WILLIAMSON COUNTY

# CORRIDOR K FROM I-35 TO EAST WILCO HIGHWAY

## 23RFSQ86 ENGINEERING SERVICES

JULY 27, 2023

AMERICAN STRUCTUREPOINT INC.

SECTION 1

July 27, 2023

Williamson County
Attention: Johnny Grimaldo

Dear Selection Committee Members:


**PROPOSAL CONTACT**
Chase Myers, PE | Project Manager
American Structurepoint, Inc.
810 Hesters Crossing Road, Suite 105
Round Rock, Texas 78681
cmyers@structurepoint.com
512.884.6257


# DEVOTED FAMILIARITY.

That is what this project is all about. Williamson County is growing exponentially. Tremendous growth has created the need for many projects within Williamson County. American Structurepoint has had the honor to work on multiple projects for the county.

## THE AMERICAN STRUCTUREPOINT TEAM IS EXTREMELY FAMILIAR WITH AND DEVOTED TO WILLIAMSON COUNTY.

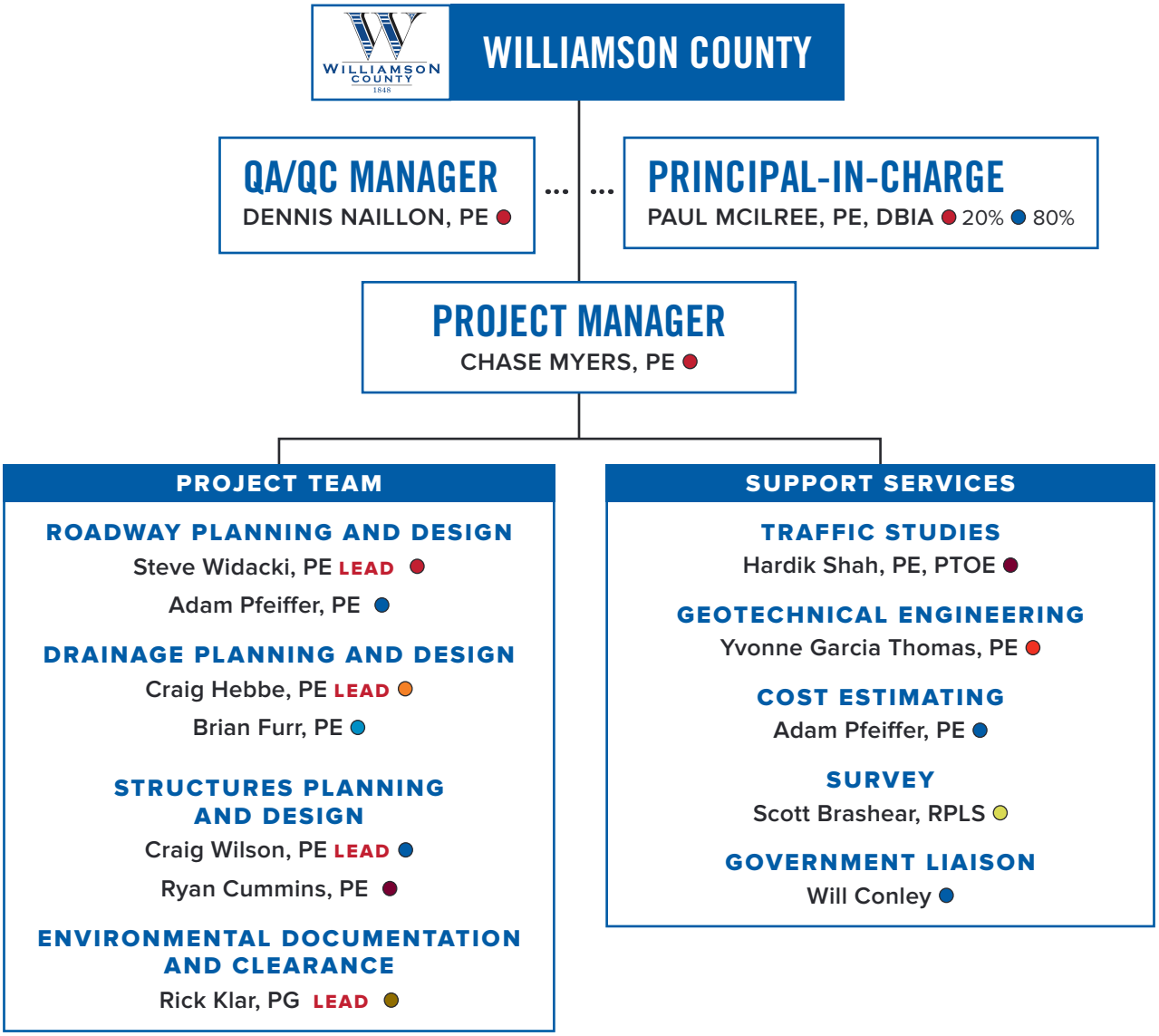
- **Project Manager Chase Myers** has led corridor planning on several similar roadways, including your Corridor E5. He will drive the identification of right-of-way and the land acquisition process through his understanding of the nuances of alignment identification in Williamson County. Chase understands the importance of balancing the desires of landowners to maintain usable parcels and ag exemptions with the community value of improved access.
- **Our roadway planning/design team** has proactively looked at interactions with nearby roadways to avoid coordination delays down the road.
- **Our roadway drainage planning/design team** will progress evaluations and permits by building on their current knowledge of local, state, and national regulations (like FEMA) that apply to local waterways.
- **Our structures planning/design team** will work to avoid construction delays by checking material backlogs and specifying available materials, as well as avoiding custom fabrication requirements.
- **Our environmental documentation and clearance team** is knowledgeable about the local flora and fauna. They will have early coordination with Project Manager Chase Myers to identify time- and season-sensitive investigations so that we don't miss a window of opportunity.
- **Staff availability** is a huge component of an efficient project delivery. We have chosen staff members whose current commitments are nearing their end, allowing them to turn their attention to Corridor K upon notice to proceed.
- **Project knowledge and understanding** is the base element of the project's progression. American Structurepoint understands why the Corridor K project is needed, what the county hopes to achieve through its completion, and we have a plan for how to make it happen.

We look forward to working with you on this project.

Sincerely,
American Structurepoint, Inc.

Paul McIlree, PE, DBIA
Principal in Charge

American Structurepoint is registered with the Texas Board of Professional Engineers (TBPE) as an engineering firm in the state of Texas. Our registration number is 10069.




**American Structurepoint, Inc.**
- 810 Hesters Crossing Road, Suite 105; Round Rock, Texas 78681
- 3711 South Mopac Expressway, Building One, Suite 350; Austin, Texas 78746
- 9025 River Road, Suite 200; Indianapolis, Indiana 46240

**K Friese + Associates**
- 710 Hester's Crossing Road; Summit II, Suite 120; Round Rock, Texas 78681
- 1120 S. Capital of TX Highway; CityView 2, Suite 100; Austin, Texas 78746

**Raba Kistner, Inc.**
- 8100 Cameron Boulevard, Suite B-150; Austin, Texas 78754
- 12821 W Golden Lane; San Antonio, Texas 78249

**SAM Companies**
- 4801 Southwest Pkwy Building 2 Suite 100; Austin, Texas 78735

*Resumes for all individuals shown on this organizational chart are provided in Appendix A of this proposal.*

## SECTION 3 - CHASE MYERS IS DEVOTED TO ANOTHER SUCCESSFUL PROJECT FOR WILLIAMSON COUNTY

Project Manager Chase Myers has 23 years of transportation planning and design experience. He has worked on **over 30 individual projects** as PM, DPM, or roadway task lead, four of them for Williamson County, including Corridor E5, Anderson Mill, CR 245, and Georgetown Inner Loop. He has also held leadership positions for American Structurepoint's subconsultant roles on Corridor E4 and Corridor J. **Chase understands local challenges and is able to deliver a safe and effective solution in an expedient and proactive manner.** The County will benefit from Chase's diverse experience with planning, schematic, and PS&E projects. **He understands the overall picture as he develops design solutions for Corridor K.**

Chase brings a matchless value to the County, leading projects with best practices and lessons learned from past projects with you. In addition to a career with **comprehensive roadway design experience on Central Texas projects that have included roadway, traffic control, planning, drainage, structural, and environmental tasks** and pre-certification in 12 TxDOT categories, Chase's previous and current experience with Williamson County makes him uniquely qualified.

### CHASE'S EXPERIENCE

***Project Manager*** **Williamson County Corridor E5 Planning and Schematics**

Chase is the project manager for this 10-mile-long new location freeway corridor. He determined right-of-way (ROW) needs by looking at alignment alternatives, taking into account residential and commercial structures, other property improvements, parcel lines, number of parcels, existing ROW, parcel remainders, and existing utilities. He met with property owners and created exhibits showing impacts to their land, explained why the corridor preservation was needed, and high-level timelines of the process. He coordinated with various stakeholders to get overall consensus on the preferred alternative that would be most beneficial to the County, property owners, and taxpayers. He coordinated the E5 project with adjacent design engineers to ensure clean matchlines and also supervised subconsultant activity. Chase is currently advancing schematics to finalize the project by the fall of 2023.

***Project Manager*** **Williamson County Anderson Mill Planning and Schematic**

Chase is the project manager for this 4-mile-long, new location 6-lane boulevard that goes through a high-profile property. The alignment is within the Edwards Aquifer recharge zone and has multiple known Karst features that are being factored in with the preferred alignment. The project crosses two railroads, CapMetro and UPRR, requiring overpasses and additional coordination. Drainage coordination is needed with TCEQ, owners of detention ponds along the project, and the local floodplain administrator for the crossing at Rattan Creek. Chase is overseeing all aspects of design criteria, stakeholder coordination, obtaining right-of-entry for field visit, subconsultant coordination, and schematic development.

### CHASE IS THE RIGHT PROJECT MANAGER FOR CORRIDOR K

- He has successfully managed multiple transportation design projects for Williamson County; he knows how to meet your expectations.
- He has multidisciplinary transportation design experience; he understands the elements of roadway design, traffic control, drainage design, environmental services, and structures design, and how they harmonize in a successful project.
- He is a skilled communicator; he provides clear and regular project updates to you as the owner, as well as to project team members and major stakeholders.

*American Structurepoint commits that Chase Myers (Texas professional engineer license #94895, granted 2004) will be the project manager for the duration of this project, without further delegation or substitution over the course of the contract.*

## SECTION 4 - TRANSPORTATION PLANNING AND DESIGN

American Structurepoint is nationally recognized as a leader in innovative transportation planning and design solutions. Our staff in Central Texas improves roadway safety and efficiency.

### OUR TEAM'S QUALIFICATIONS:

- Proven delivery of high-quality planning documents, as demonstrated on Corridor E5.
- Experience collaborating with the County to develop roadway alignments that minimize displacements and negative impacts to agriculture.
- Demonstrated ability to create design documents for Williamson County's specific standards.
- Exceptional capacity with over 100 American Structurepoint roadway planning and design personnel available to support Williamson County projects.

**Steve Widacki** has over 39 years of experience in transportation planning and design. He has provided design, management, and QA/QC oversight for schematic and PS&E deliverables. Steve's goal for all projects is to bring value to clients with cost-effective, innovative alternatives and solutions. His design work includes roadway geometry, intersection layouts, traffic control plans, cross-section development, bike and pedestrian facilities, hydraulic modeling, and traffic-related work such as roadside signs and striping.

Steve recently completed delivery of schematic and PS&E in Travis County as project manager and schematic design lead for E. Slaughter Lane from Thaxton Road to US 183, a 6-lane primary arterial. The schematic totaled 3.2 miles extending east to FM 973. He has provided oversight for roadway, drainage, and utility design and oversaw horizontal and vertical design geometry for arterials and cross streets. Steve coordinated with the drainage and utility teams to establish bridge class culvert locations to accommodate drainage flows, FEMA CLOMR/LOMR applications, detention and water quality basins and accommodation of water transmission line alignment. He also oversaw the design of intersections at US 183 and FM 1625 and notch and widen improvements of both State facilities to accommodate the Slaughter intersections.

**In addition to his leadership role on E. Slaughter Lane, Steve has recent knowledge of Williamson County standards for transportation planning from his QA/QC role on Anderson Mill Road.**

**Adam Pfeiffer** is an experienced roadway designer with nine years of experience. He has been part of the roadway design team for several local projects in Central Texas, including **Williamson County's CR 258 2-lane new location roadway extension and the Corridor E5 planning study**. Adam was the roadway task lead for **Hays County's RM 150 at RM 12 realignment**.

On **CR 258**, Adam successfully produced roadway design documents in cooperation with many of the same team members proposed here. He will continue the same high-quality work under Project Manager Chase Myers, collaborating with Drainage Engineer Craig Hebbe, PE.

For **Corridor E5**, Adam worked with Chase Myers to produce schematic exhibits showing alignment alternatives to be presented to the County and used for public meetings. He coordinated with the County to accommodate property owners and community needs.

Adam also served as a project engineer for the planning and design of the realignment of **RM 150 at RM 12 in Hays County**. That project incorporated a safety study into a roadway design that included paving, grading, and drainage specializations.

*Steve Widacki will lead roadway planning and design, under Project Manager Chase Myers' supervision. Steve is backed by Adam Pfeiffer and more than 100 roadway design professionals from our company.*

## SECTION 5 - DRAINAGE PLANS FOR SAFETY AND CONSERVATION

K Friese + Associates (KFA) is staffed with experienced professionals, capable of providing thorough and efficient roadway drainage planning and design services.

### OUR TEAM'S QUALIFICATIONS:

- Project team includes professional engineers and certified floodplain managers.
- 20 years of experience providing drainage services to growing Central Texas communities.
- Focused expertise in Williamson County.

**Craig Hebbe** has extensive experience with TCEQ Edwards Aquifer water quality design, hydrologic and hydraulic computer modeling, storm sewer design, water quality pond design, cross culvert design, erosion control, preparation of Water Pollution Abatement Plans (WPAP), preparation of Storm Water Pollution Prevention Plans (SW3P), and ROW determination.

On Williamson County's Corridor C, KFA prepared a preliminary H&H analysis and schematic drainage design for the ultimate conditions of Corridor C. **Craig was the project manager for the drainage design for the route analysis including the drainage impacts and on-site mitigation requirements. He performed the overall hydrologic and hydraulic impact analysis for several route alternatives including identifying impacts to floodplains and creeks as well as the San Gabriel River.** He also identified necessary on-site drainage infrastructure including channels and mitigation facilities to determine the right-of-way preservation requirements. There were 9 drainage crossing with 5 being FEMA Zone A and the San Gabriel River crossing being Zone AE. Parallel drainage was looked at to the extent of confirming the ROW is adequate.

**Craig was the drainage task lead for phase 1. He managed hydrologic studies, modeling, and complex hydraulic design and impact assessment for 2 bridge crossings and 2 bridge class culvert crossings one of which is a FEMA Zone A. Craig also oversaw design of parallel and cross drainage structures, SW3P design and temporary drainage facilities.** There are 6 drainage crossings with 1 being FEMA Zone A. H&H modeling includes major crossings using HEC-HMS and HEC-RAS and minor cross drainage structures using HY 8 and parallel drainage systems consisting of inlets, OC, ditches, and SS. **KFA improved the capacity of the channels beneath bridges within the limits of the project without raising the WSE by excavating the natural channel in some places and lining the channel with concrete in others.** The firm performed an alternatives analysis to determine which strategy was most suitable for locations with varying site conditions.

**Brian Furr** has served as a water resources engineer at BayLand Consultants & Designers, Inc. in Hanover, Maryland. He then joined K Friese + Associates in the spring of 2019 focusing on drainage projects relating to roadway design, guideline development, and asset management. His background encompasses the design of water quality ponds, stream restoration projects, erosion and sediment control, planting plans, hydraulic modeling in 1D for natural streams, storm sewer hydraulic analyses, and technical provisions writing. He is proficient in MicroStation, AutoCAD Civil 3D, GEOPAK, Hydraulic Toolbox, FHWA HY-8, and HEC-RAS.

*Drainage Task Lead Craig Hebbe will lead roadway drainage planning and design, under Project Manager Chase Myers' supervision. Craig is backed by Brian Furr and professionals at K Friese and American Structurepoint.*

## SECTION 6 - STRUCTURES WITH INTEGRITY AND EFFICIENCY

Our structures professionals work closely with roadway and drainage professionals to identify the right structure type and size. Then they look at current resources and market conditions to select materials that fit Williamson County's schedule and budget.

### OUR TEAM'S QUALIFICATIONS:

- Structural team members with extensive experience in Williamson County and local communities.
- Experience designing structures for busy roadway locations.
- Successful project delivery from firms and key staff on previous roadway projects.

**Craig Wilson** has more than 26 years of experience managing and designing roadway and structural transportation projects for numerous cities, counties, TxDOT, and other state agencies across Texas. These projects have ranged from schematic design and planning to preparation of full plans, specifications, and estimates (PS&E) packages.

Craig has experience designing railroad overpass structures and working with rail owners to obtain permitting approvals. He has designed bridge foundations on sites that required preloading of soils prior to constructing embankments, soft soils in the backwater area of a lake, and sites where rock was at the surface. His bridge design experience includes projects on city, county, and TxDOT facilities.

Craig was the structural lead for Bonnie Brae Road in Denton County. He designed a 1,165 lft, 10-span Tx54 girder structure (63 feet wide) and a 300 lft, 4-span Tx40 girder structure (63 feet wide) as part of a 4-lane divided arterial with raised median, sidewalk area with traffic rail to the inside, and pedestrian rail on the outside edge of the deck. In Tarrant County, Craig was responsible for structural design of a 690 lft, 7-span Type IV beam structure (91 feet wide) over Johnson Creek with severely skewed bents that flared creating variable length spans, square columns, raised sidewalk with traffic rail separating sidewalk, and other aesthetic elements included in the design.

**Ryan Cummins** is a hands-on project manager who not only leads his team, but also works closely beside them. His ability to communicate, combined with his understanding and vision, allows him to manage his team and subconsultants very effectively. If our team is selected, he will commit to performing this work in a timely manner relative to his present workload but, more importantly, relative to your schedule needs. He will lead and manage the delivery of this project, proactively expediting your tasks and driving the decision-making process.

Ryan was the bridge project manager for the Crandall-Lanesville Road extension which involved 2.5 miles of new terrain, 2-lane roadway connection I-64 at the Lanesville interchange with SR 64 west of Georgetown. Ryan's responsibilities included managing the bridge project and plan development including design, environmental document and permitting, right-of-way investigations, and client coordination.

*Structures Task Lead Craig Wilson, PE will lead structural planning and design, under Project Manager Chase Myers' supervision and in coordination with our drainage team. Craig is backed by Ryan Cummins, PE.*

## SECTION 7 - CLEARING THE WAY TO SUCCESS

Our environmental professionals have experience in four primary areas necessary for documentation and permitting: cultural resources, Waters of the US, threatened and endangered species, and environmental clearance.

### OUR TEAM'S QUALIFICATIONS:

- Experience with geologic assessments of sensitive recharge features within the Edwards Aquifer Recharge Zone (EARZ) in accordance with 30 TAC Chapter 213 requirements.
- Expertise with karst features and their associated protocols.
- Knowledge of local species and their habitats.

**Rick Klar** has more than 26 years of diversified experience in geologic and hydrogeologic investigations throughout South Central Texas. He is responsible for implementing/overseeing site exploration and characterization activities in support of contamination assessment and remedial action plan development, development of affected media management plans and strategies, soil and groundwater remediation plans and pilot studies, water resources investigations, groundwater protection studies, geologic mapping and geophysical site characterization, in addition to a wide range of other environmental and geosciences project types.

Specific examples of geosciences projects that Rick has directed throughout his tenure at Raba Kistner include: geologic assessments of sensitive recharge features within the Edwards Aquifer Recharge Zone (EARZ) in accordance with 30 TAC Chapter 213 requirements; karst feature surveys and cave mapping in accordance with U.S. Fish and Wildlife Service protocols established for the protection of endangered invertebrate species; ground geophysical surveys (e.g., electromagnetics, DC electrical resistivity, ground penetrating radar, etc.) in support of various data collection and engineering design objectives; groundwater resources investigations and aquifer testing projects; Phase I, II, and III Environmental Site Assessments (ESAs); and contamination assessments, corrective action, and remedial response in support of Petroleum Storage Tank (PST) and Texas Risk Reduction Program (TRRP) rules administered by the Texas Commission on Environmental Quality (TCEQ).

Characterization of subsurface soil and rock conditions including identification and assessment of karst features is an integral part of most geosciences/engineering studies performed to support project planning activities, particularly within areas underlain by limestone terrain in the San Antonio and Austin regions. Rick has performed and supervised numerous geologic studies supporting both land development and linear (transportation/pipeline) construction projects located over karst limestone terrain and other complex geologic areas within and surrounding these regions and has accrued more than 1,000 hours of specialized experience with karst- and Edwards Aquifer-related issues.

Rick's other representative professional experience includes modeling of ground water flow and contaminant transport; construction of 3-D hydrostratigraphic models and development of GIS databases; and design and implementation of baseline hydrogeologic studies.

*Environmental Lead Rick Klar will lead environmental documentation and clearance, under Project Manager Chase Myers' supervision. Rick is backed by professionals at Raba Kistner and American Structurepoint.*

## SECTION 8 - WE HAVE TIME TO DELIVER

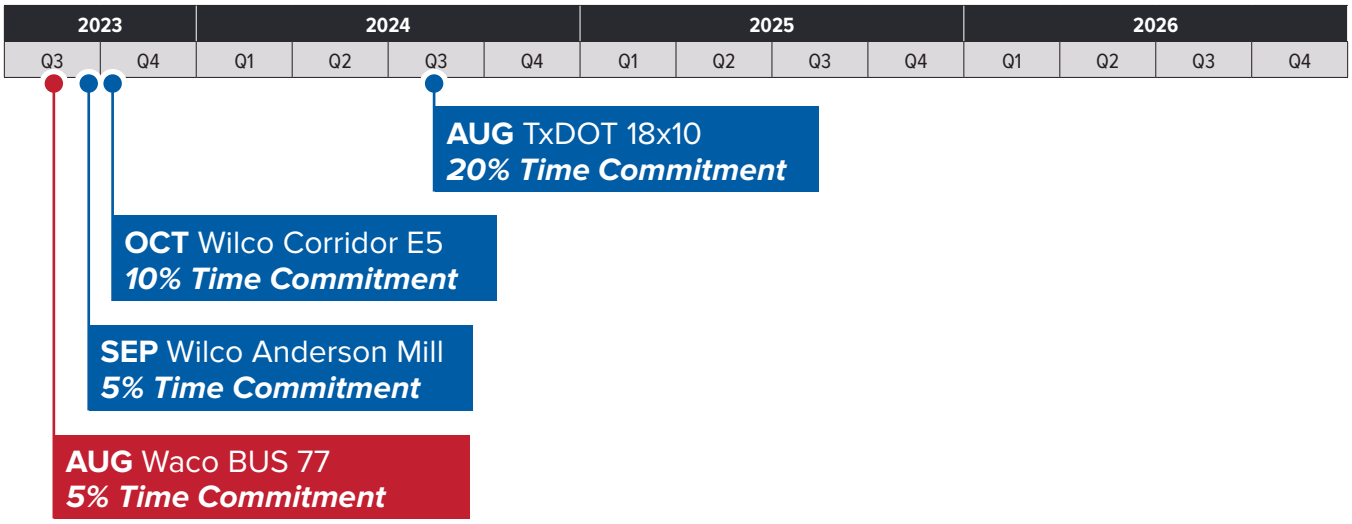
This section provides the details requested on our staff's current project obligations, completion dates, proposal workload, and anticipated commitment for each staff person on this Williamson County project.

### CHASE MYERS PROJECT MANAGER

Total Commitments ***40%***
Available for Williamson County ***60%***
Proposed Time Commitment for Corridor K ***60%***

**LEGEND**
- Project Commitments
- Proposal Commitments

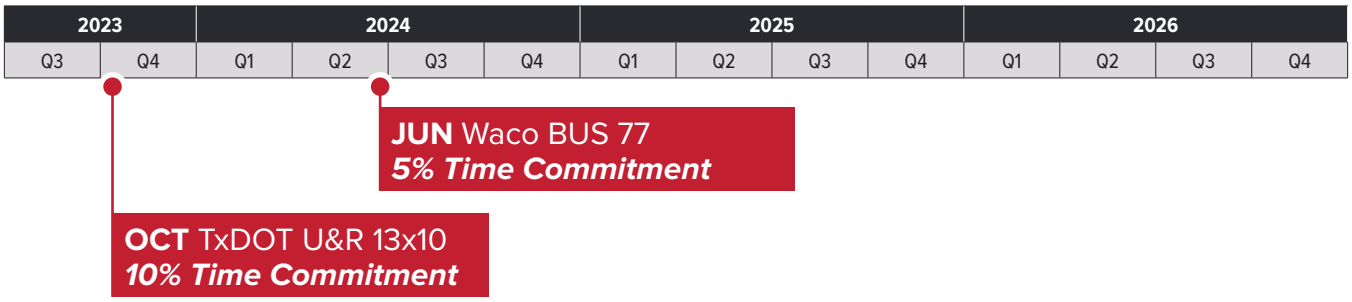
**PROJECTED COMPLETION DATE**




### PAUL MCILREE PRINCIPAL IN CHARGE

Total Commitments ***35%***
Available for Williamson County ***65%***
Proposed Time Commitment for Corridor K ***50%***

**PROJECTED COMPLETION DATE**

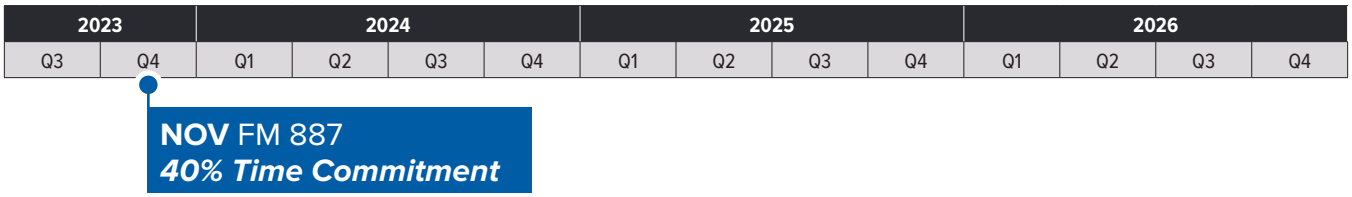


## **DENNIS NAILLON** QA/QC MANAGER

Total Commitments ***40%***
Available for Williamson County ***60%***
Proposed Time Commitment for Corridor K ***50%***

**LEGEND**
- Project Commitments
- Proposal Commitments

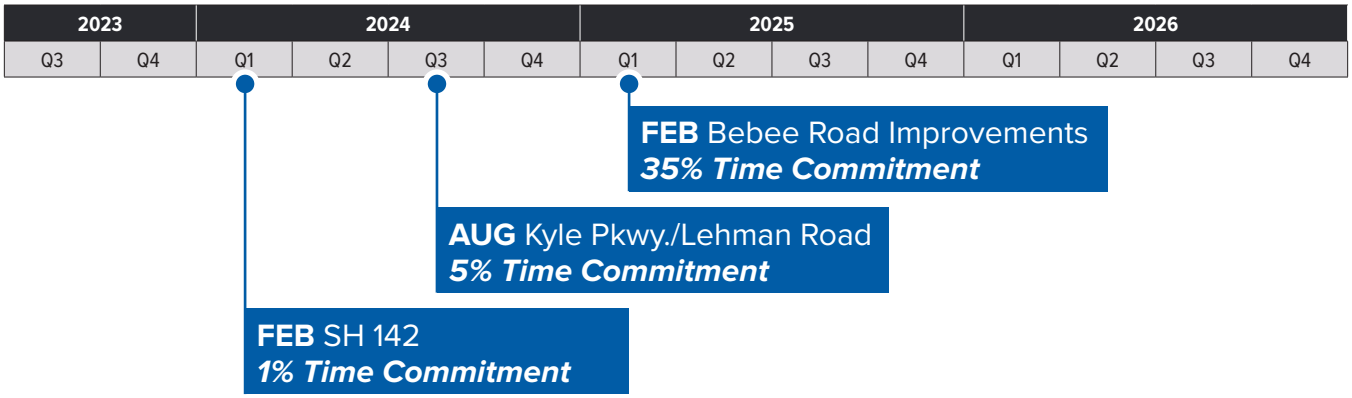
**PROJECTED COMPLETION DATE**




## **STEVEN WIDACKI** ROADWAY PLANNING & DESIGN

Total Commitments ***41%***
Available for Williamson County ***59%***
Proposed Time Commitment for Corridor K ***55%***

**PROJECTED COMPLETION DATE**

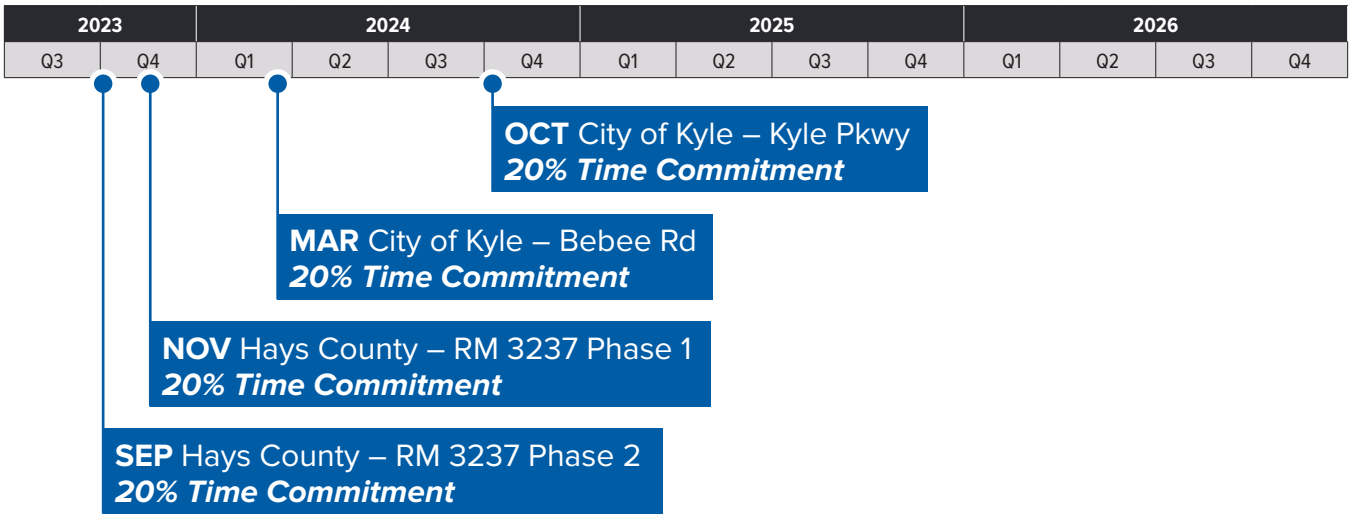


## **ADAM PFEIFFER** ROADWAY PLANNING & DESIGN AND COST ESTIMATING

Total Commitments ***80%***
Available for Williamson County ***20%***
Proposed Time Commitment for Corridor K ***20%***

**LEGEND**
- Project Commitments
- Proposal Commitments

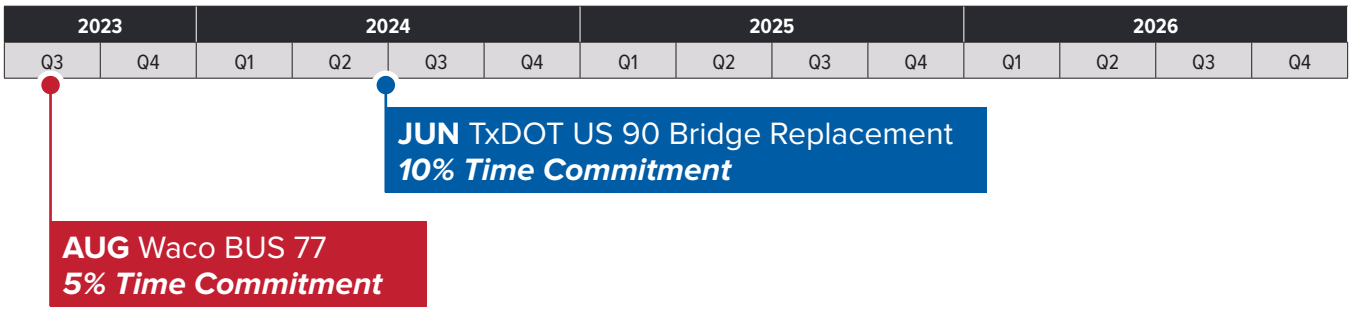
**PROJECTED COMPLETION DATE**




## **RYAN CUMMINS** STRUCTURES

Total Commitments ***15%***
Available for Williamson County ***25%***
Proposed Time Commitment for Corridor K ***10%***

**PROJECTED COMPLETION DATE**

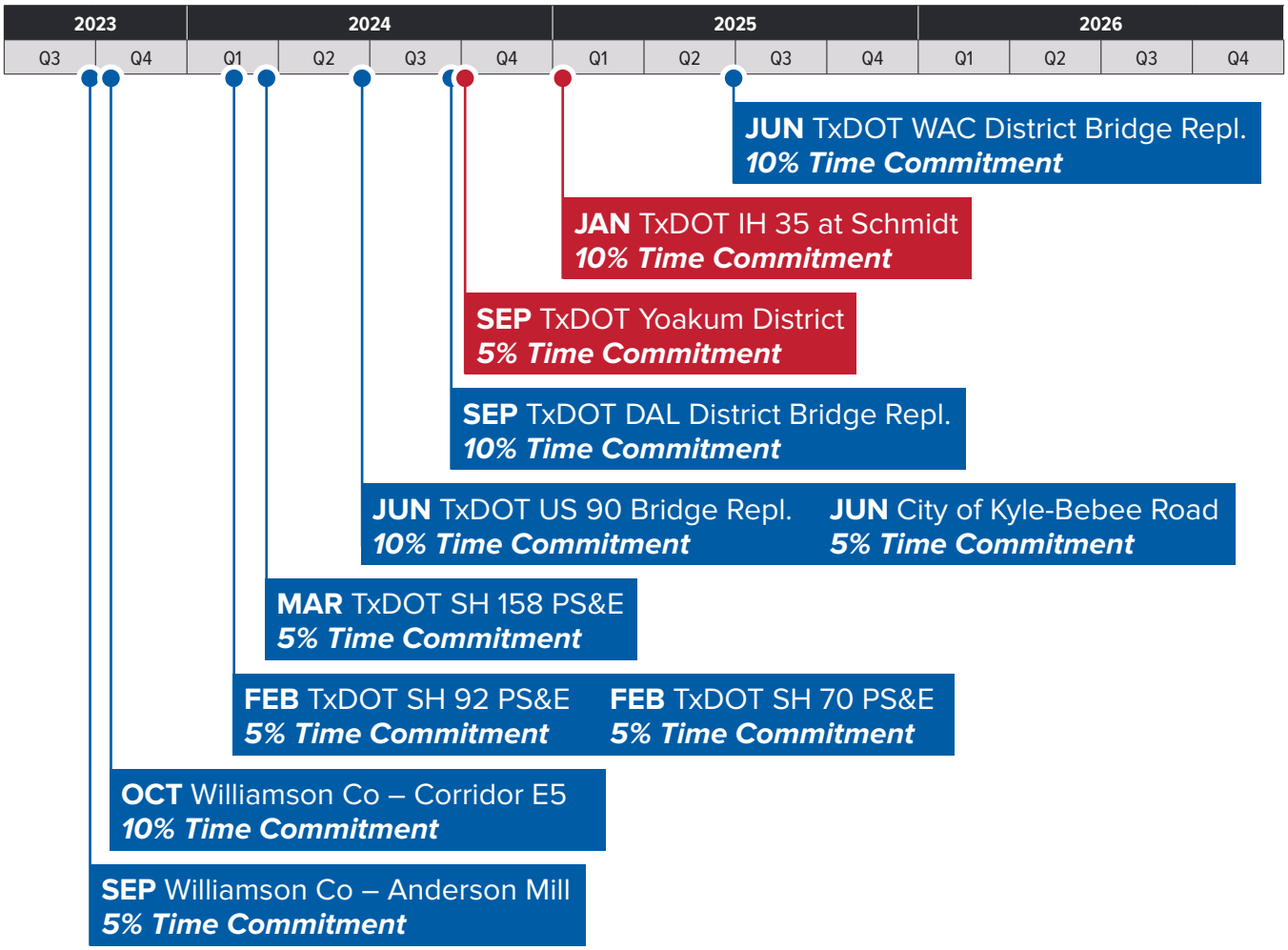


## **CRAIG WILSON** STRUCTURES PLANNING AND DESIGN

Total Commitments ***80%***
Available for Williamson County ***25%***
Proposed Time Commitment for Corridor K ***10%***

**LEGEND**
- Project Commitments
- Proposal Commitments

**PROJECTED COMPLETION DATE**



## **WILLIAM CONLEY** GOVERNMENT LIAISON

Total Commitments ***0%***
Available for Williamson County ***100%***
Proposed Time Commitment for Corridor K ***20%***

**LEGEND**
- Project Commitments
- Proposal Commitments

**PROJECTED COMPLETION DATE**

| 2023 | | 2024 | | | | 2025 | | | | 2026 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |

## **CRAIG HEBBE** DRAINAGE ENGINEERING LEAD

Total Commitments ***80%***
Available for Williamson County ***20%***
Proposed Time Commitment for Corridor K ***20%***

**PROJECTED COMPLETION DATE**

| 2023 | | 2024 | | | | 2025 | | | | 2026 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |

**NOV** I35 W SW3P
***10% Time Commitment***

**JAN** FM 462
***10% Time Commitment***

**JAN** US 80
***20% Time Commitment***

**DEC** I2 Schematic
***30% Time Commitment***

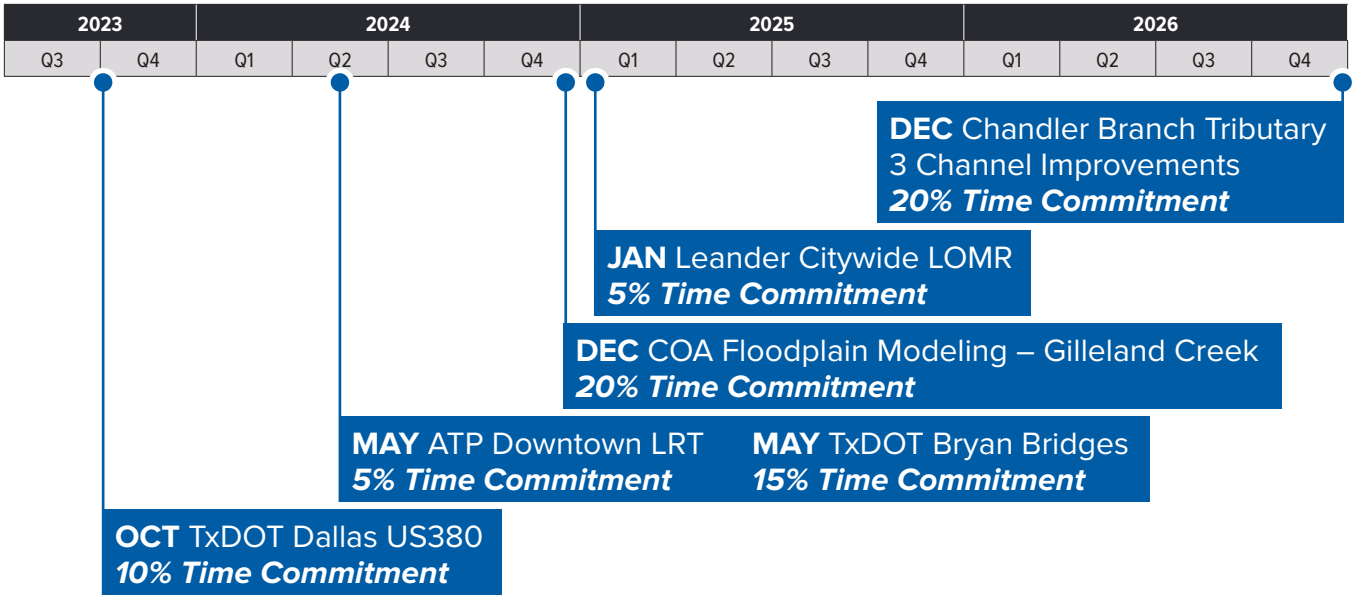
**NOV** US 380
***10% Time Commitment***

## **BRIAN FURR** DRAINAGE ENGINEER

Total Commitments ***50-75%***
Available for Williamson County ***25-50%***
Proposed Time Commitment for Corridor K ***25-50%***

**LEGEND**
- Project Commitments
- Proposal Commitments

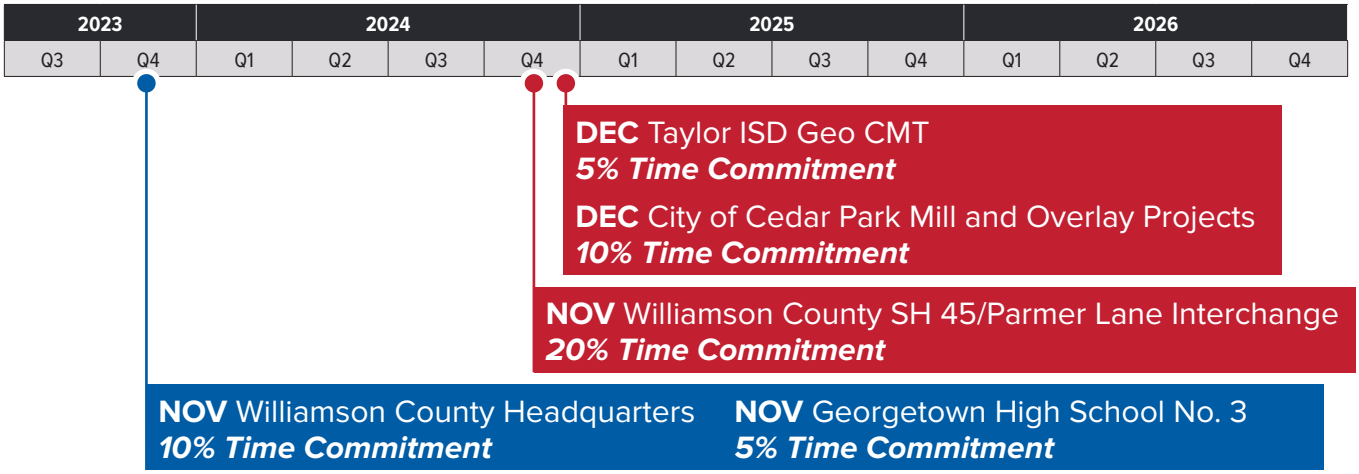
**PROJECTED COMPLETION DATE**




## **YVONNE GARCIA THOMAS** GEOTECHNICAL ENGINEER

Total Commitments ***50%***
Available for Williamson County ***25%***
Proposed Time Commitment for Corridor K ***25%***

**PROJECTED COMPLETION DATE**

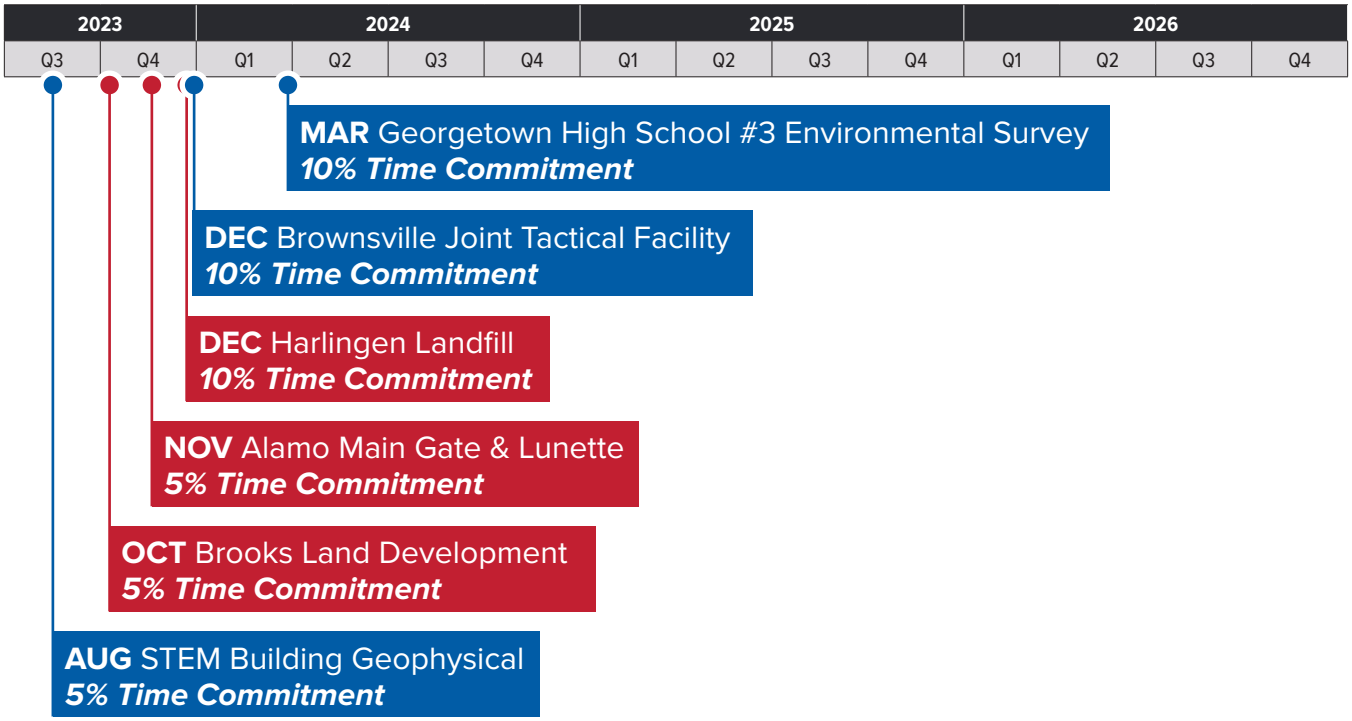


## **RICHARD KLAR** ENVIRONMENTAL CONSULTANT

Total Commitments ***45%***
Available for Williamson County ***20%***
Proposed Time Commitment for Corridor K ***20%***

**LEGEND**
- Project Commitments
- Proposal Commitments

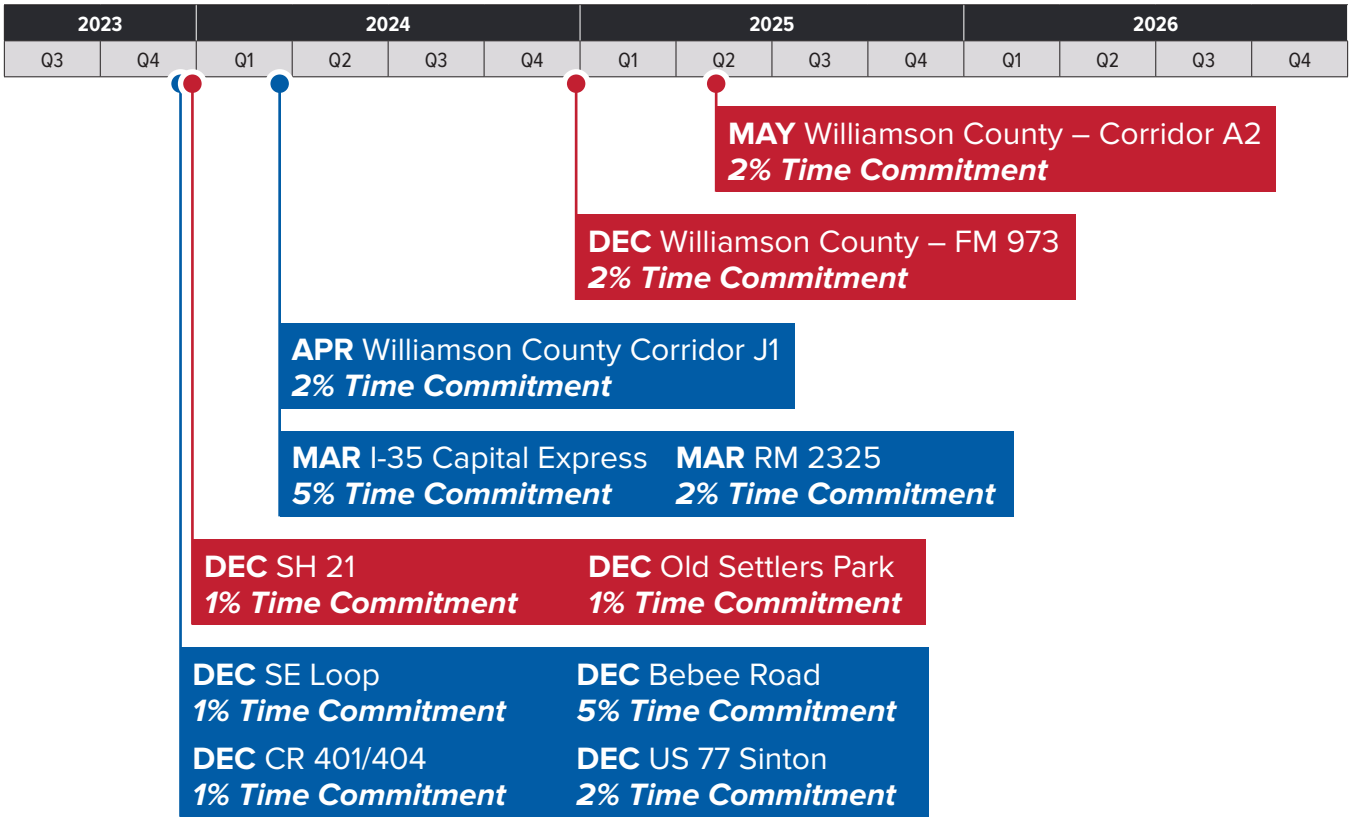
**PROJECTED COMPLETION DATE**



## **SCOTT BRASHEAR** SURVEY

Total Commitments ***24%***
Available for Williamson County ***60%***
Proposed Time Commitment for Corridor K ***50%***

**PROJECTED COMPLETION DATE**



## SECTION 9 - OUR UNDERSTANDING AND APPROACH TO A SUCCESSFUL PROJECT DESIGN

Corridor K is a new location facility approximately 7.5 miles in length between I-35 and the East Wilco Highway north of Georgetown on rolling terrain. This new controlled access facility will preserve right-of-way needed for future connectivity in northern Williamson County. It is anticipated Corridor K will have a 350' ROW with incremental build out as traffic demands.

**Data Collection/Design Criteria.** We will collect, review, and evaluate existing data (as-builts, property parcel lines, SUE, environmental documents, etc.), as well as conduct additional field reconnaissance for existing features. The schematic design will be in accordance with the County Road Bond requirements and standards.

**Reduced Learning Curve.** American Structurepoint will build off data already gathered during our SH 195 route analysis during our Corridor E4 project. In our sub role on that project, we identified 4 alternatives for SH 195, developed a property owner list, created an evaluation criteria matrix and determined a preferred route to tie-in with E4 (as of November 2022). During our analysis, certain properties were identified to avoid. While a major land owner couldn't be avoided completely without creating multiple other displacements, we looked at options to minimize impacts and remainders.

Additionally, various alternatives were designed for the connection of SH 195 to the east of the East Wilco Highway as an arterial roadway. Frontage road connections from SH 195 to the arterial section were transitioned throughout the interchange for design speed, horizontal and vertical alignments, and superelevation.

**Alternative Analysis & Geometric Schematic.** Our planning process for this project will consist of updating our various alternatives and looking at new impacts for each route through this region. We will update our matrix for each alternative comparing displacements, structures impact, overall acreage takes, number of impacted parcels, number of property owners, number and length of FEMA and stream crossings, along with the environmental factors. We will determine the engineer's opinion of probable cost as part of the analysis.

**Drainage.** Drainage design will meet County Road Bond requirements. We will determine all drainage areas, runoff coefficients, and drainage flows (existing and fully developed future), using NRCS Unit Hydrograph Method, NOAA Atlas 14 rainfall data, and HEC-HMS. We will analyze all culverts to see if they need to be extended, replaced, or upsized. Ditches and channels will be designed based on calculated hydrology and hydraulics and will be designed to prevent erosion with appropriate surface protection. Proposed bridges are anticipated at the FEMA crossings of Dry Berry Creek and East Fork Ranger Branch and culverts at other small crossings throughout the project length. Alternatives will be considered to minimize impacts to the FEMA floodplains.

**Environmental Considerations.** We will perform field reconnaissance and provide a constraints map for our alternative alignments, including locations of public buildings and facilities, wetlands, waters of the US, soil survey maps, TCEQ, and EPA hazardous materials, floodplain information, and potential threatened or endangered species. We will prepare a Hazardous Materials Initial Site Assessment (ISA), investigate cultural resources under an Antiquities permit from THC, and document findings in a summary report.

**Survey and ROW Mapping.** Mobile LiDAR acquisition is ideal for farm fields and minimal tree coverage; ground survey will be conducted for any obscure areas and at culvert locations for a more detailed survey. SAM will produce ROW exhibits for acquisition process and coordinate ROE with the County for surveys and other field investigations, avoiding damages to crops and conducting outreach so residents are aware of survey work.

# APPENDIX A

## EDUCATION

Bachelor of Science, Civil Engineering, 2000, Arizona State University

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #94895 (granted 2004) + 5 additional states

TxDOT Pre-Certification Categories – 1.4.1, 1.5.1, 3.2.1, 4.2.1, 4.4.1, 4.5.1, 8.1.1, 8.6.1, 9.1.1 (retired), 9.3.1, 9.3.2, 9.4.1, 10.2.1

Chase has 22 years of experience in project management and transportation design, including tollway, interchange, roadway, and freeway projects. Chase's experience includes design, management, and QA/QC oversight for schematic and PS&E deliverables. He has worked as a project manager, deputy project manager, or task lead on 25 individual projects.

As a project manager, Chase is a hands-on, technical leader who understands what is required to keep projects moving forward on schedule, under budget, and with good quality. Chase manages with regular communication with clients, design team, and stakeholders. His view toward design and project development is to bring value to clients with cost-effective, innovative alternatives and solutions. His design work includes roadway geometry, traffic control plans, cross-section development, and traffic-related work such as guide signs, roadside signs, and striping.

# CHASE W. MYERS, PE

## PROJECT MANAGER

## RELEVANT PROJECT EXPERIENCE

**Corridor E5 Study, Williamson County, Texas**

**PROJECT MANAGER** American Structurepoint provided engineering services and planning to develop Corridor E5 from IH 35 to CR 330 in Williamson County, Texas. Our engineers have developed preliminary alignment alternatives for the E5 Corridor, conducted an alternatives analysis to identify the preferred alignment, revised the preferred alignment to address stakeholder input and environmental constraints, prepared hydrologic and hydraulic models, and then prepared a schematic that will include direct connectors at IH 35 and a fully directional interchange at the intersection with the Ronald Reagan Extension.

Chase is the project manager and roadway leader for roadway and drainage. He oversaw the extensive corridor analysis which evaluated nine alternatives for the project. He created an evaluation matrix that compared each alternative that included number of parcels impacts, number of parcels bisected, residence displacements, environmental constraints, other structure impacts, new right-of-way, use of existing right-of-way, cost, length, utility impacts, FEMA crossings, and bridge lengths, plus other criteria. This evaluation matrix was used to justify the preferred alignment. He created property owner exhibits to discuss impacts and concerns during property owner meetings. He oversaw the design of the schematics for mainlanes, frontage roads, direct connectors at IH-35 interchange, and ramps.

**Corridor E4 Study, Williamson County, Texas**

**PROJECT MANAGER** American Structurepoint is providing engineering services and planning to develop Corridor E4 from CR 330 to SH 29, in Williamson County, Texas. This project is a southern extension of the E5 corridor that American Structurepoint is also developing for Williamson County. Our engineers have developed preliminary alignment alternatives for the E4 Corridor, conducted an alternatives analysis to identify the preferred alignment, revised the preferred alignment to address stakeholder input and environmental constraints, and prepared hydrologic and hydraulic models. American Structurepoint is preparing a schematic that includes direct connectors and the western half of an interchange at SH 195.

Chase is the project manager and provides oversight for roadway and drainage design. He oversaw horizontal and vertical design geometry for mainlanes, frontage roads, direct connectors, and cross streets. He coordinated with drainage to establish bridge lengths which accommodated drainage flows and detention basins. He provided alignment alternatives to evaluate impacts to property owners, FEMA crossings, and utilities. He created construction cost estimates and provided quality control reviews.

**CR 245, Georgetown, Texas***

**PROJECT MANAGER** Chase served as project manager and roadway design lead for this project that widened CR 245 from a 2-lane rural roadway to a 2-lane with two-way left-turn lanes (TWLTL) and 6-foot shoulders for approximately 1 mile. The project also accommodated a 6-lane roadway with median and bike shoulders. Chase coordinated between the county and city to develop the typical section and right-of-way footprint as well as accommodate multiple subdivisions planned along the corridor. He oversaw the development of the environmental documents, roadway, drainage, traffic control, bridge, signing and pavement markings, and SWPPP. He mailed right of entry letters to all property owners on the project for land survey surveying and environmental studies. Existing 2.5'x3' box culverts were converted to a 4-span, 300-foot-long bridge due to hydraulics and minimizing property impacts upstream and downstream of the crossing. Chase also was responsible for developing the construction cost estimate and general notes for each submittal. Project construction cost was $5 million. Chase designed the horizontal and vertical alignments for CR 245 and driveways. He ensured the typical section accommodated a 15-foot VFS while maintaining a desirable back slope to the ROW. He designed a 3-phase traffic control plan that maintained traffic to properties at all times and sped up construction at critical intersections. He ensured elevation differences between existing and proposed roadways didn't exceed a 3:1 max for safety purposes during construction. Chase was also responsible for signing, pavement markings, removals, cross sections, and SWPPP.

**SH 71 – Pedernales/Burnet County Projects, TxDOT, Austin, Texas***

**PROJECT MANAGER** Chase served as the project manager and roadway design lead for these two adjacent projects that widened rural SH 71 from a 4-lane undivided highway to a 4-lane divided highway with a continuous TWLTL and 10-foot shoulders. The project involved maintaining the existing horizontal and vertical geometry while widening the roadway 18 feet on each side and maintaining the existing right-of-way. Cross-section development was critical to determine new retaining wall locations, riprap, and side slopes while maintaining an outside border width for utilities. Chase presented solutions to the area offices that accommodated the existing steep side slopes by placing SSTR next to the roadway with flumes to catch runoff. Another solution his team developed was to steepen the shoulder cross-slope to capture drainage until SSTR was not required for protection. Chase worked with utility companies to discuss proposed grading around existing OH poles and incorporated their comments into the plans. Chase oversaw the drainage design, which impacted the development of the corridor and retaining wall locations. The roadway cross slope was resurfaced to meet a 2.0% or superelevation section by determining milling and level-up locations, which played a critical factor for Chase in determining back slopes and ditch elevations. Driveways were designed by Chase using TxDOT criteria and analyzed for intersection sight triangles during construction, property impacts, and various design vehicles for farm equipment as needed for individual property owners. Chase coordinated with his design team, subconsultants, and TxDOT to keep the project on schedule. He developed the construction fee estimate for each phase of design and determined which standards to include in the plan set.

**Inner Loop, Williamson County, Georgetown, Texas***

**DEPUTY PROJECT MANAGER** Chase served as the deputy project manager and engineer-of-record for this $2.9 million urban arterial project for widening and overlay of a 2-lane roadway to 3-lane with continuous left- and right-turn lanes, with the accommodation for a future widening to 5 lanes. The project was in front of the County offices, and drainage was a big concern due to flat grades and future development. As the project scope changed from a full reconstruction to a widening and overlay, Chase ensured the widened roadway profile accommodated ditch capacity requirements as well as upgraded cross culverts. He set critical roadway elevations based on culvert hydraulics while modifying driveway profiles to minimize impact to properties and provide smooth turning movements for large vehicles. He coordinated design aspects with an adjacent project being let at the same time to provide for a smooth transition. Chase used the adjacent project plans to develop an overall TCP for both projects. He needed to consider part of the project was tied to a milestone at the end of 2017 for a left-turn bay for a school and designed the TCP with alternatives to accommodate this work. He worked with the County to address their concerns over future land use as well as avoiding an existing sidewalk. Chase was responsible for the roadway, TCP, removals, SW3P, signing and pavement markings, project coordination, specifications, construction estimate, and general notes.

**SH 71 Feasibility and Schematics, Texas Department of Transportation (TxDOT), Bastrop and Travis Counties, Texas***

**ROADWAY TASK LEADER** Chase served as the roadway task lead for the feasibility and schematics development for SH 71 at five existing signalized intersections. The project involved developing alternatives for changing five at-grade signalized intersections to grade-separated interchanges. Chase developed alternatives for each of the interchanges looking at both the horizontal and vertical geometry. Each of the five interchanges had unique characteristics that needed to be analyzed and evaluated. The project also involved a feasibility study of adding frontage roads the entire 13-mile length. The individual interchanges had to be analyzed as stand-alone schematics accommodating the overall corridor study. SH 71 is a Hurricane Evacuation Route and special considerations were taken with the vertical alignment. Chase worked with the drainage engineer to ensure the 100-year event did not overtop the mainlanes in the ultimate configuration. Drainage solutions were evaluated to ensure there were no adverse impacts to property owners.

Ross Road and Kellam Road are 0.7 miles apart, and these two intersections were combined into one schematic. Kellam Road is a high-traffic roadway leading to the Circuit of the Americas, and several options were considered for on ramps to and from Kellam Road. Due to the limited space between Ross Road and Kellam Road, alternatives for weaving and ramp locations were analyzed for both the interim and ultimate scenarios. Chase analyzed frontage road/ramp/auxiliary lane alternatives while staying within the existing right-of-way. Maintaining access to property owners was a critical component with a county park on the north and a school on the south. Chase analyzed the impacts of both going over and under Ross Road and Kellam Road and discussed the pros and cons of each. A sidewalk connection to the Travis County trail system along Onion Creek was designed for ADA compliance, which required a detailed design to traverse down a hill.

At Tucker Hill, there was a large LCRA transmission line just east of the interchange. Chase's design for the schematics ensured that he maintained horizontal and vertical clearance to the towers and the sag point of the line. Residences on the south and gas stations on the north required him to moderately swing the alignment to each side as the roadway crossed over the interchange in order to minimize property impacts. Just outside the schematic limits for this interchange was the Wolf-Buck Cemetery. This was an old cemetery located approximately 20 feet from the edge of existing pavement. Chase provided alternatives to shift the entire alignment north and south, as well as split

the cemetery between the mainlane and frontage roads. Exhibits were created for each alternative, and Chase discussed these with stakeholders regarding how to minimize impact and maintain access.

Pope Bend had a tight existing right-of-way due to the LCRA McKinney Roughs Nature Park on the north and Cedar Creek High School on the south. Chase developed alternatives to avoid impacts to both properties. There was an existing 2-way frontage road that connected to the high school and part of the analysis included taking into consideration young drivers and the impacts of converting the frontage road to one-way for their ingress and egress to school. The existing frontage road/ Union Chapel Road connection to Pope Bend created complicated design solutions. Chase analyzed the various alternatives with driver expectation, turning movements, and maintaining access and discussed these with the client.

FM 1209 was the most congested interchange with businesses and driveways lining this stretch of SH 71. Chase provided alternatives to look at the feasibility of various scenarios for both the interim and ultimate solutions. Ramp locations were analyzed to see impacts to each property. Continuous frontage roads as well as auxiliary lanes on the mainlane were considered to minimize impact and maintain access. A private restaurant on a pond was located directly off the south right-of-way, which made certain alignments environmentally sensitive.

**SL 88 - Lubbock Outer Route (FM 1585), Texas Department of Transportation (TxDOT), Lubbock, Texas***

**DEPUTY PROJECT MANAGER** Chase served as the deputy project manager and roadway task lead for the schematic development of a new freeway around Lubbock. The project consisted of converting a rural 2-lane highway into a full freeway with continuous frontage roads, 10 overpass interchanges, and two highway interchanges, including one railroad overpass. Chase was responsible for designing the horizontal and vertical alignments, ramp placement, control of access requirements, driveway accommodation, and property impacts. The project took into consideration three alignment alternatives and the impacts to property owners for each design. The terrain was very flat, and Chase was responsible for ensuring drainage along the corridor as well as the appropriate considerations for future expansion and vertical clearances.

**I-35 @ US 83/UPRR, Texas Department of Transportation (TxDOT), Laredo, Texas***

**PROJECT MANAGER** Chase was the project manager for the schematics on this project reconstructing I-35 at US 83 and the UPRR crossing just north of Laredo. The existing UPRR crossing was an underpass with tight reverse curves, a 14'-1" vertical clearance, and limited sight distance. TA travel center also needed to be avoided. Chase led a team of engineers to develop alignment alternatives to meet the project goals of providing a grade-separated overpass, minimizing superelevation, and maintaining access to both US 83 and the travel center. Ultimate and interim design solutions were developed for funding needs and connectivity. Chase provided a pros and cons spreadsheet with each alternative and discussed these options with the client to narrow down the possible alignments. He determined the feasibility of crossing the railroad at various angles and locations. He created exhibits, typical sections, and profiles to discuss with the client and railroad representatives.

*prior to joining American Structurepoint

## EDUCATION

Bachelor of Science, Civil Engineering, 1997,
Tennessee Technological University

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #145113
(granted 2022) + Florida
TxDOT Pre-Certification Categories – 4.2.1

Paul began his career in 1998 and is experienced in design and construction of heavy civil infrastructure projects and buildings. His responsibilities include project development and management of the full project life-cycle from concept through construction. Paul has specialized experience with highways, bridges, mass transit rail, and all forms of alternative project delivery including design-build, progressive design-build, P3, and CMGC.

# PAUL MCILREE, PE, DBIA

## PRINCIPAL-IN-CHARGE

## RELEVANT PROJECT EXPERIENCE

**Corridor E5 Study, Williamson County, Texas**

**PRINCIPAL-IN-CHARGE** American Structurepoint is providing engineering services and planning to develop Corridor E5 from IH 35 to CR 330 in Williamson County, Texas. Our engineers have developed preliminary alignment alternatives for the E5 Corridor, conduct an alternatives analysis to identify the preferred alignment, revise the preferred alignment to address stakeholder input and environmental constraints, prepare hydrologic and hydraulic models, and then prepare a schematic that will include direct connectors at IH 35 and a fully directional interchange at the intersection with the Ronald Reagan Extension. Paul is the principal-in-charge for the project, providing company resources to facilitate project success.

**Chisholm Trail at Old Settlers Boulevard Intersection Improvement, Round Rock, Texas**

**PRINCIPAL-IN-CHARGE** American Structurepoint provided preliminary engineering and final PS&E design services for intersection improvements at Old Settlers Boulevard and Chisholm Trail Road. Our engineering professionals designed new right-turn lanes on Chisholm Trail Road for the northbound to eastbound and southbound and westbound movements. Our preliminary engineering services included the 30% PS&E plans, survey and mapping, environmental clearance, preliminary drainage design, traffic control layout, estimates of probable construction costs, and cross-sections for right-turn lanes on Chisholm Trail Road onto Old Settlers Boulevard. Services included preparing plans, specifications, and estimates and related documents requested by the City as well preparing a project work schedule. These included traffic control plans for the project, an intersection layout detailing the pavement and drainage design, hydrologic analysis and design, drainage standards, SW3P, TCEQ Recharge Zone Exception, and environmental services. American Structurepoint was able to bring innovation and value to our client by developing a sloped fill alternative that eliminated a retaining wall near the CVS pharmacy detention pond. Our analysis identified that the slope could be implemented without an effect on the pond, resulting

in a cost savings of $90,000 for the City of Round Rock. Lastly, by using3D design tools to carefully redesign the drainage system, we were able to avoid a costly rerouting of an existing utility manhole. This prevented a utility relocation that would have taken six months and reduced utility relocation costs by $0.5 million. Paul is the principal-in-charge for the project, providing company resources to facilitate project success.

**GDOT SR 47 Little River Bridge Replacement Design-Build, Columbia and Lincoln Counties, Georgia***

**DESIGN PROJECT MANAGER** Paul was the design project manager for this 1700-lft high-level concrete bridge and causeway over Little River in Columbia and Lincoln counties. The project featured a deep water spread foundation constructed with cofferdams, deep water drilled shaft foundations, wetland mitigation, NEPA recertification, and permitting with the Georgia Department of Natural Resources (DNR) and the United States Army Corps of Engineers (USACE). The construction value was $25 million.

**FDOT US 98 At Cody Ave Single Point Urban Interchange Design-Build, Florida***

**DESIGN PROJECT MANAGER** Paul was the design project manager for this first-of-kind single point urban interchange (SPUI) to be designed with a single-span pre-stressed concrete girder bridge. This project featured a 191-foot, single-span pre-stressed concrete girder bridge using 96-inch Florida I-beams. The project included extensive utility coordination with both private utility owners and United States Air Force (USAF) Hurlburt Field utilities lying within the FDOT easement. Limited easement (right-of-way) availability was required for on-site stormwater attenuation and water quality. The construction value was $15 million.

**Diamond Causeway (Skidaway Narrows) Bridge Replacement Design-Build, Georgia***

**DESIGN PROJECT MANAGER** Paul was the design project manager for replacement of a bascule bridge over the Intracoastal Waterway outside of Savannah, Georgia with a high-level major bridge crossing. This project featured a 3-span continuous spliced concrete girder (175'-250'-175') main unit and twelve 130' bulb-T approach spans with MSE wall abutments. The project design included tidal flow modeling, pier scour analysis, vessel collision analysis, fender system design, pre-construction sonar scan of the dredge channel, navigational lighting, on-site wetland mitigation, NEPA re-certification, Section 7 consultation for essential fish habitat, and permitting with the USACE, United States Fish and Wildlife Service (USFWS), and the United States Coast Guard. The construction value was $25 million.

**MODOT Safe and Sound Bridge Replacements Design-Build, Missouri***

**QA/QC** The design for this project was performed by HNTB and LPA. Paul served as lead roadway designer for LPA during the pre-award and startup phase and transitioned to QA/QC engineer for the remainder of the post-award delivery. This was a landmark project that included replacement of 554 structurally deficient bridges across the state of Missouri. All 114 counties in the state had at least one bridge replaced for a total of two million square feet of bridge deck. The bridges were replaced using Accelerated Bridge Construction (ABC) techniques with the majority of the structures consisting of standardized precast superstructure and substructure components. The average construction duration of each bridge was 45 days. The design was completed in 18 months with the construction of all bridges completed within 42 months. The construction value was $450 million.

**LA Metro Purple Line Extension, Section 3, Design-Build, Los Angeles, California***

**DESIGN PROJECT MANAGER** As design project manager, Paul assumed control of this project at 50% plans and drove the project to complete 100% plans through partnering, strict design management, and administration of change provisions with client and owner. This project extended the Purple Line from the future Century City Constellation Station that is prat of the Westside Purple Line Extension Section 2 project to Westwood. The project is located entirely underground, primarily following Wilshire Boulevard, and includes the design and construction of approximately 2.56 miles of double track heavy rail, two new stations at UCLA and the VA, and the purchase of 16 heavy rail vehicles. The project also included train controls, signals, traffic controls, communications, traction power supply and distribution, fare collection systems and equipment, acquisition of right-of-way, and utility relocation's. The construction value is $1.4 billion.

**WMATA Northern Bus Garage Reconstruction Progressive Design-Build, Washington, DC***

**DESIGN PROJECT EXECUTIVE** As design project executive, Paul was responsible for pre-award and post-award delivery of this highly successful progressive design-build project. This project completely reconstructed the current building into a modern bus facility while preserving the historic 14th Street façade. Built in 1906 as a streetcar storage facility, the garage was out of service due to its deteriorating condition. Located on 14th Street NW, between Decatur and Buchanan Streets, the newly built garage houses 150 buses and include infrastructure needed to support an electric bus fleet in the future, as envisioned under metro's zero-emission bus plan. In addition to building an environmentally friendly facility, the reconstruction plan included retail space, streetscape improvements, and a community room for local meetings. The construction value is $400 million.

*prior to joining American Structurepoint

## EDUCATION

Bachelor of Science, Civil and Environmental Engineering, 1995, Brigham Young University

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #115175 (granted 2010)

TxDOT Pre-Certification Categories - 3.2.1, 4.2.1, 11.1.1

Dennis has 27 years of experience in complex and non-complex roadway design. His responsibilities have included roadway design lead for freeway expansion projects and retaining wall design lead for complex urban freeway reconstruction projects. He is experienced in all types of roadway design and construction, including creating roadway design concept plans, designing horizontal and vertical geometrics, 3D modeling, designing curb ramps and driveways to meet ADA-requirements and municipal standards, creating grading plans and erosion control plans, computing quantities, and developing cost estimates. Dennis has specialized experience with QA/QC procedures. He has worked on projects in Utah and Texas for many municipalities and agencies. Dennis' technical capabilities include Bentley Products Open Roads Designer, TxDOT design requirements, MicroStation, and Open Roads Designer.

# DENNIS NAILLON, PE

### QA/QC MANAGER

## RELEVANT PROJECT EXPERIENCE

**Williamson County Corridor E5 Study**

**PROJECT ENGINEER** American Structurepoint provided engineering services and planning to develop Corridor E5 from IH 35 to CR 330 in Williamson County, Texas. Our engineers have developed preliminary alignment alternatives for the E5 Corridor, conducted an alternatives analysis to identify the preferred alignment, revised the preferred alignment to address stakeholder input and environmental constraints, prepared hydrologic and hydraulic models, and then prepared a schematic that will include direct connectors at IH 35 and a fully directional interchange at the intersection with the Ronald Reagan Extension.

**Houston TxDOT Strategic Projects, Houston, Texas***

**PROJECT ENGINEER** Dennis assisted in the procurement of the SH 288, SH 249, and SH 99 Segments H, I, and I2 Toll Lane design-build projects in the TxDOT Houston District.

**TxDOT FM 887, Corpus Christi, Texas**

**PROJECT ENGINEER** American Structurepoint was selected to provide engineering services for the preparation of complex plans, specifications, and estimates (PS&E) for various projects located primarily in the urban and rural districts, as well as the metro Austin and Fort Worth districts. Complete contract services will include preparing roadway, hydrologic and hydraulic design, traffic signal design, survey, geotechnical data collection, and construction phase services. American Structurepoint staff will provide project management and quality services for all assigned work authorizations. Our staff will lead design for roadway and bridge design, as well as providing constructability reviews. Diverse teaming partners will provide environmental and survey services. The total contract value is $10M which may include multiple work authorizations over a 5-year period (2023-2028).

*prior to joining American Structurepoint

## EDUCATION

Bachelor of Science, Civil Engineering, 1983, Texas A&M University

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #66138 (granted 1989)
Local Government Project Procedures Qualification – Texas
TxDOT Pre-Certification Categories – 1.4.1, 2.5.1, 3.2.1, 4.2.1, 8.1.1, 9.1.1, 10.1.1, 10.2.1, 10.3.1

Steven began his career in roadway design in 1983. He has been involved in the design and construction of transportation, and public works projects in the Central Texas area since 1998. With 38 years of engineering practice, he has extensive knowledge in all phases of transportation and infrastructure improvements. Steve's expertise spans overall project planning, development of schematics, roadway design, utility coordination, construction administration, and overall engineering project management as well as drainage and water quality design, Edwards Aquifer rules, and water and wastewater infrastructure design. He has completed numerous road reconstruction and capacity expansions, and new alignment projects. These have included arterials and collectors for several cities and counties in the Central Texas area as well as State facilities.

# STEVEN D. WIDACKI, PE

## ROADWAY PLANNING AND DESIGN LEAD

## RELEVANT PROJECT EXPERIENCE

**E. Slaughter Lane (Thaxton to US 183), Phase 1, Austin, Texas***

**PROJECT MANAGER** Steven was project manager for the development of the schematic and PS&E for 2.2 miles of 6-lane primary arterial from Thaxton Road to US 183. The schematic extended beyond US 183 to FM 973 to demonstrate compliance with the City of Austin's Strategic Mobility Plan (ASMP). Intersection locations with US 183 and FM 1625 were coordinated with TxDOT Austin District's South Area Office staff. Phase 1 improvements consist of interim section of two westbound lanes with 4 lanes at the Thaxton and Apogee Boulevard intersections, and from west of FM 1625 to US 183. Drainage improvements consist of five culvert crossings, 11,000 LF of storm sewer, two detention facilities and 14 water quality facilities to meet Travis County and City of Austin criteria. Two CLOMRs were obtained from FEMA for the Cottonmouth Creek and S. Fork of Dry Creek tributary crossings. The project includes three traffic signals at Thaxton Road, Apogee Boulevard, and Town Center Drive. Mass grading of areas outside the ROW were analyzed for Brookfield Residential Properties to bring more than 20 acres of their Easton Park development up out of the Cottonmouth Creek floodplain as part of the CLOMR process. An off-site borrow area was also analyzed and designated for use to provide nearly 100K cubic yards of material for embankment needs for the project. Steven provided coordination of survey, geotechnical, environmental, RAS/TDLR registration, and landscape architecture. He also provided coordination of designs of adjacent water transmission lines consisting of more than two miles of 24-inch and 16-inch lines. The project is in the bid phase with an estimated cost of $28.6M.

**US 183 and FM 1625 Improvements, Austin, Texas***

**PROJECT MANAGER** Steven served as project manager for development of donation agreement between TxDOT and Brookfield Residential Properties (BRP) for the improvements needed to support the extension of E. Slaughter Lane between Thaxton Road and US 183. The improvements include widening of both roadways to accommodate the addition of turn lanes warranted along both US 183 and FM 1625 by traffic analyses of

both roadways to support the E. Slaughter Lane improvements. Pavement improvements consist of approximately 1-mile of "notch and widen" to expand existing pavement to provide additional pavement widths ranging from 12 to 36 feet to accommodate turn lanes and associated transitions. Drainage improvements consist of storm sewers along both edges of pavement to mitigate need for ROW from adjacent properties not owned by BRP, culvert replacements and extensions, and traffic signal designs were prepared for both intersections. Steven prepared demolition, maintenance of traffic plans, signing and pavement marking and EPIC/SWPPP plans. He provided coordination of environmental documents to support improvements. Utility relocations were also coordinated of gas transmission line, fiber telecom lines and overhead utility facilities. ROW acquisitions were also coordinated, and estimated project cost is $7.4M.

**US 183/183A Intersection Improvements (CTRMA), Leander, Texas***

**PROJECT MANAGER** Steven was project manager for PS&E for intersection improvements and realignment to accommodate future main lane improvements to 183A. The project was completed for the Central Texas Regional Mobility Authority (CTRMA). The project included environmental permitting (categorical exclusion), ROW acquisition, utility coordination and relocations, design of roadway including superelevated segment, intersection layouts using AutoTURN for design vehicle movements, storm sewer, sidewalks and shared-use paths, traffic signals, illumination, construction sequencing, and traffic control including detouring, permitting and letting and construction. Construction services included coordination with TxDOT inspectors.

**Bebee Road Improvements, Kyle, Texas**

**PROJECT MANAGER** Drivers in the City of Kyle experience a lack of safe passing zones, inadequate sight distances at reverse curves near I-35, and long queues resulting in high rates of rear-end collisions at intersections on Bebee Road, a 2-lane rural minor arterial road with a 40-mph speed limit. The City plans to address these challenges using a 2022 Transportation Bond Project. American Structurepoint designed the Preliminary Engineering Report (PER) in preparation for the bond issue, conducting a preliminary analysis of project challenges and opportunities and creating a preliminary schedule for project development. The bond was successfully presented to voters in November 2022, and following the election win, we are preparing final design plans, specifications, contract documents, cost estimates, and permit support to upgrade this 2.8-mile Bebee Road corridor. Final design plans will widen the existing Bebee Road to a 5-lane road with a two-way left turn lanes and sidewalks on both sides. All four intersections (see roundabouts description on page 8) on Bebee Road between the I-35 and Goforth Road/CR 157 limits will be upgraded to roundabout intersections, and the sharp curves near I-35 will be realigned to provide adequate sight distance. The corridor will be accented with landscape and hardscape beautification elements. After completion of design services, American Structurepoint will remain involved with bid phase services, construction administration, and project management services. Construction is anticipated to be $41 million and will begin in May 2025.

**Windy Hill Road Improvements, Kyle, Texas***

**PROJECT MANAGER** Steven was project manager for the development of a schematic and preliminary engineering report (PER) for capacity expansion of 0.6 miles of 2-lane rural section to 5-lane minor arterial from IH-35 to Purple Martin Avenue. The PER included analyses of alternates including no-build with conventional intersection and roundabout at Cherrywood Drive. Services included traffic modeling of the corridor and roundabout to assess feasibility, utility conversion to underground, preliminary drainage including storm sewer layout, desktop environmental assessment of corridor and estimate of probable costs including acquisitions projected to anticipated year to be built for bond election program. The preliminary estimate of roadway improvements is $7.2M.

**Hays County Precinct 3 Low Water Crossing Improvements, Wimberley, Texas***
**PROJECT MANAGER** Steven acted as project manager for the development of schematics for improvements to low water crossings at Wayside Drive at the Blanco River, County Road 1492 at the Blanco River, and Rolling Oaks Drive at York Creek tributary. Schematics for the Blanco River crossings were developed to meet design vehicle requirements for school buses and tractor-trailer combinations using AutoTURN templates and hydraulic analyses to confirm no-rise conditions while maintaining the low water crossing due to excessive costs for bridge solutions. The Rolling Oaks location considered multi-box culverts to pass the Atlas 14 100-year, 25-year and 10-year storm events, with the 25-year event alternate determined to be the most cost-effective solution. Services included environmental, geotechnical, assessments of ROW needs and development of construction sequencing to construct the improvements at each location. Estimated costs of improvements is $800K.

**FM 2001 Shared-Use Path, Buda, Texas***
**PROJECT MANAGER** Steven served as project manager for the 10-foot width shared-use path improvements from the IH-35 frontage road along Overpass Rd. and south along FM 2001 to the Reliance Drive intersection using federal funds. Steven provided coordination with TxDOT Austin District's South Area Office staff for review of all improvements including environmental (categorical exclusion) using LGPP processes. The project received State Letter of Authority approving local let by the City of Buda. Steven provided coordination of survey, environmental, utility adjustments of telecom facilities and RAS/TDLR registration. The PS&E included demolition, driveway culvert relocations, signing and pavement markings, MBGF modifications, traffic control and EPIC/SWPPP plans. Low bid received was $580K and construction began in January 2023.

**Purgatory Creek Improvements, San Marcos, Texas***
**ROADWAY DESIGN LEAD** Steven acted as design lead for roadway and shared-use path (SUP) improvements as part of 1.2 miles of channel improvements to mitigate flooding in the lower Purgatory Creek segment. Steven provided design of roadway profiles to support bridge replacements at CM Allen Parkway, LBJ Drive and Jackman Street, and bridge class culvert replacement at Mitchell Street. Profiles were developed to use low profile box beams at bridges to reduce pavement reconstruction limits while clearing the creek's 100-year water surface profile. Steven developed the SUP route in the bottom of the improved channel section providing bike-compliant vertical clearances at all bridge spans including a depressed section at the Guadalupe Street crossing, which is a State facility (SH 123) that will not be improved. SUP connector routes to street level at all crossings were also developed. Steven provided coordination with channel/ hydraulic, utility, landscape architecture and bridge design leads. PS&E were prepared to a 30-percent completion including development of an estimate of probable cost of $30M.

**Dacy Lane Widening, Phase 1, Kyle, Texas***
**PROJECT MANAGER** Steven served as project manager for the preparation of PS&E to convert 1.4 miles of 2-lane rural section to 4-lane and 5-lane minor arterial from Bebee Road to Goforth Road. He also managed corridor analysis to determine the project's final alignment including a 500-foot-long bridge designed to span the FEMA floodplain of Bunton Branch. Selection of the bridge design followed analyses of permit issues related to option including a bridge and culvert combination. The bridge minimized impacts to wetlands and project schedule. The design included warrant analysis for traffic signal at Bebee intersection, sidewalks, street lighting, signage and pavement markings, water and wastewater line relocations and improvements. Provided coordination of survey, geotechnical, environmental, ROW acquisition services, and coordinated construction sequencing with school

district for affected schools. Steven provided coordination for relocation of overhead utilities, and fiber telecom lines. The project had a construction cost of $8.4M.

**Brushy Creek Road Reconstruction, Cedar Park, Texas***
**PROJECT MANAGER** Steven acted as project manager for the capacity expansion of 0.8 miles of 2-lane rural section to a 4-lane divided arterial from Parmer Lane (FM 734) to Arrowhead Trail. Improvements included modification of the FM 734 intersection, three culvert crossings, including one bridge class culvert at a tributary to S. Brushy Creek, 3,400 LF of storm sewer, sidewalk, bike-compliant shared-use path including tunnel under roadway, traffic signal improvements, illumination, water quality ponds and modifications to two driveways to Brushy Creek Lake Park. PS&E preparation included roadway, traffic control, signing and pavement markings, project specific details and coordination with TxDOT for signal improvements. The project had a construction cost of $4.3M.

**Trimmier and Watercrest Roads Reconstruction, Killeen, Texas***
**PROJECT MANAGER** Steven served as project manager for the reconstruction of 2-lane rural section roadways to 4-lane and 5-lane minor arterial roadways. He prepared schematics and PS&E for both roadways totaling $12.1M. The Trimmier improvements totaled 1.4 miles of roadway including two major culvert crossings, 7,200 LF of storm sewer, sidewalk, traffic signals, illumination and water and wastewater line relocations. This included hydraulic modeling (HEC-RAS) of Little Nolan Creek certifying an “no-rise” condition. The Watercrest improvements totaled 2.2 miles of roadway including the re-alignment of the Clear Creek Road (SH 201) intersection, five culvert crossings, including one bridge class culvert at the Nolan Creek crossing, 11,500 LF of storm sewer, sidewalks, three traffic signals, illumination and water and wastewater line relocations. Hydraulic design and modeling also demonstrated a no-rise condition at the Nolan Creek crossing. Steven coordinated survey, ROW acquisition, RAS/TDLR registrations and geotechnical services. He also provided utility relocation services for gas, electric, telecom and cable facilities along both roadways including bi-weekly coordination meetings with City of Killeen staff and utility providers. He provided coordination with the TxDOT Waco District for intersection realignment at SH 201 which combined two close proximity signalized intersections into single signalized intersection. Steven provided bid and construction services which included an accelerated schedule on Trimmier to meet the school district’s needs for the opening of a new middle school. Project design, permitting and construction was completed on time and on budget.

**N. East Street Improvements, Leander, Texas***
**PROJECT MANAGER** Steven was the project manager for the reconstruction and extension of a collector roadway from RM 2243 to Hero Way in a planned high-density development. The roadway section consisted of two travel lanes and parallel parking along each side with transition to a reduced section for the bridge segment. Improvements include bridge and overflow channel to reduce floodplain, reclaiming 25 acres of commercial property. Steve provided coordination with City of Leander staff and the affected developer for grading, channel improvements and delineation of parcel acquisitions. He performed hydraulic modeling for CLOMR for the S. Fork of Brushy Creek. PS&E included roadway, bridge, 12-inch waterline, sidewalks, storm sewer, water quality facilities, coordination of ROW and easement acquisitions, utility coordination and relocations (electric, telecom and wastewater). Steven’s services also included public involvement including one-on-one meetings with affected property owners, survey, geotechnical and environmental services.

*prior to joining American Structurepoint

## EDUCATION

Bachelor of Science, Civil Engineering, 2013, University of Nebraska at Lincoln (Omaha Campus)

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #132899 (granted 2018)

TxDOT Pre-Certification Categories – 4.2.1, 8.1.1, 9.3.1, 9.3.2

Adam is a transportation design professional with expertise in schematic and PS&E design, plans production, quality control, team organizational work, and 3D modeling. His focus is in roadway transportation including interstate and highway reconstruction, interchange, intersection, roundabout design, and safety improvement projects. As project manager, Adam is responsible for client interaction, budget and schedule management, and design team coordination. He has technical experience in geometric design, traffic control, erosion control, signing and pavement markings, hydraulics and drainage design.

# ADAM M. PFEIFFER, PE

### ROADWAY PLANNING AND DESIGN ENGINEER/COST ESTIMATING

## RELEVANT PROJECT EXPERIENCE

**Corridor E5 Study, Williamson County, Texas**

**ROADWAY ENGINEER** American Structurepoint provided engineering services and planning to develop Corridor E5 from IH 35 to CR 330 in Williamson County, Texas. Our engineers have developed preliminary alignment alternatives for the E5 Corridor, conducted an alternatives analysis to identify the preferred alignment, revised the preferred alignment to address stakeholder input and environmental constraints, prepared hydrologic and hydraulic models, and then prepared a schematic that will include direct connectors at IH 35 and a fully directional interchange at the intersection with the Ronald Reagan Extension. Adam developed schematic exhibits showing alignment alternatives to be presented to the County and used for public meetings; also coordinated with the County to accommodate property owners and community needs. As deputy project manager and roadway task lead, Adam led development of alignment alternatives and produced exhibits for coordination with the County and public meetings. He led development of the preferred alignment schematic and geometric design of mainlanes, ramps, and fully directional and grade separated interchanges. Adam mentored EITs in calculating stopping sight distance, superelevation, vertical clearance and corridor evaluation criteria.

**Corridor E4 Study, Williamson County, Texas**

**ROADWAY ENGINEER** American Structurepoint is providing engineering services and planning to develop Corridor E4 from CR 330 to SH 29, in Williamson County, Texas. This project is a southern extension of the E5 corridor that American Structurepoint is also developing for Williamson County. Our engineers have developed preliminary alignment alternatives for the E4 Corridor, conducted an alternatives analysis to identify the preferred alignment, revised the preferred alignment to address stakeholder input and environmental constraints, and prepared hydrologic and hydraulic models. American Structurepoint is preparing a schematic that includes direct connectors and the western half of an interchange at SH 195. Adam is a roadway engineer on the project.

**CR 258 Extension from US 183 to Sunset Ridge, Williamson County, Texas**

ASSISTANT PROJECT MANAGER American Structurepoint is providing PS&E plans for the CR 258 Extension, located in Precinct 2 of Williamson County. It consists of extending the existing CR 258 at Sunset Ridge Drive to US 183 and includes TCP design, grading, roadway design, drainage structures, SW3P, a Contributing Zone Plan (CZP), and pavement marking and signing. American Structurepoint's engineers made adjustments to the roadway profile, ditches, and culverts to avoid utility relocation of the three existing petroleum product lines crossing the project's path, resulting in approximately $2 million savings in relocation costs. The project included a drainage impact study for mitigation of increased flows. An environmentally friendly solution of using ponding in the roadside ditches as a means of detaining stormwater saved the county substantial costs compared to designing and building a more expensive drainage solution, a pond. Adam served as deputy project manager and was the roadway and traffic control design leader for the development of the SE and PS&E. Rolling terrain made it a challenge to minimize right-of-way impacts to the adjacent property owners and developer. Adam worked with the County and property owners to develop a design to optimize impacts and accommodate future development. He attended developer meetings and assisted with design and creation of exhibits showing future development driveway access for the CR 258 ultimate section. Adam also saved the County approximately $2 million with adjustments to roadway profile, ditches, and culverts to avoid utility relocation.

**RM 3237 Safety Improvements (Phase 2), Hays County, Texas**

PROJECT MANAGER Hays County wants to provide a safer and higher capacity roadway in anticipation of surrounding development and increased traffic in the area. For this phase of the RM 3237 Safety Improvements, American Structurepoint created an alignment study and proposed roadway layout to include 20-year projected traffic volumes, existing and proposed typical sections. The project includes adding 8' shoulders in areas with minimal shoulders, adding two-way left turn lanes in areas lacking left turn lanes from FM 3237 from RM 12, and adding left-turn lanes at five intersections. Two major challenges exist with this project. The first challenge is the rolling terrain. The project is in the Texas Hill country, and has some steep grades along the road and sharp vertical curves which we will improve. The second challenge is that the project is in the Edwards Aquifer Recharge Zone and therefore requires a Water Pollution Abatement Plan. We will be designing water quality ponds to treat the runoff. Adam is the project manager of this rural 2-lane widening project with profile reconstruction for safety improvements.

**RM 3237 at RM 150 Roundabout, Hays County, Texas**

ASSISTANT PROJECT MANAGER The project consisted of replacing a T-Intersection with a more efficient and safer roundabout design at the intersection of RM 150 and RM 3237. American Structurepoint performed preliminary engineering and developed ready to let PS&E plans to replace the T-intersection and save three heritage trees. Our road engineers designed this roundabout with sustainability in mind. They specifically protected the environment by designing the roundabout circle to include historic oak trees that county residents wanted to preserve. Improvements also included drainage of the intersection and replacement of several culverts. TCEQ coordination was required for the approval of the Water Pollution Abatement Plan and coordination with the TxDOT South Travis Area office. Utilities were also coordinated for relocation before letting. Our drainage engineers worked with the utility coordinator to avoid a conflict with an existing buried underground telecom line and the ditch flow line. The solution to riprap the channel at the utility to protect it in place saved the client $8,000 in utility relocation costs. American Structurepoint prepared 3D animations of both roundabout and T-intersection alternatives to present to the public. This was a locally funded project on a TxDOT

facility with a total construction cost estimated at $1.6 million. Local property owners were pleased with the project's progress and reported no issues with access during construction. We also used safety lighting that reduces glare to cut down on environmental pollution. The safety lighting provided is Dark Sky compliant to protect the community from light pollution that adhered to local ordinances. Construction phase services were also provided by our team through the completion of construction in August 2022. As deputy project manager, Adam led the team in developing the Schematic and development of the PS&E including geometric design, 3-D modeling, traffic control, illumination, water quality, signing and striping. He was responsible for coordination efforts between environmental, utility team members, Hays County, and TxDOT. Adam held traffic control meetings with the client and stakeholders to come up with solutions to mitigate impacts to traffic, constructability, and construction schedules. Adam helped develop water quality treatment alternatives within the constrained right-of-way, providing sufficient treatment with vegetative filter strips and grassy swales meeting TCEQ requirements.

**RM 3237 Safety Project, Wimberley, Texas**

**ASSISTANT PROJECT MANAGER** The project is a PS&E for a cumulative 2-mile "notch and widen" project from 2-lane rural to add shoulders and turn lanes at five intersections. The scope includes environmental services, geological assessment, Texas Historical Commission Coordination, culvert replacement, FEMA coordination, coordination with property owners, TxDOT coordination, utility coordination, TCEQ coordination, water pollution abatement plan, design of two water quality ponds, and intersection improvements. The project is following LGPP guidelines. As deputy project manager, Adam was the lead roadway engineer for the Hays County RM 3237 Safety Improvements project. This project included widening and overlay for five sections along the 2.5-mile road to include two 12-foot travel lanes with 8-foot shoulders and additional turn lanes at intersections. The design team determined cross slope correction was needed prior to the overlay for better performance and constructability to improve inadequate cross slopes. Adam analyzed the edge of pavement profiles to determine which areas needed to be improved, incorporated them into the construction documents, and was able to provide accurate quantities.

**RM 150 at RM 12 Realignment and Roundabout, Dripping Springs, Texas**

**PROJECT MANAGER** American Structurepoint provided engineering services and planning to study relocating an existing T-intersection at RM 150 and RM 12 in Hays County, Texas. Intersection improvements were needed for the future extension of RM 12 West to a planned southwest bypass corridor around the City of Dripping Springs. American Structurepoint also performed a traffic study to determine if a roundabout would be a better option than a signalized intersection. The traffic study determined that a roundabout is a safer option for the intersection. American Structurepoint is now providing engineering services for designing the roundabout at the existing intersection of RM 150 and RM 12. The project includes designing paving, grading, drainage, signing and striping, along with water quality treatment. Illumination design was completed in compliance with Dark Sky community guidelines.

There was one existing box culvert to be replaced with a bridge class culvert. The design used Atlas 14 intensities and current design requirements from the TxDOT Hydraulic Design Manual. The project is in Edwards Aquifer Contributing Zone, and the Edwards Aquifer Protection Program Roadway Application is required. For water quality treatment, vegetative filter strips were selected for the best management practices (BMP). These BMPs reduce right-of-way impacts and are the most feasible and cost-effective solution.

We coordinated with the TxDOT South Travis Area office and had a review meeting and a preliminary bridge layout review (PBLR). Adam was the deputy project manager and provided engineering support for the project.

**Hays County, Texas, General Engineering Consultant Support, Hays County, Texas**
**ROADWAY ENGINEER** American Structurepoint, as a subconsultant to HNTB, is providing general engineering consultant (GEC) support conducting technical reviews of Hays County roadway bond projects. Roadway project schematics, design construction plans, specifications, and estimates are all reviewed by American Structurepoint to ensure they adhere to applicable criteria and present cost-effective solutions to Hays County's transportation needs. These technical reviews encompass all transportation disciplines: roadway, drainage, traffic, and structures, as well as constructability reviews and value engineering analysis. Adam is providing review of roadway documents.

**US 62 (19th Street) from I-27 to Marsha Sharp Freeway, Lubbock, Texas**
**ASSISTANT PROJECT MANAGER** This engineering plans, specifications, and estimates (PS&E) project focused on the rehabilitation and reconstruction of a 3.3-mile-long segment of 19th Street, adjacent to the Texas Tech campus. American Structurepoint provided transportation engineering services for this project that includes restoration of existing roadway, milling and overlay, full-depth reconstruction, ADA-compliant sidewalks and ramps, signing striping, illumination, and signal design. The existing road ranges from 4 to 6 lanes, with left- and right-turn lanes and multiple intersections. As part of the project, seven traffic signal locations were modernized, requiring the reconfiguration of the intersections. Illumination was brought up to current standards. Curb ramps were modified to meet ADA standards. The storm sewer was designed with an inverted syphon to avoid a costly relocation of a telephone utility duct and allow the project to be bid as per the district schedule. Estimated construction cost is $25.7 million. As the deputy project manager and roadway design task lead, Adam's responsibilities included improving sidewalks, curb ramps, and driveways to be ADA compliant and coordination with traffic and drainage discipline leads to avoid conflicts with the proposed improvements. He was also responsible for preparing quantities and a cost estimate.

## EDUCATION

Bachelor of Science, Civil Engineering,
University of Texas-Austin, 1999

## LICENSE AND CERTIFICATIONS

Professional Engineer - Texas No. 94722
TxDOT Certifications - 2.5.1, 10.1.1, 10.2.1, 10.3.1

Craig has more than 23 years of design, plan production, and management experience in the transportation field. His primary responsibilities have included geometric and drainage design and preparation of plans, specifications, and estimates (PS&E) for related projects. He has extensive experience with TCEQ Edwards Aquifer water quality design, hydrologic and hydraulic computer modeling, storm sewer design, water quality pond design, cross culvert design, erosion control, preparation of Water Pollution Abatement Plans (WPAP), preparation of Storm Water Pollution Prevention Plans (SW3P), and ROW determination. Further, Craig is proficient with MicroStation, GEOPAK Drainage, HEC-RAS, WinStorm, THYSIS, HEC-HMS, HY8, and GEOPAK.

# CRAIG HEBBE, PE

## DRAINAGE PLANNING AND DESIGN LEAD

## RELEVANT PROJECT EXPERIENCE

**Corridor E1 PS&E, Williamson County, Texas**
**DRAINAGE TASK LEAD** Phase 1 consisted of 2 miles of existing road reconstruction and green field construction of a 2-lane road that will ultimately be the eastbound frontage road. He managed hydrologic studies, modeling, complex hydraulic design and impact assessment for 2 Bridge Crossings and multiple detention ponds. Craig also oversaw design of parallel drainage structures and coordinated SCS Pond #21 mitigation with UBCWCID. He is currently providing construction phase services and reviewing drainage submittals and requests for information.

**Hairy Man Road PS&E, Williamson County, Texas**
**DRAINAGE TASK LEAD** This include the addition of shoulders, rumble striping, and left turn lanes into the parking lots of Olson Meadows Park and Creekside Park. Craig was responsible for preparing the PS&E components for the cross culverts, storm sewer and ditch design. He also managed the water quality plan over the Edwards Aquifer, which included calculations for Total Suspended Solids (TSS) removal per TCEQ RG 348 and the design of 2 Stormceptors to get TCEQ approval of the CZP. He is currently providing construction phase services, reviewing drainage submittals and requests for information.

**Corridor C SH29 Bypass PS&E, Williamson County, Texas**
**DRAINAGE TASK LEAD** The first phase of roadway will consist of over 3 miles of green field construction with 1 lane and a shoulder in each direction with part of the project being an urban section and part of the project being a rural that will ultimately be the westbound frontage road. He managed hydrologic studies, modeling, and complex hydraulic design and impact assessment for 2 Bridge Crossings and 2 Bridge Class Culvert Crossings one of which is a FEMA Zone A. Craig also oversaw design of parallel and cross drainage structures, SW3P design and temporary drainage facilities.

**Ronald Reagan Blvd Segment D Schematic, Williamson County, Texas**
**PROJECT MANAGER** Williamson County is performing route analysis for right-of-way determination of the reconstruction or Ronald Reagan Blvd from a two-lane rural section to a controlled access freeway over a 5.3-mile span. Craig was the Project Manager for the drainage design for the analysis including the drainage impacts, water quality and onsite mitigation requirements. He performed the overall hydrologic and hydraulic impact analysis for 4 major crossings identifying impacts to floodplains and creeks. He also identified necessary onsite drainage infrastructure including water quality ponds and mitigation facilities to determine the right-of-way preservation requirements.

**Corridor C SH29 Bypass Schematic, Williamson County, Texas**
**PROJECT MANAGER** Williamson County is performing route analysis for right-of-way preservation for corridors identified in the Transportation Plan. Craig was the Project Manager for the drainage design for the route analysis including the drainage impacts and onsite mitigation requirements. He performed the overall hydrologic and hydraulic impact analysis for several route alternatives including identifying impacts to floodplains and creeks as well as the San Gabriel River. He also identified necessary onsite drainage infrastructure including channels and mitigation facilities to determine the right-of-way preservation requirements.

**Bagdad Road at CR 278, Williamson County, Texas**
**DRAINAGE TASK LEADER** This included the drainage and water quality analysis for approximately 2,000 LF of road reconstruction, and approximately 2,500 LF of new road that will serve as the River Ranch Park entrance. The project is over the Edwards Aquifer and required calculations for Total Suspended Solids (TSS) removal to meet TCEQ requirements. H&H modeling included minor cross drainage structures and parallel drainage systems (inlets, open channels, ditch and storm sewer).

**Austin Avenue Bridge, Georgetown, Texas**
**PROJECT MANAGER** N. Austin Avenue is a major north/south connector through Georgetown, Texas. The project consists of preliminary engineering to develop alternatives for improvements to approximately 0.52 miles of the existing 4-lane urban minor arterial roadway to include the replacement of the two bridges over the North and South Forks of the San Gabriel River. Craig was the Project Manager and managed the drainage and water quality design for the bridge replacements. The project was advanced to 30% PS&E in order for the environmental process and permitting to begin as both bridge structures are listed on the National Register of Historic Places.

**US 80 PS&E, Dallas County, Texas**
**DRAINAGE TASK LEAD** This project was for 2 sections of US 80 totaling approximately 5.0 miles of widening and intersection improvements to the existing freeway section. He managed non-FEMA and FEMA Zone AE hydrologic studies, modeling, and complex hydraulic design and impact assessment using current FEMA effective models, HEC-HMS, HEC RAS and HY-8. Overall, there were 3 FEMA Zone AE crossings and 6 minor crossings. Craig also oversaw design of parallel storm sewer & ditches and temporary drainage facilities.

**US 380 SCHEMATIC, Collin County, Texas**
**DRAINAGE TASK LEAD** The TxDOT Schematic project was for widening and reconstruction of over 4.5 miles of US 380 from just west of CR 26 to Coit Rd in Collin County, TX. The existing facility is a six-lane divided roadway with a divided median, shoulders and turn lanes throughout. The facility will be widened to a freeway with frontage roads and sidewalks. KFA is responsible for the hydrologic and hydraulic analysis for 15 crossings including one bridge structure and 8 bridge class culverts. Two

crossings are within FEMA flood hazard area Zone "A" and one of them has a FEMA Zone "AE" directly downstream. Mr Hebbe managed design including non-FEMA, FEMA Zone A and FEMA Zone AE hydrologic studies, modeling, and complex hydraulic design. The hydrologic analysis includes analyzing the basins using the SCS Unit Hydrograph Method and the Omega Regression Equations. These flows will be compared to the FEMA flows and the most conservative flows will be used. The hydraulic analysis for the bridge and bridge class culverts is being conducted using HEC-RAS in accordance with TxDOT procedures. Available effective models were obtained from FEMA and modified to accurately model the existing and proposed conditions to determine improvements and impacts. Where effective models are not available, new HEC-RAS models are being developed based on as-builts, LIDAR and survey. Non-bridge class culvert analysis utilizes FHWA HY-8 and existing and proposed models were created to model the proposed reconstruction. A portion of the widening overlaps and runs parallel to Parvin Branch and alternatives including a mix of culverts and channels were analyzed to meet roadway and environmental constraints from both a project cost standpoint and permitting standpoint. Analysis procedures and results will be documented in a Hydraulic technical Memorandum supplemented with 11x17 preliminary sheets for: Drainage Area Maps, Hydraulic Computations and Culvert Layouts. Findings and models will be coordinated with appropriate floodplain administrator.

**FM 1344, TxDOT San Antonio, Wilson County, Texas**

**DRAINAGE TASK LEAD** This project was 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. Craig led the design of 8 cross drainage structures including extension and/or replacements of all culverts with one of them being a bridge class culvert using HY-8 and HEC-RAS. Craig also oversaw design of parallel drainage and the SW3P. The parallel drainage design consisted of ditches and isolated storm sewer which provided many design challenges when combined with no new proposed ROW for the project and many utilities in the corridor.

**Ronald Reagan Boulevard FM 734 (Parmer Lane) Extension, TxDOT Austin, Williamson County, Texas**

**DRAINAGE DESIGN ENGINEER** This project was for the extension 8 miles of Parmer Lane (Ronald Reagan Blvd.) from RM 1431 to SH 29, including Kauffman Loop. Tasks included design of ditches, storm sewer, cross drainage, erosion control, and SW3P. Craig also designed the water quality plan over the Edward's Aquifer, and compiled and submitted three WPAPs and one Contributing Zone Plan (CZP) to the TCEQ. Water quality design included vegetative filter strips, grassy swales, and sand filtration ponds. Design tools utilized include THYSYS and GEOPAK Drainage.

**Chisholm Trail Road, City of Round Rock, Round Rock, Texas**

**DRAINAGE TASK LEAD** This project was for this $7.2 million PS&E project for the 1.2-mile reconstruction of a two-lane rural roadway to a five-lane urban section, and 0.2 miles of a four-lane divided cross-street in a new location (Chisholm Pkwy). Responsibilities included internal drainage, design of two stormceptors and sand filtration pond, erosion control, water quality, and SW3P. He designed the water quality plan over the Edwards Aquifer and successfully submitted and updated multiple WPAPs with TCEQ. Craig utilized THYSYS and GEOPAK Drainage for the project.

**SH 18, Midland County, Texas**

**DRAINAGE PROJECT MANAGER** This project was for this TxDOT PS&E project to widen and reconstruct approximately 11 miles of roadway and various other safety improvements of SH 18. He managed the parallel drainage design including storm sewer and ditches for the project. He also managed cross drainage for the project including multiple small crossings.

## HEBBE (CONT.)

**US 380 PS&E, Collin County/McKinney, TX**

**DRAINAGE TASK LEAD** This project was for TxDOT PS&E project for 15.0 miles of widening and intersection improvements to take US 380 from a rural section to an urban section. He managed non-FEMA, FEMA Zone A and FEMA Zone AE hydrologic studies, modeling, and complex hydraulic design and impact assessment using current FEMA effective models, HEC-HMS, HEC RAS and HY-8. Craig also oversaw design of parallel and cross drainage structures and temporary drainage facilities. One bridge at Tickey Creek was reclassified from "A" to "AE" via a LOMR after the schematic was approved & right after NTP was received for the PS&E. Freeboard issues were not identified during the schematic phase but the area has experienced significant development since the bridge was built, drastically increasing flows resulting in an impingement of the bridge by about 4' in the 100-yr storm although the bridge does not overtop in the design storm. Craig developed alternatives, reviewed the results of the analysis with TxDOT including replacing the bridge at a higher elevation, using an alternate structure type to lengthen the bridge & reduce the bridge thickness to minimize changes to the existing roadway vertical profile and extensive channel regrading under the bridge to lower water surface elevations.

**IH 69W, Webb County, TX**

**DRAINAGE TASK LEAD** This project was for TxDOT PS&E project for 1.7 miles of freeway widening and 1.4 miles of pavement widening and intersection improvements. He managed hydrologic studies, modeling, and complex hydraulic design and impact assessment using current FEMA effective models. Craig also oversaw design of parallel and cross drainage structures and temporary drainage facilities.

**FM 1187, Tarrant County, TX**

**PROJECT MANAGER** This project was for this TxDOT PS&E project to widen and reconstruct approximately 0.2 miles of roadway and various other safety improvements from IH35W northbound frontage road to Hunters Field Blvd. He managed the parallel drainage design including storm sewer and ditches and cross drainage for the project.

**IH 20 at Midkiff Road, Midland County, TX**

**DRAINAGE PROJECT MANAGER** This project is for this TxDOT PS&E project to add frontage roads and reconstruct intersections for approximately 3.0 miles of IH 20. He managed the parallel drainage design using Geopak Drainage including storm sewer and ditches for the project. He also managed cross drainage for the project including 6 total culvert crossings. Craig identified and mitigated a significant safety and litigation risk. The schematic design transformed an overpass to an underpass, routing over 150 cfs to a different watershed without impact analysis. Realizing the potential risk to public safety and litigation risks to TxDOT and KFA, Craig presented the analysis and risks to ODA. Although his proposal initially resulted in a disagreement, Craig persisted and ODA agreed to use a design that mimicked pre-project conditions, eliminating these risks.

## EDUCATION

Bachelor of Science, Civil/Environmental Engineering, University of Virginia, 2016

## LICENSE AND CERTIFICATIONS

Professional Engineer - Texas No. 145196

Brian has 7 years of experience as a Civil Engineer, 3 of which he served as a Water Resources Engineer at BayLand Consultants & Designers, Inc. in Hanover, Maryland. He then joined K Friese + Associates in the spring of 2019 focusing on drainage projects relating to roadway design, guideline development, and asset management. His background encompasses the design of water quality ponds, stream restoration projects, erosion and sediment control, planting plans, hydraulic modeling in 1D for natural streams, storm sewer hydraulic analyses, and technical provisions writing. He is proficient in MicroStation, AutoCAD Civil 3D, GEOPAK, Hydraulic Toolbox, FHWA HY-8, and HEC-RAS.

# BRIAN FURR, PE

### DRAINAGE PLANNING AND DESIGN

## RELEVANT PROJECT EXPERIENCE

**Corridor E1 Southeast Loop Bypass, Hutto, Texas**

**PROJECT ENGINEER** This project Williamson County is proposing the construction of a new controlled access facility (Southeast Loop) between State Highway 130 northbound frontage road on the west and the Country Road 137 on the east. Brian is responsible for the on-site hydraulics, including the proposed storm sewer system and drainage ditches using Geopak Drainage and a supplemental drainage ditch calculation spreadsheet. This project includes the analysis of existing ditches and driveway culverts to ensure to adverse impacts under the proposed design as well as balancing the use of proposed storm sewer and drainage ditches to provide a cost-effective solution.

**TxDOT Work Authorization #5 Water Quality Pond Assessment Management, Austin District, Texas**

**PROJECTENGINEER** This project included the comprehensive study of the existing best management practices (BMP) ponds of the Texas Department of Transportation. This includes the creation of a data collection tool for future maintenance and organization of all 160 existing ponds and planned future ponds. Brian is responsible for assisting in pond inspections and creating the pond assessment report to display inspection observations using Microsoft Access. He also assists in the review and development of standard details, specifications, inspection and maintenance standards, and stormwater management guidelines for future BMP designs or retrofits. He has assisted in the evaluation of 48 ponds in the field and is the task lead for report generation and developing a BMP priority and ranking methodology to assist in performing maintenance activities.

**TxDOT Work Authorization #8 Stormwater Management Guidance, Statewide Guidance**

**PROJECT ENGINEER** This project involved assisting in revisions to the TxDOT Hydraulic Design Manual (HDM), specifically revising the stormwater management chapter and incorporating the Developer's Outfall Policy Memo. This project requires coordination and input with multiple District Hydraulic Engineers across the state to develop guidelines applicable to the

entire state. Brian created a data collection memo to summarize survey results from DHEs across the state assessing the current use and implementation of the Developer's Outfall Policy Memo. He also assists in the review and development of technical content for the HDM and risk assessment methodology and definition.

**Ross Road Improvements, Del Valle, Texas**
**PROJECT ENGINEER** This collaborative project between Travis County and the Central Texas Regional Mobility Authority was to construct a 0.85-mile urban, five-lane arterial corridor between Pearce Lane and Heine Farm Road. The project includes three cross culverts, onsite and offsite drainage ditches, storm sewers, one detention pond, and Jellyfish Filtration devices to reduce proposed total suspended solids. Brian is responsible for the on-site hydraulics, including the proposed storm sewer system and drainage ditches, as well as the design of two (2) bio-filtration ponds prior to the use of Jellyfish Filtration devices. Brian designed the storm sewer system and drainage ditches using Geopak Drainage and a supplemental drainage ditch calculation spreadsheet.

**Williamson County Corridor I1 Schematic, Williamson County, Texas**
**PROJECT ENGINEER** Corridor I1 consists of a 4-lane highway with 6-lanes of frontage roads between US 183 and Ronald Reagan Blvd including the construction of interchanges at US 183 and Ronald Reagan. Brian served as Project Engineer for the project which included bridge hydraulic design, detention, conceptual storm sewer siting, and water quality. Challenges included ongoing coordination with the US 183 (Corridor F) and Ronald Reagan design teams and developing storm sewer concepts compatible with the site topography and limited ROW available for proposed water quality and detention.

**TxDOT US 290/SH71 Oak Hill Parkway Design Build, Austin, Texas**
**DRAINAGE TECHNICAL REVIEWER** Roadway reconstruction along US 290 and SH 71 in Oak Hill. Brian served as a drainage technical reviewer for the TxDOT GEC team responsible for overseeing the overall design of the $674 million mobility improvement project. He supported the technical review process of drainage, H&H models (RAS, HMS, EPA-SWMM, HY-8), project-wide hydrologic impacts and storm drain systems verifying compliance with technical provisions.

**CTRMA 183N Design Build, Williamson County, Texas**
**DRAINAGE TECHNICAL REVIEWER** This is an Alternate Delivery Program project to widen 9 miles of US 183N in Travis and Williamson Counties. Brian served as a drainage technical reviewer for the General Engineering Consultant (GEC) review team for the Design and Delivery phase of this project reviewing drainage, H&H models (RAS, HMS, EPA-SWMM, HY-8), project-wide hydrologic impacts and storm drain systems verifying compliance with technical provisions.

**Chandler Branch Tributary 3 Channel Improvements, Round Rock, Texas**
**LEAD PROJECT ENGINEER** Brian worked to prepare PS&E and provide bid and construction phase services for channel improvements for the City of Round Rock. The Project includes construction of approximately 4,000 linear feet (LF) of a vegetated channel, and improvement of a culvert crossing. The approximate project limits are from Settlement Drive to Eagles Nest Street, within City limits and unincorporated Williamson County. The City proposes to alleviate local flooding in the neighborhood surrounding Chandler Branch Tributary 3 and provide drainage conveyance to Chandler Branch Tributary 3 for proposed development of several tracts of land west of Sunrise Road. The Project includes channel reconfiguration and realignment to increase capacity and convey stormwater flow to the Upper Brushy Creek WCID Dam 14 reservoir. The existing channel has been delineated as Waters of the

U.S. (WOUS). The project design is intended to minimize impacts to the WOUS to allow the project to fall within a USACE Nationwide Permit (NWP) 14 – Linear Transportation. The project includes H&H analysis, channel design, PS&E development, TCEQ and FEMA permitting, USACE coordination, and construction phase services.

**City of Austin Floodplain Modeling – Gilleland Creek, Austin, Texas**
**PROJECT LEAD ENGINEER** Brian was responsible for the assessment of the hydraulic conditions of 10 tributaries to Gilleland Creek, a tributary of the Colorado River. The project includes developing the detailed FEMA floodplain and the City of Austin regulated floodplain using Atlas 14 rainfall data along with providing the flood profiles for the tributaries.

**Ridge Commons Bmp 1649 SWM Pond Retrofit, Hanover, Maryland**
**PROJECT ENGINEER** Brian was responsible for to retrofit an existing extended detention dry basin into a wet pond to provide water quality volume (WQv) and channel protection volume (Cpv) treatment to the maximum extent practicable. Brian was responsible for drafting as assembling the 30%, 60%, 90%, and 100% design plans (cover sheet, site plans, profiles, details, drainage area map, erosion and sediment control, and planting plans) as well as permitting and plan approval. This project provided additional challenges such as the research and consideration of the OPTI CMAC product in addition to the project being located within the Maryland Aviation Administration zone. Brian worked with the Maryland Aviation Administration to bring the proposed wet pond design into compliance with their guidelines. He also helped with bid document and specification preparation. This project was completed at previous firm.

**MA & PA Edgeley Grove Stormwater Management Revisions, Bel Air, Maryland**
**PROJECT ENGINEER** Brian was responsible for correcting erosion issues and undersized swales associated with the construction of Edgeley Grove Trail in Bel Air, Maryland. After the construction of Edgeley Grove Trail was completed and the warranty of the trail constructed had passed, Harford County Department of Parks & Recreation was notified by the Department of Public Works Water Resources Engineering that the stormwater quality measures required of the trail were not constructed per the approved Stormwater Management (SWM) plans. Brian prepared a remedial design which assessed the original design and proposed revisions to the approved plans. His design also addressed erosion where an existing equestrian center outfalls to a culvert underneath the trail. Brian was responsible for calculating the hydraulics for six swales using hydraulic toolbox, designing cross culvers underneath the existing trail to prevent existing short circuiting and erosion, site grading, and permit application, review, and plan approval. This project was completed at previous firm.

**Manors at South Hampton SWM Pond Retrofits, Bryans Road, Maryland**
**PROJECT ENGINEER** Brian was responsible to retrofit an existing wet pond and restore an existing outfall channel to maximize water quality treatment for the impervious area within the contributing drainage areas. Brian designed and developed 30% plans for the retrofit of an existing wet pond to maximize water quality volume and channel protection volume. He designed and developed a Step Pool Storm Conveyance (SPSC) system to restore 372 linear feet of existing, eroded outfall channel to provide stable channel conditions, enhance native habitat, and protect an existing access road and adjacent sanitary sewer line. Brian processed survey data, performed SPSC sizing and design, computed existing and proposed hydrology and hydraulics, including a HEC-RAS 1D model to ensure no adverse impacts downstream, and drafted erosion and sediment control plans and planting plans. He drafted and compiled plan sets for 30%, 60%, and 90% design phases along with their corresponding technical drainage reports.  This project was completed at previous firm.

## EDUCATION

Master of Science, Civil Engineering, 2001, University of Texas at Arlington
Bachelor of Science, Applied Mathematical Sciences, 1992, Texas A&M University

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #94710 (granted 2004)
Local Government Project Procedures Qualification – Texas
TxDOT Pre-Certification Categories – 1.5.1, 3.2.1, 4.2.1, 4.5.1, 5.2.1, 5.5.1, 8.1.1, 9.1.1, 10.1.1, 10.2.1, 11.1.1, 14.3.1, 17.5.1, 18.3.1, 18.4.1

Craig has more than 26 years of experience managing and designing a wide range of transportation and public works capital improvement projects for cities, counties, TxDOT, and other state agencies across Texas. These projects have ranged from schematic design and planning to preparation of full plans, specifications, and estimates (PS&E) packages. He has a broad range of experience with roadway, bridge, drainage, water, sanitary sewer, and site development projects. He has proven design experience with horizontal and vertical roadway geometrics, 3D corridor modeling, pedestrian facilities, structural design of bridges, drainage, traffic control plans, grading, erosion control, and utilities. Craig is also experienced providing constructability reviews, construction management, contract administration, and utility coordination.

# CRAIG M. WILSON, PE

## STRUCTURES PLANNING AND DESIGN LEAD

## RELEVANT PROJECT EXPERIENCE

**TxDOT Dallas District - On/Off System Bridge Replacement, TxDOT, Texas**

**PROJECT MANAGER** Craig is the project manager for this contract to perform scour analysis for the Dallas District. To date, five sites have been assigned to American Structurepoint. Three sites are on interstate highways, one is on a US highway, and one is on an FM highway. Craig has performed and reviewed scour analysis and calculations for four of the five sites. He has developed expertise in following TxDOT's Scour Evaluation Guide and appropriately applying the preferred analysis method given the existing site conditions. Craig will continue leading this effort as work authorization #2 has recently been approved for the design of three bridge replacements in Denton County.

**TxDOT Statewide – On/Off System Bridge Replacement, TxDOT, Texas**

**PROJECT MANAGER AND ROADWAY TASK LEAD** Craig is performing the design tasks while coordinating the layout of each bridge with the structural design team. The contract includes two work authorizations that will replace eight bridges. All sites are on-system and have been designed to meet the minimum conditions listed in TxDOT's Roadway Design Manual. Our team assembled two options for each bridge with varying superstructure types and span arrangements site as a 15% design effort to establish preliminary costs for district staff to evaluate. Six bridges have been completed and are ready for letting and two have completed 30% design.

**Timber Creek Overpass, Lewisville, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig performed structural design for a 1,165 lft, 4-span Tx54 girder structure (48.5 feet wide), as well as a 2-lane access road over a creek with raised sidewalks and other aesthetic features and supports for a waterline to be placed above the deck.

## WILSON (CONT.)

**South Colony Boulevard overpass of SH 161, The Colony, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig created the structural design of the following bridges:

- Overpass of SH 161 with three frontage road connections (structure designed for the fourth connection)
- Diverging diamond interchange configuration
- **Overpass structure:** 533 lft, 8-span Tx54 girder structure; variable width with multiple flared spans; center median protected by traffic rails; traffic signals designed with structure; wedge shaped rectangular columns
- **SB Frontage Road West:** 400 lft, 5-span Tx54 girder structure; 46 feet wide with one-span variable width; four single column inverted T bents, one inverted T straddle bent and one L-shaped cross bent framed into bents of main structure; footings with two shafts
- **SB Frontage Road East:** 240 lft, 3-span Tx54 girder structure; 46 feet wide with one-span variable width; two single column inverted T bents and one L-shaped cross bent framed into bents of main structure; footings with two shafts
- **NB Frontage Road East:** 144 lft, 2-span Tx54 girder structure; 34 feet wide with one-span variable width; one single column inverted T bents and one L-shaped cross bent framed into bents of main structure; footings with two shafts
- Used sliding bearings on top of the backwalls of the L-shaped bents for the frontage roads framing in perpendicular to the main structure

**Bonnie Brae Road, Denton, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig was responsible for the structural design of two bridges:

- 1,165 lft, 10-span Tx54 girder structure (63 feet wide)
- 300 lft, 4-span Tx40 girder structure (63 feet wide)
- 4-lane divided arterial with raised median, sidewalk area with traffic rail to inside and pedestrian rail on outside edge of deck

**FM 663 Widening of US 287 Overpass, Midlothian, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig was responsible for the structural design of a 312 lft, 4-span Tx54 girder structure widened by 57 feet. It had varying cross slopes with superelevation, raised median and sidewalk, traffic rail to the inside of sidewalk, concrete parapet with ornamental rail to the outside, and aesthetic column elements overhanging from the deck edge.

**US 287 (Walnut Creek Drive to Broad Street), Mansfield, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig was responsible for the structural design of:

- Two 350 lft, 4-span Type IV beam structures (38 and 44 feet wide); creek crossings with raised sidewalk
- Three Texas U-turn bridges (281 to 344 lft, 28 feet wide), 4-span Type IV beam; flared beams and deck in first span of each bridge with severely skewed bents

**Cowboys Way, Arlington, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig was responsible for structural design of a 690 lft, 7-span Type IV beam structure (91 feet wide) with severely skewed bents that flared creating variable length spans, square columns, raised sidewalk with traffic rail separating sidewalk, and other aesthetic elements included in the design.

## WILSON (CONT.)

**IH 30 (Cooper Street to Ballpark Way), Arlington, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig was responsible for the structural design of:

- **Center Street:** 374 lft, 5-span Type IV beam structure (200 feet wide); square columns, flared beams, modification of soft foundation soils
- **Collins Street:** 313 lft, 5-span Type IV beam structure (200 feet wide); phased width construction, square columns, flared beams, and wall bents
- **Baird Farm:** 317 lft, 2 single-span steel plate girder structure (138 feet wide); curved deck edges for U-turn lanes and drop ramp to center high-occupancy vehicle (HOV) lane
- **Drop Ramp:** 260 lft, 4-span Type IV beam structure (30 feet to 54 feet tapered width)
- **Braided Ramps:** 1,000 lft, 9-span (28 feet wide) and 875 lft, 9-span (38 feet wide) Type IV beam structures; curved alignment, single column bents, and straddle bents
- **Frontage Road:** 270 lft, 3-span Type IV beam structure (50 feet wide); severely skewed bents with square columns

All bridges included aesthetic treatments and were designed in a seven-month period.

**North Midlothian Parkway, Midlothian, Texas***

**STRUCTURAL ENGINEER** As engineer, Craig was responsible for the structural design of parallel bridges each 1,010 lft long with a 10-span Type IV beam (46 feet wide). The projects cross a creek and Union Pacific railroad (UPRR) which included preparation of all railroad exhibits.

**US 67 Frontage Roads (Overlook Drive to N. 9th Street), Midlothian, Texas***

**STRUCTURAL ENGINEER** Craig was the engineer of record for the design of two highway frontage roads to provide connectivity across UP railroad. The existing frontage roads provided local access to properties on each side of the tracks but were not connected due to severe elevation difference. With the railroad track located at the base of an escarpment, the proposed frontage roads would be overpasses of the railroad providing direct access between N. 9th Street and Overlook Drive. West of the railroad, US 67 sat on embankment built up approximately 40 feet above the existing frontage roads. The embankment slopes on both sides of the US 67 main lanes suffered continual slope failures that impacted the roadway surface and eventually led to closing the shoulders of US 67. Craig and the geotechnical consultant worked together to determine a solution to improve the stability of the slopes and provide the strength capacity to support the frontage roads that would be built into the slopes. Craig, with assistance from the geotech, designed the soil nail wall system to support the excavation of the embankments and the MSE fill walls that would support the frontage road as it was reconstructed as part of the new embankments. As Craig developed the bridge layouts and developed the Exhibit A documents, he coordinated the span arrangements of the railroad overpass with UP to obtain approval. He performed all of the structural design of the two bridges. The city also wanted to include a turnaround street west of the railroad to provide one-way access to their public works facility and a residential subdivision. To stay out of RR ROW, the new alignment had to encroach into the embankment slope under the US 67 main lane bridges. Craig designed the spread footing cut walls, alignment, and profile for this street. He also performed the roadway, surface drainage, and closed system drainage designs for the approach sections of both frontage roads. The project included 7,300 LF of HMAC roadway, 1,800 LF of prestressed concrete girder bridges, 32,500 SF of MSE and spread footing retaining walls, and seven storm drain systems that included roadway surface and rural ditch collection.

**Denver Trail (US 199 to Lakeview Drive), Azle, Texas***
**STRUCTURAL ENGINEER** Craig was project manager and lead engineer and was responsible for designing the extension of a local street to provide shorter access from Hwy 199 to a local arterial street through a flood zone area upstream of Eagle Mountain Lake. The project included 2,400 LF of concrete street, 1,300 LF of prestressed concrete girder bridge, 800 SF of retaining wall, two drainage systems, and utility relocations. The team encountered soft soils, which required significant stabilization efforts using lime injection and preloading to achieve early settlement.

**North 8th Street (Avenue F to US 67 Frontage Road), Midlothian, Texas***
**STRUCTURAL ENGINEER** Craig served as project engineer for the design of a 4-lane roadway totaling 4,200 LF. This roadway provided improved access to the downtown area bypassing an at-grade railroad crossing. Craig designed the roadway geometry and set the profile that accommodated developed and undeveloped areas, a creek crossing, and a railroad overpass. He designed the layout, detailing, and structural elements of a 9-span, 945 LF bridge. Craig coordinated with UPRR for approval of the bridge crossing and two utility crossing permits. He designed improvements and adjustments for water and sanitary sewer lines impacted and developed parcel maps and descriptions for ROW acquisition.

**Tolle Road and Country Lane, Cibolo, Texas***
**LEAD ENGINEER** Craig served as project manager and lead engineer for the design of 8,000 lft of roadway reconstruction and drainage improvements. The project area was within a large watershed and experiences road closures during most rain events. The city wanted to reconstruct the roadway and improve drainage conveyance capacity where possible without acquiring right-of-way. Craig utilized stormwater modeling and reporting to size and design three bridge-class culverts, one typical culvert, and an earthen channel to increase stormwater capacity from less than 2-year to 10-year. Working with the geotechnical consultant, he revised the initially proposed pavement section to provide an alternative with adequate service life and fit within the project budget. He set the roadway profile above the existing grade to create roadside ditches and accommodate the larger culverts while having minimal impact on residential driveways. He also coordinated with a developer's engineer designing a subdivision adjacent to Tolle Road to add a sanitary sewer line to their proposed system that would relieve a lift station.

**Conrads Lane – Goodwin Lane to FM 2001, New Braunfels, Texas***
**ROADWAY ENGINEER** As project manager and roadway engineer for the design of a roadway schematic and preparation of a preliminary engineering report (PER), Craig met with City staff to review their desires for the potential bond program project and developed a 30% design schematic and summarized finding and risks in a PER. He designed the roadway alignment, geometry, and profile minimizing ROW acquisition needs; added a roundabout to replace a 90-degree turn; and added a shared-use path to improve pedestrian connectivity within the residential neighborhood. Conrads Lane crosses two parallel railroad tracks and required close attention to grades and vertical curves to develop a reasonable profile with a reduced design speed. Craig contacted utility owners with infrastructure in the corridor and developed a conflict matrix to be included in the PER. He coordinated efforts with internal teams performing drainage design, traffic analyses, and potential implementation of a railroad quiet zone. Craig also coordinated with external teams performing surveying, environmental studies, and geotechnical investigations. The final PER included recommendations for improvements to roadway and drainage elements, impact to property owners, risk to project completion, utility relocation needs, environmental constraints, and estimated costs with inflation factors for future construction.

*prior to joining American Structurepoint

## EDUCATION

Bachelor of Science, Civil Engineering, 2006, Purdue University

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #139811 (granted 2020)

TxDOT Pre-Certification Categories – 4.2.1, 5.2.1, 5.5.1, 6.1.1, 6.1.2, 6.2.1, 6.2.2, 6.6.1, 10.3.1, 10.5.1

Ryan is a hands-on project manager who not only leads his team, but also works closely beside them. His ability to communicate, combined with his understanding and vision, allows him to manage his team and subconsultants very effectively. If our team is selected, he will commit to performing this work in a timely manner relative to his present workload but, more importantly, relative to your schedule needs. He will lead and manage the delivery of this project, proactively expediting your tasks and driving the decision-making process.

# RYAN CUMMINS, PE

## STRUCTURES PLANNING AND DESIGN

## RELEVANT PROJECT EXPERIENCE

**Crandall-Lanesville Road Extension, Georgetown, Indiana**

**BRIDGE PROJECT MANAGER** The Lanesville Connector Road extension involved 2.5 miles of new terrain, 2-lane roadway connecting I-64 at the Lanesville interchange with SR 64 west of Georgetown. Several alternatives were developed in close coordination with Harrison County officials, FHWA, INDOT, environmental regulatory agencies, and a local Citizen Advisory Committee (CAC). Each alternative alignment was established taking into account transportation utility, private property impacts, and environmental impacts. The new route includes several stream crossings and a new bridge over the Norfolk Southern railroad. Probable project costs and impacts were documented for each alternative alignment to assist in selecting the desired route. Upon its selection and completion of an alignment study, environmental considerations that were encountered included Karst topography, cultural resources (eligible historic properties and archaeological sites), endangered species, wetlands, streams and floodways, analysis of noise impacts, and forest fragmentation. An Environmental Assessment (EA) was prepared for this new terrain roadway, with the FONSI issued by FHWA. As part of the alternative evaluation and public involvement process, American Structurepoint organized and facilitated a project CAC consisting of local residents and community leaders. Several CAC meetings were conducted during the alternative evaluation process, and newsletters were prepared and distributed to local residents to keep residents informed of the project status.

The Lanesville Connector was broken up into two phases for design and construction. The first phase begins north of the I-64 Lanesville interchange and runs approximately 1.5 miles to Old Lanesville Road including a new bridge over the Norfolk Southern railroad. The second phase continues from Old Lanesville Road and runs approximately 0.75 miles to State Road 64. A new bridge crossing over Tributary 27 to Indian Creek is included in the project. SR 64 will be realigned and a new intersection will be formed with the proposed Lanesville Connector. Ryan's responsibilities included

managing the bridge project and plan development including design, environmental document and permitting, right-of-way investigations, and client coordination.

**Ronald Reagan Parkway CR 300 N to SR 136, Avon, Indiana**
**BRIDGE ENGINEER** The Ronald Reagan corridor was developed by Hendricks County as a federally funded LPA project to serve as a primary north/south arterial capable of handling the county's growing traffic demands. This segment of Ronald Reagan Parkway from CR 300 N to I-74 includes new 4-lane roadway, including shoulders, curb and gutter, multi-use paths, and intersection improvements at CR 300 N and CR 400 N. Also included was design of an 81-foot concrete I-beam bridge over US 136, an 83-foot concrete I-beam bridge over CSX Railroad, the replacement of two creek 3-sided culverts over East Fork of White Lick Creek, and the placement of other small structures under the roadway to handle stormwater. American Structurepoint has provided survey, road design, bridge design, environmental, and right-of-way engineering services for this project. The development time was accelerated in anticipation of ARRA funds. Ryan's responsibilities included hydraulic modeling and floodway permitting of the two culverts, sizing of the culverts, alignment of the shifted channel, and compiling quantities and estimates for both culverts.

**State Boulevard, Spy Run to Cass Street, Fort Wayne, Indiana**
**BRIDGE PROJECT MANAGER** This federally funded LPA project included the reconstruction, widening, and realignment of State Boulevard to remove substandard horizontal curves through a residential neighborhood. Also, an additional travel lane in each direction was added along with a center 2-way, left-turn lane. The roadway is heavily traveled, and the City considered the roadway unsafe due to its narrow width, substandard alignment, and heavy congestion. Improvements included two lanes of new pavement in each direction with center left-turn lanes, curb and gutter, new storm sewer to improve drainage, a new bridge over Spy Run ditch, and a new pedestrian bridge for a future trail over State Boulevard. The project required extensive environmental, right-of-way coordination, and public involvement as this project had some historical aspects that were of concern to the local residents. Ryan's responsibilities included managing the overall project and plan development including design, environmental document and permitting, right-of-way investigations, and client coordination.

**Emerson Avenue Widening from Southport Crossing Place to Stop 11 Road, Indianapolis, Indiana**
**BRIDGE PROJECT MANAGER** American Structurepoint provided roadway design and engineering services for widening Emerson Avenue from Southport Crossing Place to Stop 11 Road. The City of Indianapolis widened the road from a 2-lane section to a 5-lane section. American Structurepoint's team was responsible for roadway and bridge design, pavement design, environmental/waterway permitting, topographic survey, and right-of-way engineering. The widening project includes the design of intersection improvements, the bridge over I-65, pavement, traffic signals, drainage structures, signage, and curbs and sidewalks. Ryan was the bridge project manager for this project and was responsible for oversight of the bridge design and plan development.

**Bridge No. 513 Replacement, Jackson Street over White River, Muncie, Indiana**
**BRIDGE ENGINEER** This project consisted of removal of the existing bridge over the White River and construction of a new bridge at the intersection. The new bridge features a multi-use path with two overlooks, railing on both sides of the bridge as well as handrail for the multi-use path, and ornamental lighting. Other features include new traffic signals at the intersection and addition of trail connectors for the Cardinal Greenway. The new bridge was a 3-span continuous composite prestressed concrete bulb-tee structure that was 55'-6" wide by 275-feet long and included 1 lane of traffic in each direction with a 5'-wide sidewalk on the north side of the bridge and a 10'-wide

multi-use path on the south side with two pedestrian overlooks. The multi-use path provides a river crossing for pedestrian and bicycle traffic and acts as a trail connector to the White River Greenway, which is part of the Cardinal Greenways, the longest rail-trail in Indiana. Due to funding availability, this LPA project was completed in just 12 months, more than two years quicker than most projects of this magnitude. Ryan's responsibilities included hydraulic modeling and IDNR permitting reviews, structural review of the abutments, and design of the pedestrian access pathway.

**Spruce Road over Pine Creek Bridge, Walkerton, Indiana**
**BRIDGE ENGINEER** The project replaced a 33-foot, single-span prestressed concrete box beam bridge over Pine Creek due to structural deficiency. The existing north abutment will remain in place and the south abutment will move out to accommodate a longer span and provide a greater flow area for Pine Creek. The new bridge is a 50-foot, single-span prestressed concrete box beam bridge. Ryan's responsibilities included establishing an alignment and profile for the project limits and designing the layout for the new bridge over Pine Creek.

**Green River Road Phase VII, Vanderburgh County, Indiana**
**BRIDGE PROJECT MANAGER** The last phase of the Green River Road corridor improvement project began just north of Boonville-New Harmony Road and ended at the intersection of State Road 57. The project included widening Green River Road to 3 lanes, and a TWLTL in the middle. It included bike lane additions, curb and gutter installation, storm sewer construction, railroad crossing widening and upgrade, and sidewalk construction on both sides. This project's construction cost was $3,600,000.00. Ryan's responsibilities included managing the bridge portion of the project and plan development including design, environmental document and permitting, right-of-way investigations, and client coordination.

**Kansas Road Improvement Project, Vanderburgh County, Indiana**
**BRIDGE PROJECT MANAGER** American Structurepoint provided engineering services and prepared road and bridge design plans for this Kansas Road improvement project from Petersburg Road to Green River Road in Vanderburgh County, Indiana. The total project was approximately 1.53 miles long and consisted of reconstruction of the existing 2-lane section to three 11-foot lanes with a dedicated two-way left-turn lane. The project included installation of curb and gutter, 8-foot sidewalk on one side, and storm sewer. This project was split into two separate design phases. Phase 1 was Kansas Road from Cayes Drive to Green River Road and was approximately 0.88 miles long. Bridge construction was proposed for the bridge over Firlick Creek approximately 750' west of the intersection of Kansas Road and SR 57. Phase 2 was Kansas Road from Petersburg Road to Cayes Drive and is approximately 0.65 miles long. The project included reconstruction of approximately 700' total of Petersburg Road to the north and south for the addition of a southbound left-turn lane. As part of this project, American Structurepoint prepared a traffic signal design for a new traffic signal at the intersection of Green River Road and Kansas Road. Additionally, American Structurepoint provided utility coordination, stakeholder coordination, bidding phase assistance, and construction inspection services. Ryan's responsibilities included managing the overall project and plan development including design, environmental document and permitting, right-of-way investigations, and client coordination.

**CR 300 N over Buck Creek Bridge, Mount Comfort, Indiana**
**BRIDGE ENGINEER** The purpose of the project was to improve traffic flow along the corridor and at major intersections. Anticipated traffic and development within the proposed project corridor along with the need to provide future pedestrian access along CR 300N was sufficient to warrant the improvements to CR 300N. The project upgraded this existing 2-lane rural roadway to two 12-foot lanes with a 14-foot

two-way left-turn lane, an 8-foot sidewalk along the north side of the corridor, and replaced Bridge No. 63. American Structurepoint served as the overall project manager for this project. The existing bridge over Buck Creek (Hancock County Bridge No. 63) was widened to accommodate two 12'-0" travel lanes, a 14'-0" two-way left-turn lane, and 6'-0" sidewalks on the north side of the roadway. Ryan's responsibilities included managing the overall project and plan development including design, environmental document and permitting, right-of-way investigations, and client coordination.

**Waynesville Road Bridge No. 3.78 Replacement, Bellbrook, Ohio**

**ENGINEER OF RECORD** This project replaced the structure over Sugar Creek just north of Ferry Road with a single-span prestressed non-composite box beam structure. The previous structure was a prestressed concrete box beam bridge on stone abutments with a span of 73 feet and a width of 24 feet. Project work included a structure type study to determine the most economical design to meet the needs of the traveling public, bridge hydraulic analysis, and final design for all necessary work, including permits. The project was funded with OPWC and local funds and was designed to ODOT standards. Existing stone from the former abutments was used for channel protection, and the former box beams were used on the channel slopes as well to protect against possible erosion. Ryan was a bridge design engineer and was responsible for checking the proposed substructure design.

## EDUCATION

Master of Science, Applied Geology (Hydrogeology), The University of Texas, 1996

Bachelor of Science, Earth Sciences, St. Mary's University, 1992

## LICENSE AND CERTIFICATIONS

Professional Geoscientist/Geologist-Texas No. 259

TxDOT Pre-Certifications - 2.13.1, 2.5.1

Richard has more than 26 years of diversified experience in geologic and hydrogeologic investigations throughout South Central Texas, the Rio Grande Valley, New Mexico, and Nevada. He is registered as a Professional Geoscientist/Geologist in the states of Texas, Louisiana, and Nebraska and serves as the Regional Operations Manager and Practice Leader for geosciences services at Raba Kistner. He is responsible for implementing/overseeing site exploration and characterization activities in support of contamination assessment and remedial action plan development, development of affected media management plans and strategies, soil and groundwater remediation plans and pilot studies, water resources investigations, groundwater protection studies, geologic mapping and geophysical site characterization, in addition to a wide range of other environmental and geosciences project types.

# RICHARD KLAR, PG

### ENVIRONMENTAL DOCUMENTATION AND CLEARANCE LEAD

## RELEVANT PROJECT EXPERIENCE

**Apple Office Riata Vista, Austin, Texas**

Richard oversaw a geophysical field investigation to evaluate the presence of karst features within areas that would host a large parking garage structure and water quality pond. Direct-current electrical resistivity imaging methods were employed to identify karst features in the shallow subsurface that could pose significant construction-related and facility performance concerns. As a result of survey efforts, anomalies were identified within the shallow subsurface and recommendations made for follow-up exploratory drilling.

**Vista Ridge Pipeline, San Antonio, Texas**

A geophysical survey was performed under Richard's direction to evaluate 3 discrete segments of the proposed Vista Ridge Pipeline easement located in north San Antonio, collectively comprising approximately 7,100 linear feet. The 75-foot easement crosses portions of Critical Habitat Units (CHUs) #12 and #13 for federally-listed karst invertebrate species as designated by the U.S. Fish and Wildlife Service (USFWS) for Bexar County. A direct-current (DC) electrical resistivity imaging survey was performed to evaluate subsurface conditions along the pipeline easement study segments to identify significant karst features or conditions that could pose a concern with regard to planned construction activities and/or provide habitat for federally-listed species. Karst prone areas where identified for the project by modeling high- and low-resistivity anomalies along the pipeline easement.

**Lazy Nine MUD Effluent Storage Pond, Travis County, Texas**

Richard directed a DC electrical resistivity survey at the site of the planned effluent storage pond to evaluate the potential presence of significant karst features in the shallow subsurface (i.e., to depths of approximately 100 feet) that could compromise pond integrity and long-term performance. Electrical resistivity survey results were utilized to select locations for exploratory borings installed as part of

the subsequent geotechnical engineering study. Discrete areas of high resistivity corresponding to larger air-filled cavities were identified within the footprint of the proposed storage pond site within the Glen Rose Formation. These zones were subsequently confirmed by drilling data to coincide with locations of solution cavities.

**Karst Feature Assessment and Closure, San Antonio Water System (SAWS), Cross Mtn. Elevated Storage Tank Project**

As the result of karst feature survey efforts at the 1.83-acre property, a cave was identified within the construction footprint for the elevated storage tank. On the basis of further assessment and detailed mapping efforts, Richard determined the potential for federally-listed karst invertebrate species to be present. On the basis of these findings, Richard directed and oversaw the performance of a detailed presence/absence survey using a biologist permitted with US Fish and Wildlife Service. As survey findings did not reveal the presence of federally-listed species, Richard provided recommendations to SAWS for the plugging and abandonment of the cave in accordance with standard protection protocols established for the Edwards Aquifer.

**GBRA Segment "H" – Western Canyon Treated Water Supply Project, Kendall County, Texas**

Richard led a geophysical survey team to assess subsurface conditions below an approximately 6,000 feet of the proposed pipeline alignment and develop information necessary to provide construction recommendations in support of the planned geotechnical engineering study. The water supply line was proposed within 1,000 feet of the primary entrance for Cascade Caverns. Given the presence of numerous cave openings and surface expressions of karst development along portions of the alignment, the presence of significant karst features in the subsurface could not be ruled out at the study onset. Survey results were subsequently corroborated by exploratory drilling data that confirmed the presence of limestone strata exhibiting varying degrees of competency and karst formation.

**Geologic Mapping and Karst Feature Assessment/Closure, Skanska USA**

Richard conducted detailed karst mapping activities at a total of five discrete cave features discovered during the construction of the Methodist Stone Oak Hospital located at Intersection of Hardy Oak and Sonterra Blvd, San Antonio, Bexar County, Texas. Features consisted of small caves located within a dissolutioned bedding unit of the Edwards Limestone. Richard prepared an assessment report including plugging recommendations that was subsequently approved by TCEQ without comment.

## EDUCATION

Master of Science, Civil Engineering - Transportation Engineering, 2005, Purdue University
Master of Science, Civil Engineering - Construction Materials, 2004, Purdue University
Bachelor of Science, Civil Engineering - Construction Technology & Management, 2002, Nirma University, Ahmedabad, India

## LICENSE AND CERTIFICATIONS

Professional Engineer – Texas #130967 (obtained 2018) + 6 additional states
Professional Traffic Operations Engineer
TxDOT Pre-Certification Categories – 7.1.1, 7.3.1, 8.3.1, 8.6.1

Hardik is a well-rounded expert in the area of traffic/transportation engineering, an outside-the-box thinker for innovative and value engineering solutions with 16 years of professional experience in the industry. He is actively involved with design, development, and management of traffic engineering services for various public and private clients. Hardik has worked on over 400 transportation projects providing his technical expertise ranging from sub-area transportation planning, traffic impact and safety studies, operations analysis, traffic simulation and modeling, traffic signals, signal retiming, signal design, roundabout analysis and design, highway lighting, and roadway design.

# HARDIK R. SHAH, PE, PTOE

### TRAFFIC STUDIES

## RELEVANT PROJECT EXPERIENCE

**Plainfield Scoping and Alignment Study, Plainfield, Indiana**

**TRAFFIC ENGINEER** Plainfield has experienced fast and furious growth since 2000, with significantly more growth expected. Town leaders recognized that proactive planning for road expansion and proper alignment is crucial to aiding successful economic development and community-building efforts, and called on American Structurepoint for help. Our transportation group endeavored to identify valuable transportation projects that will enhance mobility and support Plainfield's community growth for years to come. The process began with gathering data, including involving an array of stakeholders through small group meetings, then moved on to identify/prioritize potential projects and evaluate project impacts through a detailed scoring process. The team evaluated six project alternatives to provide congestion relief in and around the I-70 and Quaker Boulevard interchange on the local roadway network. This 2022 scoping and alignment study will play a critical role in determining how to adequately serve new businesses and ensure residents are not burdened with the long-lasting effects of poor planning. Hardik led a team of traffic engineers to develop analyses.

**State Boulevard, Spy Run to Cass Street, Fort Wayne, Indiana**

**TRAFFIC ENGINEER** This federally funded LPA project included the reconstruction, widening, and realignment of State Boulevard to remove substandard horizontal curves through a residential neighborhood. The roadway is heavily travelled, and the City considered the roadway unsafe due to its narrow width, substandard alignment, and heavy congestion. Improvements included two lanes of new pavement in each direction with center left-turn lanes, curb and gutter, new storm sewer to improve drainage, a new bridge over Spy Run ditch, and a new pedestrian bridge for a future trail over State Boulevard. The project required extensive environmental, right-of-way coordination, and public involvement as the project had some historical aspects that were of concern to the local residents. Hardik led a team of traffic engineers to develop analyses and the eventual lighting plan.

**16 Tech Program Management, Indianapolis, Indiana**

**TRAFFIC ENGINEER** The 16 Tech campus is a transformational project for Indianapolis that consists of 50 acres in the heart of downtown being developed as a multidisciplinary innovation district, designed to attract global life sciences and technology companies, as well as other developments. American Structurepoint is the lead technical adviser involved in the first phase of development of the campus that will include design, construction, relocation, renovation, and over $100 million in infrastructure upgrades as necessary to solicit, facilitate, and support private sector development of the 16 Tech campus. There will be 3.5 million sft of additional building space over the next ten years as the 16 Tech campus grows and expands. Acting as the Owner's representative, American Structurepoint led the selection process for both bridge designer and construction manager for a $14 million iconic bridge project. This included development of the construction manager as constructor selection process, RFP documentation, and grading system; coordination of construction manager submittal evaluations and interviews; and making the final recommendations to the Owner. Our team developed a comprehensive traffic study for the entire development involving multiple intersections and new roadway connections that provide access to the overall development.

Due to the phased nature of the roadway developments based on funding availability, American Structurepoint prepared preliminary design plans for the entire development including a comprehensive traffic study to plan for future growth and trip generation, and preliminary design and planning for all underground utilities that will service future developments. The utility coordination and design included innovative agreements with private utilities to design and construct infrastructure in conjunction with the roadway design and construction, minimizing conflicts and utility relocation timeframes during construction, and ultimately providing roadways that also serve as utility corridors in a compact, urban environment. Hardik served as the lead traffic engineer for the 16 Tech Development project, including conducting traffic impact study for the proposed phased campus development, public involvement and outreach efforts, and design development of infrastructure plans along the new campus.

**Bonita Bay Complete Streets, Bonita Springs, Florida**

**TRAFFIC ENGINEER** American Structurepoint was retained by the Bonita Bay Community Association to review the existing roadways within the community that experience higher than desired speeds and lack multimodal features. American Structurepoint collected traffic volume, speed, and crash data to justify these concerns. Alternatives to improve safety and enhance mobility such as road diets, roundabouts, and on-street cycle tracks were developed and presented to the community in a workshop format to assist with future infrastructure planning. Hardik led a team of traffic engineers who collected traffic volume, speed, and crash data.

**Interstate 69 Transportation Corridor Study, Fishers, Indiana**

**TRAFFIC ENGINEER** American Structurepoint assisted the City of Fishers with investigating the feasibility of creating a potential new interchange access on Interstate 69 at 106th Street. A transportation corridor study was prepared for a study area bounded by 96th Street to the south, 116th Street to the north, Cross Point Boulevard to the west, and Lantern Road to the east. Traffic counting, trip generation, travel demand modeling with VISUM, traffic forecasting, and traffic modeling of various interchange alternatives was performed. Intersection capacity analysis using HCS 2010, Synchro 8.0, and Arcady 8.0 and freeway operations analysis using HCS software to evaluate ramp merge/diverge areas, weaving areas, and mainline segments on Interstate 69 has also been performed. Preliminary schematic layouts were prepared for a single point urban interchange and a double roundabout interchange alternative. Hardik was a traffic engineer who was responsible for aiding in the setup of the VISUM travel demand model for this project.

**University Drive Campus Extension (MAR-CR221-A1), Marion, Ohio**

**TRAFFIC ENGINEER** This project provided a safe and effective new roadway to improve access to The Ohio State University Marion Campus, opportunities for further campus development, and completed a vital north-south link between SR 309, SR 95, and SR 529. This section of University Drive greatly reduced cut-through traffic in the University Heights subdivision. The project included coordination with ODOT District 6, OSU, and Marion County; transportation services (roadway and traffic signal design, utility coordination, and right-of-way acquisition); environmental science services (coordination with all the appropriate regulatory agencies and ODOT, and delivering an approved CE Document); and landscaping services (aesthetic pedestrian lighting, decorative mounding with landscaping, and other aesthetic features).

The main challenge for this project was balancing the wishes and budget for the client (Marion County and ODOT) with the wants and needs of the major land holder (OSU). Due to OSU donating the most of the land for the project, they held a large amount of influence with the design. We coordinated extensively with OSU, including the University Architect, Planning, and Engineering, from the Columbus Campus and the Dean and staff of the Marion campus, to make final decisions. Roadway alignment, right-of-way, storm sewer placement, and landscape design were planned and detailed early in the design of the project so that the transfer of University-held property to the county and state would not hold up construction, and jeopardize the funding of the project. Hardik led a team of traffic engineers to develop analyses.

**SR 37 Mobility Study, Noblesville/Fishers, Indiana**

**TRAFFIC ENGINEER** The purpose of this corridor study was to develop two improvement alternatives that would eliminate congestion in the area, perform a capacity analysis for each of the alternatives, produce a traffic simulation of the preferred alternate, and provide a scoping-level design for the preferred alternate. American Structurepoint was responsible for the traffic analysis, simulation, and a portion of the geometric design. By completing this study, American Structurepoint was able to provide a reliable total budget from which the client could begin the task of pursuing a variety of project funding opportunities. The availability of funding to improve this corridor was likely to occur over a period of several years, so as part of this study, our team developed a priority ranking for each of the intersection improvements. This helped to determine which intersections should be completed first to align with future funding sources as they became available. In a later phase of the project, American Structurepoint developed a master plan of potential enhancements to be integrated into the project's new interchange bridges, walls, railings, lighting, pavement markings, and landscape treatments. The master plan provided our roadway design team with information necessary to understand the context of each roadway segment and will illustrate how aesthetic design principles can, and should, be applied. Development of the master plan relied on a combination of stakeholder meetings and public outreach to gain consensus. Hardik led a team of traffic engineers to develop the traffic analysis and simulation.

**RM 150 at RM 12 Realignment and Roundabout, Dripping Springs, Texas**

**TRAFFIC QA/QC** American Structurepoint provided engineering services and planning to study relocating an existing T-intersection at RM 150 and RM 12 in Hays County, Texas. Intersection improvements were needed for the future extension of RM 12 West to a planned southwest bypass corridor around the City of Dripping Springs. American Structurepoint also performed a traffic study to determine if a roundabout would be a better option than a signalized intersection. The traffic study determined that a roundabout is a safer option for the intersection. American Structurepoint is now providing engineering services for designing the roundabout at the existing intersection of RM 150 and RM

## SHAH (CONT.)

12. The project includes designing paving, grading, drainage, signing and striping, along with water quality treatment. Illumination design was completed in compliance with Dark Sky community guidelines. Hardik verified that traffic documents are in compliance with American Structurepoint and County standards.

**Hays County, Texas, General Engineering Consultant Support, Hays County, Texas**
**TRAFFIC QA/QC** American Structurepoint, as a subconsultant to HNTB, is providing general engineering consultant (GEC) support conducting technical reviews of Hays County roadway bond projects. Roadway project schematics, design construction plans, specifications, and estimates are all reviewed by American Structurepoint to ensure they adhere to applicable criteria and present cost-effective solutions to Hays County's transportation needs. These technical reviews encompass all transportation disciplines: roadway, drainage, traffic, and structures, as well as constructability reviews and value engineering analysis. Hardik verifies that traffic documents are in compliance with American Structurepoint and County standards.

## EDUCATION

Bachelor of Science, Agricultural Engineering, Texas A&M University, 1999

## LICENSE AND CERTIFICATIONS

Professional Engineer - Texas No. 111414

Yvonne currently serves as Vice President of Raba Kistner's Austin office. In this capacity, she is responsible for the management, administration, coordination, and reporting of a variety of geotechnical engineering projects throughout Texas, with a primary focus in north and central Texas regions. As a geotechnical engineer, her responsibilities include subsurface investigations and engineering analysis and consulting of the design and construction of foundations, pavements and roadways. She has consulted on various foundation and pavement design recommendations for residential, commercial institutional, schools, industrial projects, as well as infrastructure.

# YVONNE GARCIA THOMAS, PE

## GEOTECHNICAL ENGINEER

## RELEVANT PROJECT EXPERIENCE

**CR 112 - Bridge at McNutt Creek Tributary No. 1, Round Rock, Williamson County, Texas**

**PROJECT PRINCIPAL IN CHARGE** Yvonne oversaw managing and leading geotechnical engineering efforts for the design of two new parallel bridge structures and associated roadway improvements to County Road 112 at McNutt Creek Tributary No. 1 in Round Rock, Williamson County, Texas. The project consisted of 180-ft long bridge crossings, each carrying either westbound or eastbound traffic. Drilled straight-shaft pier recommendations were provided for axial and lateral resistance of the bridge abutment and bent loads. Yvonne ensured that the pavement analysis was performed in accordance with the City of Round Rock Design and Construction Standards. The 15-in. thick pavement section included an 8 in. Portland Cement Concrete section, a 1 in. HMA bond breaker and 6 in. cement treated base section. Mrs. Thomas reviewed the pavement design parameters and participated design team meetings for this project.

**Interstate Highway 35, Between FM 1431 and SH 45 North, Williamson County, Texas**

**PROJECT PRINCIPAL** Yvonne oversaw managing and leading geotechnical efforts for a data report for improvements to Interstate Highway 35 (I-35) from FM 1431 to SH 45 North in Williamson County, Texas (TxDOT CSJ No.: 0015-09-178). Yvonne ensured the geotechnical data report was prepared in accordance with the 2020 TxDOT Geotechnical Manual. The project included 36 borings drilled on the northbound and southbound main lanes and frontage lanes of I-35. Yvonne identified eight geologic formations along the alignment. To determine the in-situ moduli of the pavement structure along the project limits, she coordinated the field efforts of Falling Weight Deflectometer (FWD) and Ground Penetrating Radar (GPR) testing. FWD data was collected on the outside lanes of the main lanes and on the frontage roads in both directions. Yvonne participated in design team meetings as required for the project and co-authored the Geotech report.

**I-35 and SH 45 Frontage Road and Deceleration Lanes, Round Rock, Texas**

**PROJECT PRINCIPAL** Yvonne oversaw managing and leading geotechnical engineering efforts for deceleration lanes and retaining walls southeast of the intersection of I-35 and SH 45 in Round Rock, Texas. The roadway access improvements consisted of the addition of a deceleration lane to the shopping center. Yvonne conducted engineering review and design analyses of foundation recommendations for retaining wall structures, and the ultimate coefficients of sliding friction and adhesion values for calculation of the factor of safety against lateral loads. Additionally, she ensured the retaining wall recommendations and construction guidelines were provided in accordance with TxDOT specifications for concrete curb walls. Recommendations to match the existing asphalt and base thicknesses were provided. The pavement section was evaluated for the anticipated traffic. Yvonne participated in design team meetings as required for the project.

**FM 1660 and Mager Lane Widening, Hutto, Texas**

**PROJECT PRINCIPAL** Yvonne oversaw managing and leading geotechnical engineering efforts for turn lane additions and reconfiguration of the existing FM 1660 from a two-lane undivided road to a three to four-lane roadway, as well as minor lane modifications to Mager Lane. The roadway is understood to be classified as a minor arterial. Yvonne directed the use of DCP testing to estimate in-situ subgrade modulus parameters. She reviewed the flexible deign pavement recommendations using FPS-21 for native and select fill subgrade conditions, geogrid reinforcement, and lime treatment of the subgrade. After discussions with the civil, it was determined that full depth asphalt sections would like to be considered to facilitate quick construction of intersections. Yvonne ensured that the pavement recommendations were provided in general accordance with pavements from TxDOT Austin District's Pavement Section Guide. Yvonne participated in design team meetings and co-authored the geotech report.

**CR 279/Bagdad Road Improvements, Williamson County, Texas**

**PROJECT PRINCIPAL** Yvonne oversaw the conducting a geotechnical engineering study for realignment and widening of CR 279/Bagdad Road, a suburban arterial roadway, from its intersection with Loop 332 (Liberty Hill) to CR 281 in Williamson County, Texas. Yvonne managed the project and led the efforts for the analysis of three bridges crossings, which included South Fork San Gabriel River, Silver Creek, and Jinks Branch. Global stability analyses were performed for MSE walls at South Fork San Gabriel River and Jinks Branch, where fill on the order of up to 28 ft (South Fork San Gabriel River) and 15 ft (Jinks Branch) were anticipated. Sliding, overturning, and bearing capacity safety factors were also evaluated. Both resilient modulus and CBR testing were performed to characterize the compacted subgrade modulus characteristics of the soils. Drilled straight-shaft pier recommendations were provided for axial and lateral resistance of the bridge abutment and bent loads, with maximum column loads of about 260 tons, 115 tons, and 195 tons for San Gabriel Bridge, Silver Creek Bridge, and Jinks Branch Bridge, respectively. Under the supervision of Yvonne, special discussions of inundation of MSE walls in flood areas were also presented. Flexible pavement sections were provided for typical hot mix asphalt concrete over flexible base sections, full depth asphalt, and hot mix asphalt concrete over cement stabilized base compositions. An alternative was also provided for lime treatment of subgrade soils in areas where more expansive fat clay soils were anticipated. Yvonne participated in design team meetings as required for the project and lead efforts for the design of several iterations of the pavement section to accommodate the reviewing engineer's preferences for pavement design. Yvonne co-authored, signed, and sealed the fin al geotech report.

**Sam Bass Road (Corridor H), FM 1431 to Wyoming Springs Drive, Williamson County, Texas**
**PROJECT PRINCIPAL** Yvonne oversaw the managing and leading geotechnical engineering efforts for reconstruction of Sam Bass Road, a road with a prematurely failing pavement section, into a six-lane roadway. The segment of Sam Bass Road analyzed was from FM 1431 to Wyoming Springs Drive in Williamson County, Texas. A single-span bridge with a total length of about 35 ft was also included in the scope of the project. Yvonne reviewed the reviewed the design of drilled straight-shaft pier recommendations, as well as axial and lateral resistance recommendations of the bridge abutment loads. Flexible and rigid pavement sections were provided for clay, clayey sand/gravel, embankment fill, and limestone subgrade conditions. Yvonne supervised and reviewed the design of full depth asphalt and concrete pavement sections in accordance with FPS-21 and TxCRCP-ME. Yvonne participated in design team meetings. Furthermore, she coauthored, signed, and sealed the final geotech report.

**Greenlawn Boulevard Improvements from I-35 to SH 45, Round Rock, Williamson County, Texas**
**PROJECT PRINCIPAL** Yvonne oversaw the managing and leading geotechnical engineering efforts for the widening of Greenlawn Boulevard, an urban arterial roadway, from I-35 to SH 45 in Round Rock, Texas. Yvonne reviewed and analyses drilled straight shaft piers for the proposed bridge structure. Yvonne supervised efforts to delineate the abrupt change in geologic formation along the alignment. She reviewed the design of various flexible pavement sections, incorporating CBR testing and FWD in-situ modulus testing data and a requirement by the city to reduce design PVR values to 2 in. or less. Yvonne provided a uniform pavement section that would bridge across two very different geologic formations for ease of constructability. She also provided a full depth reclamation (FDR) option. Yvonne participated in design team meetings as required for the project and signed and sealed the final geotech report.

**Wyoming Springs Drive (Segment I) From Creek Bend Blvd to Sam Bass Rd, Williamson County, Texas**
**PROJECT PRINCIPAL** Yvonne oversaw the managing and leading geotechnical engineering efforts for new construction of Wyoming Springs Drive, a 4-lane divided roadway from Creek Bend Boulevard to Sam Bass Road in Williamson County, Texas. Two bridges were also evaluated as part of this project, a 200-ft bridge/culvert over Dry Fork Creek and a 500-ft bridge to span over both Brushy Creek and Hairy Man Road. Flexible and rigid pavement sections were provided for varying subgrade conditions ranging from clay to embankment fil l to limestone. FPS-21 and Streetpave were used for analysis of flexible and pavement sections, respectively. Yvonne supervised and reviewed the foundation design of the bridges, as well as the design for the flexible pavements. Global stability analyses were performed for 13 MSE walls at this site near water crossings, where maximum wall heights on the order of 12 to 22 ft were anticipated. Sliding, overturning, and bearing capacity safety factors were also evaluated. Special discussions of inundation of MSE walls in flood areas were also presented. Additionally, Yvonne suggested and supervised the efforts to conduct a geophysical study to evaluate subsurface geologic areas within specific areas of concern for karst features. A desktop study was performed to review published geological information, and direct current electrical resistivity imaging (DC-ERI) surveys were performed in the field to investigate the presence of karst/dissolved limestone features. Yvonne participated in design team meetings as required for the project and signed and sealed the final geotech report.

**Carpenter Drive from FM 3349 to County Road 404, Williamson County, Texas**
**PROJECT PRINCIPAL** Yvonne oversaw the managing and leading geotechnical efforts for a data report for new construction of Carpenter Drive from FM 3349 to CR 404 in Williamson County, Texas. Yvonne

supervised the assignment of laboratory testing typical for roadway design, which included soil-lime pH relationship, one-dimensional swell, sulfate concentration, triaxial compression of disturbed soils, resilient modulus, and CBR testing. Liberty Hill Bypass, Williamson County, Texas Project Yvonne is the Project Principal in charge of charge of managing and leading geotechnical engineering efforts for new construction of a two-lane collector roadway to connect RM 1869 to CR 279/Bagdad Road in Williamson County, Texas. Construction challenges included construction of a bridge over an existing pond. A second, smaller bridge was also planned. Yvonne performed engineering review of the drilled straight-shaft pier recommendations were provided for axial and lateral resistance of the bridge abutment and bent loads, with maximum column loads of about 320 tons and 145 tons for the multi-span west bridge and the shorter, east bridge, respectively. She also provided flexible pavement sections for the common subgrade condition, with an exception provided for deep, expansive clay deposit areas, which were encountered near the pond. FPS-21 was used for analysis of flexible pavement sections. Yvonne participated in design team meetings as required for the project, signed, and sealed the final geotech report.

**Farm to Market 1660 Intersection Improvements at US 79, Williamson County, Hutto, Texas**
**PROJECT PRINCIPAL** Yvonne oversaw the managing the geotechnical engineering study for widening of the following three intersections to facilitate turn lanes: FM 1660 S and US 79, FM 1660 N and US 79, and FM 1660 and Limmer Loop. Yvonne supervised the design of pavement sections over highly expansive clay soils and ensured pavement section were designed to have a PVR of 2 in. or less. Yvonne participated in design team meetings and learned that a more economical approach was preferred and therefore the design team elected to match pavement sections to the existing pavement sections. The matched sections were evaluated to estimate the design life and reliability of the roadways given the estimated future traffic. Yvonne led the field visual assessment efforts of existing roadways conditions was also performed in the approaches to the three intersections, since resurfacing of the roads was also considered as part of the scope of the project. Additionally, Yvonne reviewed the design of drilled straight-shaft foundations for support of proposed light pole structures. Yvonne was readily available to participate in design team meetings required for the project and sealed the final geotech report.

## EDUCATION

Bachelor of Science, Geographic Information Science, University of Texas A&M

## LICENSE AND CERTIFICATIONS

Registered Professional Land Surveyor (RPLS), Texas No. 6660

Scott has more than 14 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, including drafting scope and responses to proposals, RFPs, and RFQs; budgeting; project-level assignments; workload leveling; staff hiring; and technology recommendations.

# SCOTT BRASHEAR, RPLS

SURVEYOR

## RELEVANT PROJECT EXPERIENCE

**Design and Project Control Survey, Ronald Reagan Boulevard, Williamson County, Texas**

PROJECT MANAGER SAM was contracted for a 5 mile roadway design survey. Locate existing topographic features within existing ROW lines, collect design features for utility, bridge structures, drainage structures, cross sections, set primary and secondary control monuments. Utilized 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 included 2D and 3D base mapping deliverables.

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** September 2019 – December 2019 (Supplemental Task Order pending)

**Project Follow Up:** This was a successful project that was completed on time and on budget. Project keys were the mobilization of multiple field crews to the project in order to meet an aggressive project schedule.

**Design and Right of Way Mapping Survey, CR 401/404, Williamson County, Texas**

PROJECT MANAGER SAM was contracted for a roadway improvement project involving CR 401, CR 404, and FM 973. 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.

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** April 2021 – Ongoing

**Project Progress:** This project has gone very smoothly to date with the design portion being completed and the ROW mapping nearing completion. The client has been pleased with the quality and timeliness of the work as this project has had a very aggressive project deadline.

## BRASHEAR (CONT.)

**Design, Project Control and Right of Way Mapping Survey, Corridor A1, Williamson County, Texas**

**PROJECT MANAGER** SAM was contracted for a 5.9 mile roadway design survey. Services included setting secondary control, aerial LiDAR flight, locating planimetrics features, and creating ROW parcel acquisition documents for up to 75 properties. Surveying included 2D and 3D base mapping deliverables.

**Relevance to this RFQ:** Design Survey, Project control, ROW acquisition exhibits, and DTM base mapping.

**Project Duration:** December 2019 – December 2020

**Project Follow Up:** The initial portion of this project which included the design survey efforts was very fast paced due to the future roadway design being dependent upon this data. To meet this project timeline, SAM mobilized multiple field crews to get the aerial control completed quickly. SAM delivered preliminary data to assist with the preliminary design efforts and delivered the final data in a timely manner. Overall, the client was pleased with our efforts and the project was completed on time and under budget.

**Design and Project Control Survey, RM 2243, Williamson County, Texas**

**PROJECT MANAGER** SAM was contracted for a 10 mile roadway design survey. Set primary project control and created a static control network for future construction. Utilized aerial LiDAR and collected digital aerial imagery. Surveying included 2D and 3D base mapping deliverables.

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** January 2020 – March 2020

**Project Follow Up:** Our portion of this project was the first step so getting it completed on time was critical to the overall project schedule. This project was completed on time and on budget which allowed the engineer and other survey teams to continue on with their coordination efforts.

**Design and Project Control Survey, FM 3237 Hays County, Texas**

**PROJECT MANAGER** SAM was contracted for a 3.6 mile roadway design survey. Locate existing topographic features within existing ROW lines, collect design features for utility, bridge structures, drainage structures, cross sections, set primary and secondary control monuments. Utilized terrestrial LiDAR technology to collect features within the existing traveled lanes of FM 3237. Surveying included 2D and 3D base mapping deliverables.

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** (March 2018 – Present)

**Project Progress:** This project has gone very smoothly and the initial portion was completed under budget and ahead of schedule. There have been two supplemental task order's that are still ongoing but the client has been very pleased with the quality and timeliness of the work.

**Design, Project Control and Right of Way Delineation Survey, Live Oak and South San Gabriel Ranches Subdivisions, Williamson County, Texas**

**PROJECT MANAGER** SAM was contracted for a 5.2 mile roadway design survey. Locate existing topographic features within existing ROW lines, collect design features for utility, drainage structures, cross sections, set primary and secondary control monuments. Surveying included 2D and 3D base mapping deliverables.

## BRASHEAR (CONT.)

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** March 2019 – May 2019

**Project Follow Up:** This project was a success and was completed by two independent teams under one project manager. The client was very pleased with the final product.

**Design, Project Control, and Right of Way Mapping Survey, Sam Bass Road, Williamson County, Texas**

**PROJECT MANAGER** SAM was contracted for a 2.5 mile roadway widening project. Services included setting secondary control, aerial LiDAR, supplemental ground survey, locating existing ROW, and creating parcel plats for approximately 40 ROW acquisitions. Surveying included 2D and 3D base mapping deliverables.

**Relevance to this RFQ:** Design Survey, Project control, ROW acquisition exhibits, and DTM base mapping.

**Project Duration:** April 2017 – Present

**Project Progress:** The ROW mapping portion of this project is still ongoing but the client has stated that they have been very pleased with the survey efforts.

**Design Survey, Right of Way Mapping, Parcel Plats, FM 192, Hudspeth County, Texas/ TXDOT El Paso District**

**TASK MANAGER** SAM was contracted for a 32 mile roadway design survey. Locate existing topographic features within existing ROW lines, collect deck, column, chords and abutments on 4 highway bridge structures, drainage structures, cross sections, set primary and secondary control monuments and right of way mapping. Surveying included right of way plat mapping and GIS deliverables.

**Relevance to this RFQ:** Design Survey, Project control, ROW acquisition exhibits, and DTM base mapping.

**Project Duration:** May 2018 – May 2020

**Project Outcome:** This was a large scale project that involved multiple disciplines. SAM dispatched multiple field crews and utilized two teams in the office to handle the ROW and design survey efforts. The end result was a high quality seamless deliverable which included ground survey, aerial mapping, and ROW mapping.

**Design and Project Control Survey, Kohler's Crossing, Hays County, Texas**

**PROJECT MANAGER** SAM was contracted for an approximate 0.8 mile roadway design survey. Services included establishing project control, UAS LiDAR & mapping, establishing the existing right of way, and supplemental ground survey locating features such as drainage structures, utilities, and bridge substructures. Surveying included 2D and 3D base mapping deliverables.

**Relevance to this RFQ:** Design Survey, ROW Survey, Project control and DTM base mapping.

**Project Duration:** November 2019 – October 2020 (Will have future supplemental Task Order)

**Project Outcome:** This project has been a success and every portion to date has been completed on time and on budget. The client has been very pleased with the efforts and deliverables on this project.

## BRASHEAR (CONT.)

**Design Survey, Right of Way Mapping, Parcel Plats, SH 71/US 290 - Oakhill, Travis County, Texas/TXDOT Austin District**

**TASK MANAGER** SAM was contracted for a 5.1 mile roadway design survey. Locate existing topographic features within existing ROW lines, collect bridge deck and abutments, drainage structures, cross sections, set secondary control monuments and right of way mapping, parcel platting for multiple boundary, easement and parcel plat surveys. Surveying included abstracting, parcel plat, descriptions and GIS deliverables.

**Relevance to this RFQ:** Design Survey, Project control, ROW acquisition exhibits, and DTM base mapping.

**Project Duration:** July 2018 – April 2020

**Project challenges:** Merging multiple data sets including Aerial Lidar and supplemental ground survey, high traffic volume, hilly terrain with dense vegetation, and difficulty obtaining right of entry.

**Solutions:** SAM conducted an on the ground walk through after receiving the multiple data sets as a QA/QC check. In order to combat the traffic density and the difficult terrain, we flew the project early on a weekend morning when the traffic was at its minimum and utilized a new high density LiDAR sensor integrated with an Aerial Camera which allowed us to collect highly accurate data through the vegetation as well as collect aerial imagery all at once. To help obtain right of entry, we worked hand in hand with TxDOT utilizing a variety of methods to contact landowners including certified letters, Docusign email after a public hearing, and even knocking on doors to ask for right of entry. Lessons learned on this project were to start the right of entry process immediately to help expedite the project schedule.

**Design Survey, Capital Express, Travis County, Texas/TXDOT Austin District**

**TASK MANAGER** SAM was contracted for a 32 mile design survey including LiDar, obscured area topographic surveys within existing ROW and adjacent corridors, bridge scanning, aerial Lidar, mobile Lidar mapping, aerial mapping control surveys.

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** December 2018 – September 2019

**Project Outcome:** The end result of this project was a very complex and high quality seamless deliverable that both TxDOT and other engineers were very pleased with. The deliverable included aerial, mobile, and ground survey data.

**Design Survey, US 62/180 (Montana Ave), El Paso County, Texas / TXDOT El Paso District (Lucio Santos)**

**TASK LEAD** SAM was contracted for a 54 mile roadway design survey. Locate existing topographic features within existing ROW lines, collected aerial imagery and LiDAR using UAS (drones), drainage structures, utilities, verified primary control, set secondary control monuments. Surveying included design and control surveying and mapping deliverables.

**Relevance to this RFQ:** Design Survey, Project control and DTM base mapping.

**Project Duration:** October 2018 – May 2019

**Project Outcome:** This was a successful project that was completed on time and on budget. The client was very pleased with the end product which was one of the first large scale transportation projects which we utilized UAS.

## EDUCATION

Bachelor of Arts, Political Science, 2000,
Texas State University

Will is an accomplished executive with over 15 years of public service in transportation, planning, water resources, school safety, budgeting, and public safety. He also has nearly two decades of experience as a small-business owner, providing him perspective on the impacts that transportation system designs have on economic opportunity.

Will has led public involvement for one of the fastest growing regions of the state. With CAMPO, he led the PI for their first bike and pedestrian plan and PI for various plans, projects, and initiatives. With Hays County, he created the highly regarded PI process for the FM 150 corridor study, led the PI for the transportation plan and various transportation bonds. He has also been involved with PI on every type of transportation project from greenfield construction to interstate improvement projects.

Will's contributions have been recognized through a number of awards he has received over the years, such as Texas Department of Transportation Road Hand award, the Jack Grisenbeck Leadership in Regionalism award, and the Aquifer Advocate award.

# WILLIAM P. CONLEY

## GOVERNMENT LIAISON

## RELEVANT PROJECT EXPERIENCE

**Anderson Mill Road Corridor Studies and Schematics, Williamson County, Texas**

**GOVERNMENT LIAISON** Williamson County, Texas, called on American Structurepoint to perform a corridor study for an extension of Anderson Mill Road from Parmer Lane to Grand Avenue Parkway. The project will increase safety, connectivity, mobility, and emergency services response and make the western portion of the County significantly more accessible and attractive for new development. American Structurepoint is working closely with the County to develop a preferred alignment crossing an existing quarry, 3 Cap Metro tracks, and the Union Pacific Railroad. In addition, the project is within the Edwards Aquifer Recharge zone and crosses the FEMA studies Rattan Creek. Using the conceptual route set by the County, we established a wide study area to evaluate all environmental constraints and refine the alignment. The project is located primarily in Karst Zone 1, which is known to have areas that contain endangered cave fauna. Evaluation criteria was set up in a decision matrix to score and prioritize each alternative based on impacts. Additionally, we are working with the County's General Engineering Consultant and Public Information firm to support meetings with affected property owners and stakeholders, and consideration will be given to incorporating their comments into design. Schematics are being developed to further detail the preferred alternative. Will uses his experience as a former county commissioner to facilitate communication between the design firm and the project owner.

**Corridor E4 Study, Williamson County, Texas**

**GOVERNMENT LIAISON** American Structurepoint is providing engineering services and planning to develop Corridor E4 from CR 330 to SH 29, in Williamson County, Texas. This project is a southern extension of the E5 corridor that American Structurepoint is also developing for Williamson County. Our engineers have developed preliminary alignment alternatives for the E4 Corridor, conducted an alternatives analysis to identify the preferred alignment, revised the preferred alignment to address stakeholder input and environmental constraints, and prepared hydrologic and hydraulic

models. American Structurepoint is preparing a schematic that includes direct connectors and the western half of an interchange at SH 195. Will is facilitating communication between the County and other agencies.

**SH 142 Widening Caldwell County, Caldwell County, Texas**
GOVERNMENT LIAISON American Structurepoint is providing preliminary engineering and schematic design services to widen SH 142 from SH 80 to SH 130 in Caldwell County to increase capacity and facilitate mobility. The new roadway will be 2 lanes in each direction with a center turn lane and outside shoulders. The project is divided into three segments. American Structurepoint is providing schematic design for Segment 1 of the project which covers 1.8 miles and will provide QA/QC for Segment 3 covering 3.7 miles. Additionally, American Structurepoint is providing environmental services for all three project segments covering 7.4 miles. Construction cost for the entire project is estimated at $41 million. Will is facilitating communication between the County and other agencies.

**Bebee Road Improvements, Kyle, Texas**
GOVERNMENT LIAISON Drivers in the City of Kyle experience a lack of safe passing zones, inadequate sight distances at reverse curves near I35, and long queues resulting in high rates of rear-end collisions at intersections on Bebee Road, a 2-lane rural minor arterial road with a 40-mph speed limit. The City plans to address these challenges using a 2022 Transportation Bond Project. American Structurepoint designed the Preliminary Engineering Report (PER) in preparation for the bond issue, conducting a preliminary analysis of project challenges and opportunities and creating a preliminary schedule for project development. The bond was successfully presented to voters in November 2022, and following the election win, we are preparing final design plans, specifications, contract documents, cost estimates, and permit support to upgrade this 2.8-mile Bebee Road corridor. Final design plans will widen the existing Bebee Road to a 5-lane road with a two-way left turn lanes and sidewalks on both sides. All four intersections on Bebee Road between the I-35 and Goforth Rd/CR 157 limits will be upgraded to roundabout intersections, and the sharp curves near I-35 will be realigned to provide adequate sight distance. The corridor will be accented with landscape and hardscape beautification elements. After completion of design services, American Structurepoint will remain involved with bid phase services, construction administration, and project management services. Construction is anticipated to be $41 million and will begin in May 2025. Will uses his experience as a former county commissioner to facilitate communication between the design firm and the project owner.

**On-Call Traffic Engineering Services, Caldwell County, Texas**
GOVERNMENT LIAISON American Structurepoint serves as the on-call traffic engineer assisting the County with ensuring compliance with their roadway and development standards. The American Structurepoint team reviews and approves traffic study MOUs and traffic studies in coordination with local municipalities and TxDOT. In addition, American Structurepoint has been tasked with analyzing, reviewing, and studying access, operational, and safety concerns as brought forward by the citizens and commissioners of Caldwell County. Will uses his experience as a former county commissioner to facilitate communication between the design firm and the project owner.

**Capital Area Metropolitan Planning Organization (CAMPO) Board, Texas***
BOARD MEMBER Partnerships were forged with government and transportation related organizations in the state of Texas. Relationships between the Central Texas region, the local TxDOT district, TxDOT administration, and state leadership were strengthened. CAMPO worked with the Central Texas Regional Mobility Authority (CTRMA) on multiple, strategic projects – including the North Mopac managed lanes project that added one variably priced toll express lane in both directions.

## CONLEY (CONT.)

Relationships were formed with other planning organizations, including the Alamo Area Metropolitan Planning Organization (AAMPO). CAMPO worked with the state's transportation leadership to enhance mobility in the region. Some of the projects that were completed or started during Will's tenure on the board include:

- CAMPO's first regional bicycle/pedestrian plan was created
- A new and more inclusive public involvement plan was adopted
- The first regional incident management plan was established
- Kicked off the Capital-Alamo study on transportation options between Austin and San Antonio
- Began the Mokan study to reach a consensus on potential options for this vital corridor
- Started regional corridor studies
- Completed the CAMPO 2040 plan that includes all regionally significant road and transit projects in the Central Texas counties of Bastrop, Burnet, Caldwell, Hays, Williamson, and Travis that are expected to be implemented by 2040.
- Successfully led the largest project call ever for the six-county region of the MPO.

Will was a board member for nine years and served as chairman for six of those years.

**FM 1626 Highway Improvements, Hays County, Texas***

**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** This $75 million highway improvements project was part of the 13-year formal partnership Will arranged between Hays County and TxDOT. This partnership resulted in more than $800 million worth of corridor preservation and state highway improvements throughout Hays County. On this FM 1626 project, Will developed and negotiated the funding plan in collaboration with the Austin District and TxDOT administration. This project was one of the first pass-through financing projects in the state. Will developed and negotiated the funding plan.

**Highway 290 Highway Improvements, Hays County, Texas***

**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** This $12 million highway improvement project was part of the 13-year formal partnership between Hays County and TxDOT. In total, the partnership spurred $800 million worth of corridor preservation and state highway improvements throughout Hays County. On this Highway 290 project, Will developed and negotiated the funding plan in close coordination with the Austin District and TxDOT administration. This project was one of the first pass-through financing projects in the state. Will developed and negotiated the funding plan.

**FM 2325 Highway Improvements, Hays County, Texas***

**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** This $8.5 million FM 2325 Highway Improvements project was part of the 13-year formal partnership Will spearheaded between Hays County and TxDOT. The partnership led to over $800 million worth of corridor preservation and state highway improvements throughout Hays County. On this FM 2325 project, Will directed the public involvement process for Hays County and TxDOT. This process included a host of challenging school zones and flood-prone areas and environmentally sensitive areas to contend with. Hundreds of stakeholders were involved, including two municipalities, a school district, emergency services and public safety personnel, floodplain professionals, environmental organizations, TxDOT, and many business and landowners.

## CONLEY (CONT.)

**RR 12 Corridor Preservation and Highway Improvements, Hays County, Texas***
**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** Will led a 13-year formal partnership with TxDOT to spur $800 million of corridor preservation and state highway improvements in Hays County, including the RR 12 Corridor project. Will led the stakeholder process and context-sensitive design exercises for the $35-million RR 12 Corridor project. This required the development and implementation of a two-year public involvement process, which became a model for many jurisdictions in central Texas facing similar situations with growing transportation demands in scenic, environmentally sensitive, rural, and active areas. The initial project TxDOT proposed was highly unpopular among stakeholders in the local area. However, by the end of the extensive public involvement process, the project achieved an approval rating of over 80%. Will also negotiated many different types of advance funding agreements with the state to raise the necessary funding to fulfill the state and local goals developed through the public involvement process.

**Winters Mill Parkway Greenfield Construction, Hays County, Texas***
**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** Will coordinated with the Austin district on two different state intersection improvements where Winters Mill Parkway intersected with the state system. Led process with US Fish and Wildlife to mitigate for endangered species that were present and developed a grade-separated hike and bike trail, along with 4-mile, 300 feet of corridor preservation.

**Overpasses and Highway Improvements to I-35, Hays County, Texas***
**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** Will led the 13-year formal partnership with TxDOT that led to over $800 million worth of corridor preservation and state highway improvements in Hays County, including this project.

**FM 150 Transportation Plan, Hays County, Texas***
**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** Will created and led efforts on the state/county FM 150 corridor project. This included developing corridor preservation plans that protected a 15-mile, 300-foot corridor along FM 150. This took an extensive PI process that became a model for many jurisdictions in central Texas that had similar situations of growing transportation demands in scenic, environmentally sensitive, rural, and active areas of our state.

**FM 110 Highway Corridor Preservation and Highway Development, Hays County, Texas***
**COUNTY COMMISSIONER AND REGIONAL TRANSPORTATION COUNCIL REPRESENTATIVE** Will headed the development of the funding agreements with TxDOT administration and CAMPO. He led plans with private landowners and businesses, creating the highest and best use for potential economic development opportunities, in association with this highway project, as the chairman of the Greater San Marcos Partnership organization. The first segment of this project ended up playing a significant role in creating thousands of new jobs and increased the tax base in Hays County. The lead development was an Amazon distribution center that brought over 3,000 jobs to Hays County.

*prior to joining American Structurepoint

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