round Rock. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, and producing QL-B and QL-A SUE Sheets.

SLAUGHTER CREEK SUE | Austin, TX | Heath served as Phase Manager responsible for locating, surveying, generating horizontal mapping, and excavating six test holes for all utilities within a 0.6-mile alignment of IH-35 near the Slaughter Creek overpass in Austin. Primary roles included oversight of field designating crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, and producing QL-B and QL-A SUE Sheets.

TXDOT AUSTIN DISTRICT, RM 2147 | Llano County, TX | Heath served as SUE Project Manager responsible for the RM 2147 project, which consisted of three miles of roadway along RM 2147. The complete PS&E package consisted of pavement resurfacing and widening to accommodate the additional left turn lanes. Responsibilities included the production and management of SUE QL-D through QL-A services throughout the project limits. Primary roles included daily management of field and office staff, review and reporting of field production, and determining cost effective solutions when challenges occurred throughout the project. Unique challenges included determining an accurate horizontal and vertical location for a wastewater line. By analyzing existing field conditions and comparing findings from several different pieces of designating equipment, the team was able to successfully expose and confirm the location of the wastewater facility through nondestructive methods. Total production on the project included the mapping of 62,000 LF of utilities and excavation of 23 test holes in total.

FM 1110 | El Paso, TX | Heath served as Phase Manager responsible for providing SUE QL-D utility mapping within a 4.1-mile alignment of a proposed FM 1110 roadway near El Paso. Primary roles included performing utility record requests, drafting and reviewing QL-D sheets based on collected utility records.

SH 21 MADISONVILLE | Madisonville, TX | Heath served as Phase Manager responsible for providing SUE QL-D utility mapping within a 10.0-mile alignment of a proposed SH 21 roadway near Madison. Primary roles included performing utility record requests, drafting and reviewing QL-D sheets based on collected utility records.

I-69 | Laredo, TX | Heath served as Project Manager responsible for providing SUE QL-D through QL-B utility mapping within a 3.4-mile alignment of I-69 and FM 1472 in Laredo. Primary roles included performing utility record requests, oversight of field crews, analyzing and correlating discrepancies between utility records and utilities designated in the field, and reviewing QL-B sheets drafted from collected utility records and field investigation.

EXHIBIT A
DEBARMENT CERTIFICATION

STATE OF TEXAS

§

COUNTY OF WILLIAMSON

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§

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Engineer and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public* transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity* with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions* terminated for cause or default; and

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

K Friese & Associates, Inc.

Name of Firm



Signature of Certifying Official

Thomas M. Owens, PE

Printed Name of Certifying Official

Executive Vice President

Title of Certifying Official

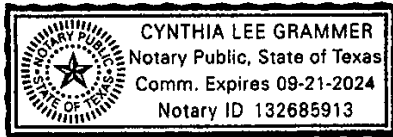
October 14, 2021

Date

(2) Where the PROVIDER is unable to certify to any of the statements in this certification, such PROVIDER shall attach an explanation to this certification.

* federal, state, or local

SUBSCRIBED and sworn to before me the undersigned authority by Thomas M. Owens
the Executive Vice President of KFrieese + Associates, on behalf of
said firm.



Cynthia Lee Grammer
Notary Public in and for the
State of Texas

My commission expires: 9-21-2024

CONFLICT OF INTEREST QUESTIONNAIRE**FORM CIQ****For vendor doing business with local governmental entity**

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

K Friese & Associates, Inc.

2 ☐ Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

N/A

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

None

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes☒ No

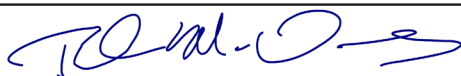
B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes☒ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

None

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7


Signature of vendor doing business with the governmental entity

October 14, 2021

Date