

Submitted To:
Louisiana Department of
Transportation and Development



Qualifications Statement

IDIQ Contracts for Bridge Preservation Services, Statewide

Contract Nos. 4400035420, 4400035421 AND 4400035422



Submitted By:



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June 30, 2026

Louisiana Department of Transportation and Development
Attn.: Project Evaluation Team (PET)
Consultant Contract Services
1201 Capitol Access Road, Room 405-E
Baton Rouge, LA 70802-4438

Re: Professional Engineering and Related Services
IDIQ Contracts for Bridge Preservation Services, Statewide
Contract Nos.: 4400035420, 4400035421 and 4400035422

Dear Project Evaluation Team Members,

TRC Engineers, Inc. (TRC), in association with several respected and highly qualified consultant partners, is pleased to submit our *Qualifications Statement* on DOTD Form 24-102 for consideration of providing the needed engineering and related services for the above-referenced contracts. Highlights of our qualifications to deliver all work under a contract of this nature to the complete satisfaction of the LA DOTD include the following:

- **Accomplished Project Manager with more than 22 years of transportation-related experience with a concentration in bridges.** He has served as Project Manager and Deputy Project Manager on multiple LADOTD projects, including bridge rehabilitation projects, complex bridge designs, and multi-discipline projects. He is an 18-year veteran of TRC and has a clear understanding of your needs and expectations.
- **Project Principal and QA/QC Manager with more than 40 years of bridge-related engineering experience** who has led the inspection, load rating and rehabilitation design of numerous off-system and on-system bridges of varying complexity for the LADOTD, including complex bridges, movable bridges and major river crossing structures. He is a **20-year veteran of TRC** and will support our Project Manager in delivering all Task Order assignments to the highest level of quality.
- **Well-staffed Baton Rouge office** that has successfully delivered challenging and complex projects for the LADOTD over the past 20 years, including bridge repair and rehabilitation design, bridge inspection, load rating, and associated support disciplines. Our Baton Rouge staff are further supported by the resources and technical expertise of **multiple respected subconsultant partners** offering the experience, technical expertise, and staffing to facilitate our ability to **accommodate at least three (3) active task orders concurrently**.
- In-depth experience with the LADOTD's policies, procedures and expectations for this contract having **served as a prime consultant on three previous IDIQ Contracts for Bridge Preservation Services**. Thus, we require no learning curve for delivering the expected work as demonstrated in our Approach and Methodology described herein.

TRC is highly appreciative of your review and consideration of our team's credentials and looks forward to your decision.

Sincerely,

A handwritten signature in blue ink that reads "Durk H. Krone".

Durk H. Krone, P.E. - Vice President, Area Manager SE Infrastructure

DOTD FORM: 24-102

PROPOSAL TO PROVIDE CONSULTANT SERVICES



Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 24 can be removed but do not remove Section title and number.

ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

1. Contract Name as shown in the advertisement	IDIQ Contracts for Bridge Preservation Services, Statewide
2. Contract Number(s) as shown in the advertisement	4400035420, 4400035421, AND 4400035422
3. State Project Number(s), if shown in the advertisement	N/A
4. Prime consultant name (name must match <u>exactly</u> as registered with the Louisiana Secretary of State (SOS) where such registration is required by law; including punctuation; include screenshot from SOS at the end of Section 20)	TRC Engineers, Inc. (screenshot included in Section 20)
5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)	License # EF.0003249
6. Prime consultant mailing address	4545 Sherwood Common Blvd., Building 3, Suite A Baton Rouge, LA 70816
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	See Item 6 above
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Durk Krone, PE, Vice President (225) 229-2968 e-mail: dkrone@trccompanies.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Durk Krone, PE, Vice President (225) 229-2968 e-mail: dkrone@trccompanies.com

Prime consultant should enter firm name in the footer at the bottom of this page. (It will carry over to subsequent pages.)

10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.

Pursuant to Act No. 581 of the 2024 Louisiana Legislature Regular Session, proposer further certifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association based solely on the entity's or association's status as a firearm entity or firearm trade association. In addition, proposer certifies it will not discriminate against a firearm entity or firearm trade association during the term of the contract based solely on the entity's or association's status as a firearm entity or firearm trade association.

11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.

Firm(s):
N/A

Firm(s)' %:
N/A



Signature above shall be the same person listed in Section 9:

June 30, 2026

Date:

12. Discipline Table:

Discipline(s)	% of Overall Contract	TRC	WJE	M&N	Conсор	KTA	BDI	Holden	GSRC	GeoEng	MCA	Vectura	NTBA	Each Discipline must total to 100%
Bridge	76%	65%	12%	15%	2%	2%	2%	1%	-	-	1%	-	-	100%
Road	8%	100%	-	-	-	-	-	-	-	-	-	-	-	100%
Traffic	4%	5%	-	-	-	-	-	-	-	-	-	95%	-	100%
Geotech	5%	5%	-	-	-	-	-	-	-	95%	-	-	-	100%
Survey	5%	-	-	-	-	-	-	-	-	-	-	-	100%	100%
Environmental	2%	30%	-	-	-	-	-	-	70%	-	-	-	-	100%
Identify the percentage of work for the overall contract to be performed by the prime consultant and each sub-consultant.														
Percent of Contract	100%	58.5%	9%	11.4%	1.5%	1.5%	1.5%	0.8%	1.4%	4.8%	0.8%	3.8%	5.0%	100%

13. Team Size:

Firm name	DOTD Job Classification	Number of personnel <u>committed</u> to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
TRC Engineers, Inc. 	Principal	2	3
	Supervisor - Eng	8	15
	Supervisor - Other	2	20
	Engineer	10	30
	CADD Technician	4	10
	Administrative	1	25
	Engineer - Other	4	34
	Inspector - Bridge	5	20
	Environmental Pro	3	17
Moffitt & Nichol  moffatt & nichol	Principal	1	7
	Administrative	1	4
	CADD Technician	1	15
	Engineer	2	39
	Engineer Intern	3	10
	Inspector - Bridge	6	35
	Senior Technician	1	13
	Supervisor - Eng	2	11
Conсор North America, Inc. 	Other (Engineer-Diver)	3	20
	Inspector - Bridge	5	30
	Other (Engineer-Climber)	2	10
Wiss, Janney, Elstner Associates, Inc.  Wiss, Janney, Elstner Associates, Inc.	CADD Technician	2	7
	Clerical	4	5
	Engineer Intern	2	11
	Engineer	1	3
	Engineer - Other	3	41
	Geologist	1	2
	Principal	6	71
	Professional	4	145
	Senior Technician	2	24
	Supervisor - Arch	0	1
	Supervisor - Eng	2	18
	Supervisor - Other	6	189

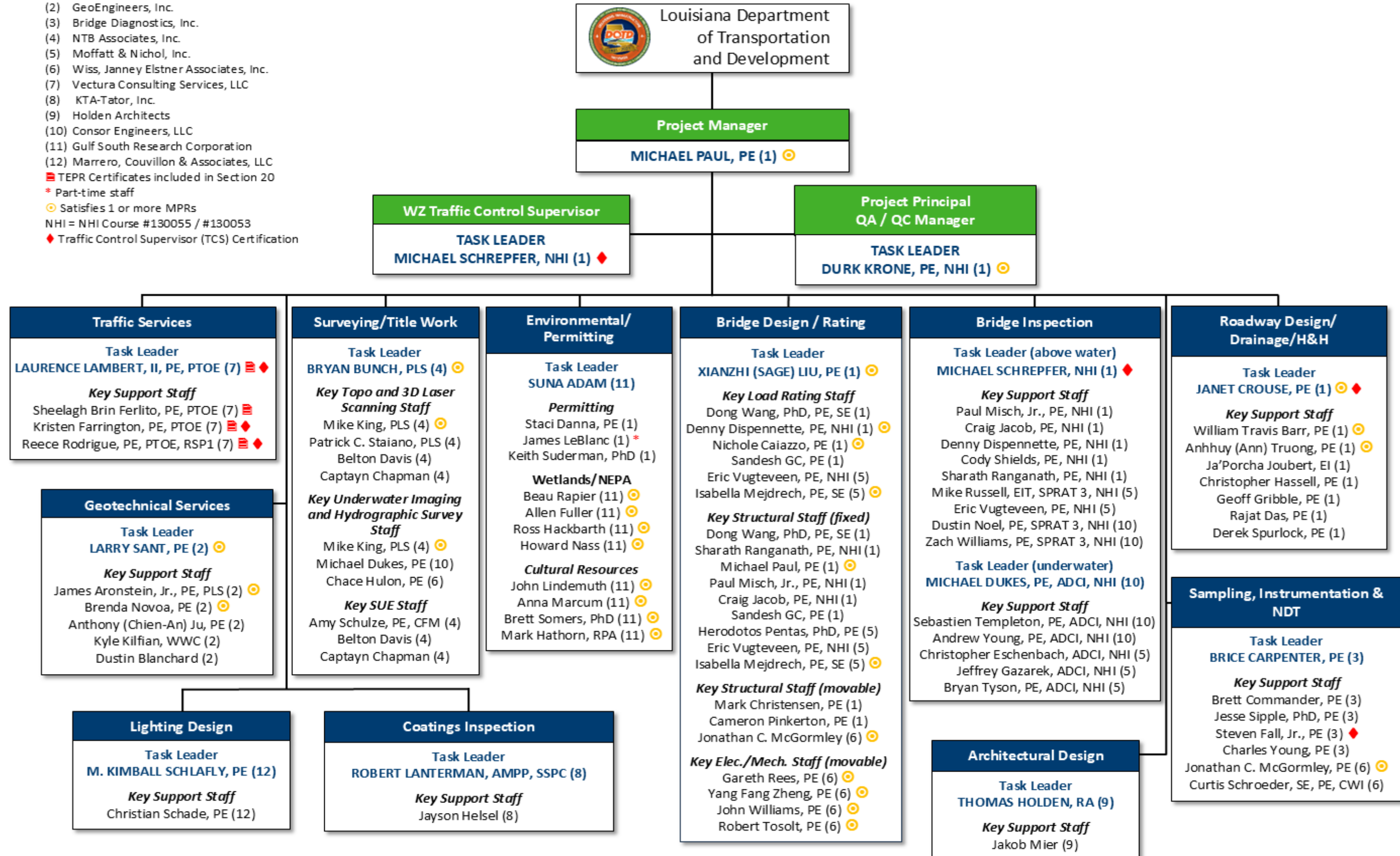
Firm name	DOTD Job Classification	Number of personnel <u>committed</u> to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
NTB Associates, Inc. 	Technician	2	9
	Inspector - Bridge	0	1
	Principal	1	1
	Engineer	1	1
	Engineer Intern	1	1
	Surveyor	5	6
	Supervisor - Other	1	5
	Senior Technician	0	1
	CADD Technician	1	10
	Technician	1	2
	CADD Drafter	1	8
	Party Chief	4	20
	Instrument Man	4	12
	Rodman	4	12
GeoEngineers, Inc. 	Administrative	1	4
	CADD Technician	1	1
	Driller	2	3
	Engineer	4	9
	Engineer- Other	0	7
	Engineer Intern	1	3
	Principal	2	6
	Senior Technician	1	1
	Technician	1	11
KTA-Tator, Inc. 	Supervisor - Other	2	10
	Principal	1	2
	Clerical	1	4
Bridge Diagnostics, Inc. 	Accountant	2	3
	Administrative	1	1
	Clerical	2	2
	Computer Analyst	3	3
	Engineer Aide	3	3
	Engineer Intern	3	8

Firm name	DOTD Job Classification	Number of personnel <u>committed</u> to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
	Engineer	3	3
	Engineer Other	3	7
	Principal	1	2
	Professional	2	4
	Senior Technician	4	4
	Supervisor - Eng	2	2
	Supervisor - Other	4	12
	Technician	3	5
Holden Architects, A Professional Corporation 	Architect	3	8
Gulf South Research Corporation 	Supervisor - Other	4	6
	Other (NEPA) Archaeologists	2	4
	Biologist/Wetlands	4	8
	GIS Analyst	2	2
	Clerical	2	2
Marrero, Couvillon & Associates, LLC 	Supervisor Engineer	1	1
	Engineer	1	6
Vectura Consulting Services, LLC 	Supervisor - Eng	2	2
	Engineer	3	5
	Engineer Intern	2	2
	Inspector	0	2
	Supervisor – Other	1	1
	Clerical	1	1

14. Organizational Chart:

LEGEND

- (1) TRC Engineers, Inc.
- (2) GeoEngineers, Inc.
- (3) Bridge Diagnostics, Inc.
- (4) NTB Associates, Inc.
- (5) Moffatt & Nichol, Inc.
- (6) Wiss, Janney Elstner Associates, Inc.
- (7) Vectura Consulting Services, LLC
- (8) KTA-Tator, Inc.
- (9) Holden Architects
- (10) Consor Engineers, LLC
- (11) Gulf South Research Corporation
- (12) Marrero, Couvillon & Associates, LLC
- TEPR Certificates included in Section 20
- * Part-time staff
- Satisfies 1 or more MPRs
- NHI = NHI Course #130055 / #130053
- ◆ Traffic Control Supervisor (TCS) Certification



15. Minimum Personnel Requirements:

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/ certification & number (Ex: PE # - Civil)	State of license	License / certification expiration date
1	Durk Krone	TRC Engineers, Inc.	#PE.0031955 - Civil	LA	03-31-2028
2	Durk Krone	TRC Engineers, Inc.	#PE.0031955 - Civil	LA	03-31-2028
2	Michael Paul	TRC Engineers, Inc.	#PE.0032172 - Civil	LA	03-31-2028
3	Durk Krone	TRC Engineers, Inc.	#PE.0031955 - Civil	LA	03-31-2028
3	Michael Paul	TRC Engineers, Inc.	#PE.0032172 - Civil	LA	03-31-2028
4	Xianzhi (Sage) Liu	TRC Engineers, Inc.	#PE.0034727 - Civil	LA	09-30-2027
4	Denny Dispennette	TRC Engineers, Inc.	#PE.0044141 - Civil	LA	03-31-2028
4	Nichole Caiazzo	TRC Engineers, Inc.	#PE.0041078 - Civil	LA	03-31-2027
4	Isabella Mejdrech	Moffatt & Nichol, Inc.	#PE.0048259 - Civil	LA	03-31-2028
5	John Williams	Wiss, Janney, Elstner Associates, Inc.	#PE.0044300 - Mechanical	LA	09-30-2026
5	Robert Tosolt	Wiss, Janney, Elstner Associates, Inc.	#PE.0035750 - Mechanical	LA	03-31-2027
6	Gareth Rees	Wiss, Janney, Elstner Associates, Inc.	#PE.0040754 - Electrical	LA	09-30-2026
6	Yang Fang Zheng	Wiss, Janney, Elstner Associates, Inc.	#PE.0045341 - Electrical	LA	09-30-2027
7	Jonathan McGormley	Wiss, Janney, Elstner Associates, Inc.	#PE.0043912 - Civil	LA	03-31-2028
8	Janet Crouse	TRC Engineers, Inc.	#PE.0040798 - Civil	LA	09-30-2026
8	Anhhuy (Ann) Truong	TRC Engineers, Inc.	#PE.0051245 - Civil	LA	09-30-2026
8	William Travis Barr	TRC Engineers, Inc.	#PE.0045675 - Civil	LA	09-30-2027
9	Larry Sant	GeoEngineers, Inc.	#PE.0035625 - Civil	LA	09-30-2026
9	James Aronstein, Jr.	GeoEngineers, Inc.	#PE.0011794 - Civil	LA	03-31-2027
9	Brenda Novoa	GeoEngineers, Inc.	#PE.0033665 - Civil	LA	03-31-2028
10	Mike King	NTB Associates, Inc.	#PLS.0005127 - Survey	LA	09-30-2027

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/ certification & number (Ex: PE # - Civil)	State of license	License / certification expiration date
10	Bryan Bunch	NTB Associates, Inc.	#PLS.0005014 - Survey	LA	03-31-2028
11	John Lindemuth	Gulf South Research Corporation	N/A	N/A	N/A
12	Bretton Somers	Gulf South Research Corporation	N/A	N/A	N/A
13	Mark Kudron Hathorn	Gulf South Research Corporation	N/A	N/A	N/A
13	Anna Marcum	Gulf South Research Corporation	N/A	N/A	N/A
14	Howard Nass	Gulf South Research Corporation	N/A	N/A	N/A
14	Beau Rapier	Gulf South Research Corporation	N/A	N/A	N/A
14	Allen Fuller	Gulf South Research Corporation	N/A	N/A	N/A
14	Ross Hackbarth	Gulf South Research Corporation	N/A	N/A	N/A

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Durk Krone, P.E.		Years of relevant experience with this employer	21
Title	Vice President/Sr. Project Manager		Years of relevant experience with other employer(s)	21
Degree(s) / Years / Specialization			M.S. / 1984 / Civil Engineering B.S. / 1982 / Civil Engineering	
Active registration number / state / expiration date			#PE.0031955 / LA / 03-31-2028	
Year registered	2005	Discipline	Civil Engineer Other Pertinent Training / Certifications LADOTD Maintenance & Rehabilitation of Historic Bridges Training Course, 2016 FHWA-NHI-130055 - Safety Inspection of In-Service Bridges, 5/1999 FHWA-NHI-130053 – Bridge Inspection Refresher Training, 10/2021 FHWA-NHI-130078 – Fracture Critical Inspection Techniques for Steel Bridges, 8/2007 FHWA-NHI-130092 – Fundamentals of LRFR, 2015	
Contract role(s) / brief description of responsibilities			Project Principal / QAQC Manager (Satisfies MPRs #1, #2, #3) Durk brings 42 years of experience involving the planning, design, inspection, and construction of bridges, roadways, tunnels, railroad facilities, and other associated structures. As Project Manager and Engineer-of-Record on multiple LADOTD assignments, he has directed large interdisciplinary teams under extremely aggressive schedules, advanced projects through delivery methods such as design-build and CMAR (Construction Manager at Risk), and coordinated with contractors, stakeholders, and regulatory agencies to keep projects on schedule and within budget. He has managed several IDIQ and retainer contracts with the LADOTD and is very familiar with managing the delivery of multiple concurrent assignments.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/20-Present	LADOTD, S.P. No.: H.005121, LA1/LA415 Connector – Construction Manager at Risk (CMAR), West Baton Rouge Parish, LA – Project Manager for this high-profile project that involves the design of a new connector between LA 1 and I-10 which will improve resiliency and safety by providing a direct connection and evacuation route for areas south of I-10. The estimated \$550 million project is approximately 5 miles in length and includes a new four-lane roadway and bridge(s) over the Gulf Intracoastal Waterway. Elevated structures are required for much of the project, including a Diverging Diamond Interchange at I-10 and a SPUI interchange layout at LA 1 with substantial roadway improvements north and south of the interchange at LA 1. Initiated as a Design-Bid-Build procurement and in an effort to accelerate the Project, the DOTD transitioned the project’s delivery method near the end of TRC’s preliminary engineering to a CMAR and issued an advanced Notice to Proceed agreement where TRC has recently submitted 30% final plans. TRC is the Lead Designer working hand-in-hand with the DOTD, a CMAR contractor, and ICE (Independent Cost Estimator).			
03/17-Present	LADOTD, S.P. No. 44-17264; H.011965.5, LA 47 over IWGO Rehabilitation, New Orleans, LA - Project Principal for the structural rehabilitation, cleaning and painting of this historic bridge that consists of 1,248 feet of steel main spans with cantilevered arms and tied-arch (main span); 3,304 feet of welded steel girder approaches; 1,590 feet of prestressed girder approach spans; and 480 feet of concrete slab spans. Preliminary and final plans address the repair and rehabilitation of all substructure and superstructure elements. A preliminary jacking analysis and repair scheme for the tied-arch tie girder (chord) repairs was also provided. Served as Team Leader during the performance of a bridge inspection in advance of the design regarding the superstructure girder and truss span inspections. Also provided QC/QA reviews of the inspection report.			
04/08-08/17	LADOTD, Retainer Contract for Bridge Preservation (On-System), Statewide – S.P. No. 700-99-0429 - Project Manager responsible for providing engineering and related services under a retainer contract to include fixed and movable bridge rehabilitation design, approach roadway design, design of			

	steel plate girder superstructure for heavily skewed bridge, sub-consultant spot bridge replacement and approach roadway design, a bridge replacement and rehabilitation study that included the use of SPMT's, scour mitigation, and construction-related services at proposed bridge sites throughout Louisiana.
06/14-08/18	LADOTD, S.P. No. 002562.5 – Bayou LaLoutre Bridge Rehabilitation, St. Bernard Parish, LA – Project manager for the special rehabilitation inspections and rehabilitation design of this vertical lift bridge which included redesign of the bearings, lift tower column base and anchor bolts; steel overhead truss, lift tower, and lift girder repairs; an elevated platform for a new Operator House; and new fender system. He led the construction engineer services, contractor RFIs and submittal.
04/08-05/11	LADOTD, 44-0641 (700-99-0429) / H.005330.5 (701-65-1215) Little Caillou and Bayou LaCarpe Bridges, Houma, LA - Project Manager for special rehabilitation inspections and rehabilitation designs of two vertical lift bridges - Little Caillou Bayou Bridge (LA 24) and Bayou LaCarpe Bridge (LA 661) in Terrebonne Parish. He also post-design engineering services and contractor RFI responses.
03/13-08/17	LADOTD, Contract No.: 4400002184, Retainer Contract for Engineering Services for (BRPM) Bridge Preventive Maintenance Program Statewide - Project Manager responsible for providing engineering and related services at proposed sites throughout the State. <u>District 08 Bridge Super and Substructure Repairs and Painting</u> – This project involved the development of the contract documents for bridge repairs for sixteen (16) bridges. The repairs included cleaning and paint of structural steel, joint replacements, concrete patching, replacement of joint seals, polyester concrete bridge overlays, latex modified concrete overlays, and approach roadway repairs. This project included the development of a Level 2 Traffic Management Plan (TMP). Mr. Krone was responsible for coordinating development of the TMP with our subconsultant and conducting quality control reviews of this document at the 60%, 90%, and Final Submissions. <u>District 61 Bridge Deck Joint & Misc. Repairs</u> – This project involved the development of contract documents for bridge repairs for eleven (11) bridges. The repairs included joint replacements, concrete girder repairs, concrete spall repairs, bearing repairs, and polyester concrete bridge overlays. This project included the development of a Level 2 and a Level 4 Traffic Management Plan (TMP). Mr. Krone was responsible for coordinating the development of these two Transportation Management Plans with our subconsultant. Services included a Stakeholder meeting for the Level 4 sites with the cooperating agencies to get their comments on the preliminary plans, advise them of when the Project would be advertised, and to discuss and confirm roles and responsibilities. Mr. Krone conducted a quality control review of the TMPs prior to all submissions.
07/10-02/18	LADOTD, S.P. No.: 700-24-0031, US 190, Mississippi River Rehabilitation, Baton Rouge, LA - Project Manager for this approximately \$97 million project involving complex bridge rehabilitation work for a 12,200-foot long steel truss bridge spanning the Mississippi River. Work involved engineering and related services for the conceptual, preliminary and final design of numerous steel and/or concrete repairs. Rehabilitation included complete cleaning and painting, and general structural rehabilitation of bridge members including cross frame chord members and connection angles, top lateral bracing members, replacement of main truss vertical and diagonal lacing bars, deteriorated interior stiffeners of main truss verticals, deteriorated diagonals at portals, anchor bolt and column rehabilitation for approach bents, bearing pins and corroded bearings, rehabilitation of false chord expansion devices, replacement of cracked gusset plates, and patching of concrete spalls at bearings and retaining walls. Included removal of the existing lead-based paint and the application of a new coating system. Successfully managed the submittal of 158 stamped and signed sheets (297 sheets total) six months ahead of original schedule at the request of the DOTD.
04/16-02/20	LADOTD, 44-5960 & 44-13321 (H.009730.5), In-depth Bridge Inspection of Complex Structures, Statewide, LA – Project Manager for the in-depth inspections of 3 complex trusses and 3 vertical lift bridges over major waterways. Performed QA/QC of the Prime's and TRC's in-depth inspections and reports. Services included: Plan and Document Retrieval and Review and Bridge Inspections.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Michael Paul, P.E.		Years of relevant experience with this employer	17
Title	Project Manager/Senior Bridge Engineer		Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization			M.S. / 2003 / Civil Engineering B.S. / 2000 /Civil Engineering	
Active registration number / state / expiration date			#PE.0032172 / LA / 03-31-2028	
Year registered	2006	Discipline	Civil Engineer Other Pertinent Training / Certifications FHWA/NHI #130055 - Safety Inspection of In-Service Bridges, 2007 FHWA/NHI #130078 - Fundamentals of LRFR and Applications of LRFR for Bridge Superstructures LADOTD Highway Safety Manual Workshop, 2011 FHWA/NHI #130092 - Fracture Critical Techniques for Steel Bridges, 2015 ATSSA – Traffic Control Supervisor ASBI Grouting Training Certificate, 2012 LADOTD Maintenance & Rehabilitation of Historic Bridges Training Course, 2016 FHWA-NHI #132082 – LRFD for Highway Bridge Substructures FHWA-NHI #134006 – Utility Coordination for Highway Projects	
Contract role(s) / brief description of responsibilities			Project Manager (Satisfies MPRs #2, #3) Michael has over 23 years of experience in transportation and civil engineering consulting involving conceptual, preliminary, and final structural design . His projects have included the rehabilitation of major river crossings such as the Mississippi River and Intracoastal Waterway, as well as new bridges spanning railroads and bridges incorporated into complex urban highway undertakings. Rehabilitation designs have addressed all aspects of the superstructure, substructure and foundations.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. E Experience dates should cover the time specified in the applicable MPR(s).			
03/20-Present	LADOTD, S.P. No.: H.005121.5, LA 1/LA 415 Connector CMAR, West Baton Rouge Parish, LA - Deputy Project Manager for the development of preliminary plans for this new 2.7 mile corridor between LA 1 near LA 988 (Beaulie Lane) and I-10 at the 415 interchange. Served as conceptual structural designer and developed the Evaluation of Single Versus Dual Bridge Options Over the GIWW report. Worked with stakeholders for the development and selection of the conceptual alternate alignment when it was determined that the EA Report alignment was no longer feasible due to recent development. Mr. Paul also developed the Project QA/QC Plan, Design Criteria and Project Schedule.			
06/11-Present	LADOTD, S.P. No.: H.011965, LA 47: IWGO Bridge Rehabilitation (HBI), Orleans Parish, LA - Project Manager for the rehabilitation of this bridge which consists of 1,248 feet of steel truss main spans with cantilevered arms and tied-arch (main span); 3,304 feet of welded steel girder approaches; 1,590 feet of prestressed girder approach spans; and 480 feet of concrete slab spans. The project has consisted of the development of preliminary and final plans to address the repair and rehabilitation of all substructure and superstructure elements. A special in-depth inspection was conducted to determine repair types and locations, while 3D laser scanning was performed to analyze abnormal bridge movements. As part of the rehabilitation, TRC was responsible for development of a Transportation Management Plan and Maintenance of Traffic plans that included right lane and left lane closures, and a total closure with detour. As part of the construction support, he reviewed an inspection and repair report prepared for the tie girder T1 steel butt welds that identified additional rejectable areas which resulted in additional repair recommendations and load rating.			

07/10-02/18	LADOTD, S.P. No: H.004266 (700-24-0031), Route US 190 Rehabilitation over Mississippi River, East and West Baton Rouge Parishes, LA - Project Engineer for the structural rehabilitation, cleaning and painting of a major railroad/highway bridge across the Mississippi River. The bridge consists of 8,884 feet of railroad approach spans; 2,552 feet of highway approach spans; and 3,326 feet of cantilever steel truss main spans. The inspection consisted of reviewing existing plans and drawings, inspecting and assessing deteriorated portions of the structure, and developing repair locations, repair schemes and details. Reviewed load rating reports for the truss and the approach span steel bent towers, evaluated the bridge conditions and prioritized the bridge repair items. Rehabilitation work included complete cleaning and painting, and general structural rehabilitation of various bridge members including: cross frame chord members and connection angles, top lateral bracing members, replacement of the main truss vertical and diagonal lacing bars, deteriorated interior stiffeners of the main truss verticals, deteriorated diagonals at portals, anchor bolt and column rehabilitation for approach bents, bearing pins and corroded bearings, rehabilitation of false chord expansion devices, replacement of cracked gusset plates, and patching of concrete spalls at bearings and retaining walls. Schemes for jacking and temporary support of members during rehabilitation and structural analysis for traffic reduction during phases of construction were included. Traffic control and phasing for maintenance of traffic was also provided.
08/07-02/09	LADOTD, S.P. No.: 450-09-0026, I-10 Mississippi River Bridge at Baton Rouge Rehabilitation, Baton Rouge, LA - Assisted with performing the design check and construction plan preparation for the rehabilitation of this 2,423', 3-span, through truss bridge. The project included modification of a longitudinal strut to facilitate movement of the suspended span. Sequential jacking was specified for the suspended span movement. The project also included a retrofit of the upper and lower false chord expansion connections, and replacement of the expansion joints to accommodate the suspended span movement. Developed the design documents for floor beam and floor beam connection distortional crack retrofit repairs.
12/10-Present	LADOTD, S.P. No.: H.001234.5, LA 1 Intracoastal Bridge Rehabilitation/Replacement, Port Allen, LA - <u>Detour Bridge Study</u> – Lead engineer for the development of a detour bridge study where two different detour alignments were developed. Each consisted of a 2,500' detour bridge over the Intracoastal Waterway where the proprietary Acrow system was considered and where adequate vertical clearance was provided. Conceptual bridge designs were developed for each alignment. <u>Rehabilitation Study</u> - Lead engineer for a Stage 0 Feasibility Study that investigated three different bridge rehabilitation options and one bridge replacement option for the existing twin bridges that carry LA 1 over the Intracoastal Waterway. As part of the study, Mr. Paul was involved with the development of new roadway alignment options, construction phasing, traffic control schematics, investigating rehabilitation options for the existing bridge and preliminary design of a new bridge option. The rehabilitation and replacement options also investigated and proposed the use of Accelerated Bridge Construction techniques. <u>Preliminary & Final Design</u> – Project Manager while developing the Stage 3 preliminary (bridge and roadway) and final design (roadway only). Associated plans included roadway, traffic control, maintenance of traffic, ITS, traffic signal, MSE wall, highway lighting and bridge plans. Coordinated with UPRR, the US Army Corps of Engineers, the USCG, and the Port of Baton Rouge. A traffic analysis was conducted with the submittal of a Level 3 Transportation Management Plan. The project included a 1.5-mile “superstreet” portion that consists of signalized and un-signalized J-turns. The proposed LA 1 SB and LA 1 NB bridges are 2,680' and 2,700', respectively, and consist of PPC girder approach spans and 3 span continuous steel I-girder spans over the Intracoastal Waterway. Presently providing as-needed construction support.
01/25-Present	LADOTD, S.P. No.: H.010885.5, LA 91: Bayou Plaquemine Brule Bridge Replacement, Acadia Parish, LA – Project Manager for a bridge alignment feasibility study that included of 4 alternate alignments for the replacement of an existing single lane pontoon bridge over Bayou Plaquemine Brule. The proposed bridge will be a fixed type bridge adjacent to the existing pontoon bridge.
06/23-12/24	LADOTD, S.P. No.: H.015424.5, LA 67: Plank Rd. @ Airline - Girder Rep., Baton Rouge, LA – Project Manager for the emergency repair of a bridge that was struck by a vehicle hauling a forklift. The damaged portion of the bridge is a 49.5' span deck on girder bridge with interior rolled steel girders and exterior reinforced concrete girders. Repairs to the exterior girders consisted of removal and repair of an overhead sign and installing patch material with FRP. Repairs to the steel girder consisted of heart straightening and installing repair plates to strengthen the fracture lower flange to restore capacity. The steel girder repair included jacking and monitoring plans to removed dead load and live load force effects from the girder during the repair.
05/25-Present	LADOTD S.P. No.: H.016046.5, US 190 Atchafalaya R @ K'Springs Repairs, St. Landry Parish, LA – Project Manager for the repair of a 3,403' long bridge consisting of concrete girder approach spans and steel truss main spans. The repairs consisted of concrete barrier rail repairs, in-kind replacement of false chord slide plates, deck expansion joint repair and replacing modular joints with finger joints. An initial investigation was conducted to investigate the feasibility of repairing the damaged modular joints. The repair plans also included the need for a TMP and MOT Plans.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Xianzhi (Sage) Liu, P.E.		Years of relevant experience with this employer	15
Title	Structural Engineer		Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization			M.S. / 2003 / Civil Engineering M.S. / 1999 / Coastal Engineering B.S. / 1996 / Civil Engineering	
Active registration number / state / expiration date			#PE.0034727 / LA / 09-30-2027	
Year registered	2009	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Bridge Design / Load Rating Task Leader (Satisfies MPR #4) Sage possesses 20 years of experience in the structural engineering field that includes bridge design, rating, inspection, structure monitoring and testing, and flood control structure design, along with skills and expertise that include finite element modeling and wind loads on structures. He is also experienced with the load rating provisions in the current AASHTO Manual for Bridge Evaluation and the DOTD Policies and Guidelines for Bridge Rating and Evaluation.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
11/23-Present	LADOTD, S.P. No.: H.005121.5, LA 1/LA 415 Connector CMAR, West Baton Rouge Parish, LA – Bridge Task Leader for the development of preliminary plans for this new 2.7 mile corridor between LA 1 near LA 988 (Beaulie Lane) and I-10 at the 415 interchange. The project includes a four-lane roadway, bridges over the Intracoastal Waterway and flyover ramps at the LA 1 connection. Serving as the bridge task lead for development of the span layout, bridge type selection, and preliminary design of the superstructure and substructure for a mix of long-span steel girders and prestressed LG girders spans.			
06/25-Present	LADOTD, S.P. No.: H.16046, US190 Atchafalaya River Bridge Repair, St. Landry Parish, LA – Reviewed and provided guidance for final plan development of bridge railings repair, truss false chord repair, and bridge joint replacement, including verifying repair location and scope, reviewing as-built plans and developing repair concept and details.			
11/23-01/24	LADOTD, S.P. No.: H.015424, La 67 at Airline Hwy Bridge Repair, East Baton Rouge Parish, LA – Developed final plans for the bridge steel girders repair and interior diaphragm replacement due to impact damage. Mr. Liu reviewed field conditions, as-built plans, developed repair concepts and details together with jacking and monitoring schemes.			
01/19-05/20	Walter O. Bigby Carriageway, Bossier City, LA – Served as the lead engineer for superstructure design of the main steel girder spans. He has performed design modeling, analysis and final plan development for the main continuous curved steel girder spans with a maximum span length of 300’. He has used several structural analysis software packages, including LUSAS and MDX, for structural analysis. He was also responsible for reviewing shop drawings and erection plans for the steel girder superstructure.			
01/13-07/14; 05/15-12/17	LADOTD, S.P. No. 003905 – I-49 North (I-220 to MLK Drive), Caddo Parish, LA – Served as lead engineer for the superstructure design of a segmental bridge alternative. Developed 3-D FEM models, calculations and final plans for the ramp EN bridge which is a 15-span, precast post-tensioned segmental bridge with a total length of 3,030 ft. He also developed the complete as-designed and as-built load rating reports for the superstructure of the ramp EN bridge.			
03/11-01/17	LADOTD, S.P. No. 700-24-0031 – US 190 Mississippi River Bridge Rehabilitation, Baton Rouge, LA - Performed structural analysis for the purpose of rehabilitating this major truss bridge. He performed a special condition inspection of the main truss for the purpose of rehabilitation design. At an			

	accelerated pace, Mr. Liu reviewed existing plans and drawings, inspected and assessed deteriorated structures, and developed plans for repair locations, repair schemes and repair details which included repair/replacement of main truss members, lateral bracings and expansion bearings, and adding a new safety cable system. Mr. Liu reviewed the submitted shop drawings for structural repair and answered RFIs from the contractor during construction.
3/13-08/13; 08/14-11/14	LADOTD, S.P. No. 000351 & H.000792 – District 61& District 08 Bridge Preventive Maintenance Repairs, LA - Mr. Liu performed inspections and developed repair plans for more than 30 bridges within district 61 and 08. He reviewed as-built plans, assessed deteriorated structures and developed repair locations, repair schemes and details for joint replacement, deck overlay and miscellaneous preventive structural repairs.
04/20-12/20	LADOTD, Contract No.: 4400004920 (H.012485.1), Off-system Bridge Load Rating - Technical lead for the load rating of more than 400 off-system bridges. He performed complex load rating of steel bridges without any available plans, completed the QC/QA of load rating for superstructure and substructure elements, developed load rating reports, and proposed repair options for bridges with a posting drop. Work was completed using the current LA DOTD BDEM, AASHTO BrR and the AASHTO MBE.
04/16-03/20	LADOTD, Contract No.: 4400004920 (H.009859.5), Complex Load Rating, Statewide, LA – Served as the lead engineer for superstructure and substructure load rating for multiple complex bridges, including LA1 truss bridge over Atchafalaya river, LA47 IWGO tied-arch truss bridge, US 90B Riverbound Expressway deck truss bridge and the following movable bridges: Intracoastal Waterway Bridge at Ellenders (vertical lift), LA 654 over Bayou LaFourche (vertical lift), LA 657 over Bayou LaFourche (vertical lift), LA 319 Intracoastal Canal Bridge (bascule), LA 83 over Patout Bayou (swing), Local Road over Bayou Terrebonne (swing), Bridge over Bayou Teche at Adeline (swing). He performed inspections, load ratings, and developed load rating reports. He also led the efforts to analyze several bridges with unique configurations and high complexities. During his performance of the work, he has utilized several structural analysis software packages including LUSAS, MIDAS Civil and AASHTOWare BrR for structural analysis, validations, and load ratings.
11/19-10/20	LADOTD, Contract No.: 4400004920 (H.012485.1), Off-system Bridge Load Rating - Technical lead for the load rating of more than 400 off-system bridges. He performed load rating , QC/QA of the load rating for superstructure and substructures, developed load rating reports, and proposed repair options for bridges with a posting drop.
03/11-06/12	West Virginia Division of Highways, District Nine QA/QC Bridge Inspection and Rating, Fayette, Greenbrier and Nicholas Counties, WV - Load rating engineer responsible for the load rating analysis , review of loading rating results, and development of load rating reports for off-system bridges in District Nine, West Virginia. He reviewed bridge load rating results using Bentley software packages. Performed in-depth Finite Element analysis using LUSAS software to determine the structural member force for the required rating vehicles and developed independent detailed spreadsheets to perform load rating calculations and compared with the Bentley LARS rating.
04/10-08/10	West Virginia Division of Highways, Twenty-mile Creek Bridge, Nicholas County, WV - Structural Engineer for QA/QC regarding analysis and load rating for this unique truss bridge. He performed an alternative Finite Element analysis for the superstructure and load rating using LUSAS software, and provided detailed rating reports to compare with standard rating programs.
04/07-05/09	Railroad Bridge over Mississippi River Rehabilitation and Inspection, Vicksburg, MS - Performed annual inspections and emergency inspections of the bridge due to barge collision accidents. Assisted with rehabilitation and repair plan development due to excessive movement of one of the river piers
08/10-05/14	West Virginia Division of Highways, Phill G. McDonald Bridge of I-64 over Glade Creek, Raleigh County, WV - Served as structural lead for the truss analysis, gusset plate rating , and bridge monitoring for this structure which is one of the highest deck truss bridges in the world (560'-784'-560' spans). He performed a detailed 3-D Finite Element analysis of the bridge using LUSAS software, generated governing load cases for gusset plate ratings, developed a rating spreadsheet in accordance with FHWA publications for gusset plate rating, and quality controlled the final rating report. He also led efforts to develop bridge monitoring schemes, deploy sensors, and perform data analysis and interpretation for the purpose of diagnosing and rehabilitating abnormal bridge expansion and racking. Performed quality control reviews of the final plans for rehabilitation design.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Dong Wang, Ph.D., S.E., P.E.		Years of relevant experience with this employer	11
Title	Structural Engineer		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			Ph.D. / 2014 / Civil Engineering M.S. / 2009 / Structural Engineering B.S. / 2007 / Engineering Mechanics	
Active registration number / state / expiration date			#PE.0042845 / LA / 03-31-2027	
Year registered	2018 (PE of LA) 2020 (SE of LA)	Discipline	Civil/Structural Engineering Other Pertinent Training / Certifications FHWA-NHI-130092-Fundamentals of LRFR for Bridge Superstructures, 2015 LADOTD AASHTOWare Bridge Rating Fundamentals Training FHWA-NHI-130081-LRFD for Highway Bridge Superstructures, 2022 FHWA-NHI-130126-Strut-and-Tie Modeling (STM) for Concrete Structures, 2022 FHWA-NHI-134001-Principles and Applications of Highway Construction Specifications, 2023 FHWA-NHI-130102-Engineering for Structural Stability in Bridge Construction, 2024	
Contract role(s) / brief description of responsibilities			Bridge Design & Analysis / Load Rating Dr. Wang possesses 11 years of experience in the field of structural engineering with a particular emphasis on steel bridge rehabilitation and load rating of both simple and complex bridge structures using AASHTO BrR software.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
06/21-12/21	LADOTD, Contract No. 4400020156 (H.011965.5), LA 47 IWGO Bridge Rehabilitation, New Orleans, LA – Bridge engineer responsible for an inspection of the bridge and rehabilitation design for the steel plate girder spans. Generated plan sheets for the rehabilitation of various bridge components of the steel plate girder spans, including concrete barrier, drainage trough, stiffener, cross-frame, lateral bracing, and girder splice.			
06/24 - Present	LADOTD, Contract No. H.005121, LA 1/LA 415 Connector, West Baton Rouge, LA – Bridge engineer responsible for steel span design, PCC span design, column bent design, vertical clearance calculations and quantity calculations.			
07/15-03/16	LADOTD, Contract No. 4400002791, (H.009859.5), LA 1 Port Allen Canal Bridge, West Baton Rouge Parish, LA – Bridge engineer responsible for the preliminary design of steel girder spans, PCC girder spans, and column bents. Performed quantity calculations, CAD drawings for GP&E sheets, typical sections, framing plan and foundation plan. Performed the QC for vertical clearance calculations.			
06/16-08/19	LADOTD, Contract No. 4400004920 (H.009859.5), Complex Load Rating and Inspection, Statewide, LA – Load rating engineer responsible for completing the complex load rating of truss and movable bridge superstructure elements of the LA 47 IWGO Bridge (tied arch/deck truss), LA1 over Atchafalaya River Bridge (truss), LA 27 over ICWW Bridge (vertical lift), LA 654 Bayou Lafourche Bridge (vertical lift), LA 83 Patout Bayou Bridge (swing), LA 319 Intracoastal Bridge (bascule), St. Ann Bridge over Bayou Terrebonne (swing) and US 90 Riverbound Expressway Bridge (deck truss/plate girder). Work was completed using the load rating provisions in the current AASHTO Manual for Bridge Evaluation and the DOTD Policies and Guidelines for Bridge Rating and Evaluation. Developed the AASHTOWare BrR load rating, MIDAS/Civil modeling, and Excel/MathCAD data processing. Wrote portions of the load rating reports.			

11/22-12/22; 04/24-05/24	ODOT, PID 116592/TRC 491195 – Statewide Load Rating, OH – Load rater for the performance of LRFR and LFR ratings of steel beam and plate girder bridges. Completed the rating of a bridge with multiple doglegs on a curved alignment with variable flares rated in midas Civil and pegged to a BrR line girder. QC check the load ratings performed by AASHTOWare BrR.
04/23-08/23	TIDD Bridge Load Rating, Brilliant, OH (Private Client) – TRC was assigned the deck replacement design and load rating for a 7-span, 400' long bridge. Dr. Wang developed the 3D FEA modeling of the bridge using midas Civil software. The superstructure (the main girders, floorbeams, stringers) and substructure (the columns) were both included.
03/23-08/23	Bridge Load Rating, US DOE – Performed load rating using AASHTO BrR and midas Civil on six bridges of different types. Members that were rated consisted of the steel beams, grid deck, voided concrete box beams, and arch culvert.
06/22-09/22	ODOT, HAS-151-04.85 – SR 151 over the Columbus & Ohio River Railroad Design-Build, Harrison County, OH – The project involved replacement of a curved six-span bridge over the CUOH Railroad using Design-Build. The bridge is curved and highly skewed to the railroad. An integral straddle bent and a refined analysis were required. Dr. Wang assisted with the midas Civil modeling of the bridge which encompassed both the superstructure and straddle bent.
02/21-04/21	Broadmore Bridge Inspection and Special Haul Load Rating, Lake Arthur, LA (Private Client) – Load rating engineer responsible for the load rating of a concrete slab off-system bridge for special hauling vehicles. He used AASHTO BrR for the concrete superstructure, load rated the timber piles and concrete caps, and issued posting recommendations.
02/20-12/20	LADOTD, Contract No. H.012485.1, Load Rating of 426 Off-System Bridges, Statewide, LA – Load rating engineer responsible for the load rating of 346 off-system bridges (COSLAB, COPCSS, concrete and steel girders). He performed the LRFR load rating analyses using AASHTOWare BrR and other software for the superstructures and substructures (timber and concrete piles). He developed influence lines and models for the cap and pile elements. He performed the quality control for the load rating calculations and analysis models rated by fellow engineers.
07/18-10/20	Walter O. Bigby Carriageway Bridge – Bossier City, LA (City of Bossier City) – Bridge engineer responsible for designing and detailing the bridge deck overhang, bearing pads, pile bents and abutments. Checked the modeling and design of steel girder spans. Performed stability analysis of steel girder spans. Prepared quantities and design calculation books. Performed load ratings of steel girder spans and prepared the load rating report. Checked the load rating of one pile bent.
07/19	BEL-70-2684C Bridge Load Rating, Ohio Department of Transportation, Statewide, OH – Load rating engineer responsible for load rating of the BEL-70-2684C bridge. He used AASHTO BrR for the superstructures and provided posting recommendations
05/19-06/19	Off-system Bridge Load Rating, South Carolina Department of Transportation, Statewide, SC – Load rating engineer responsible for the load rating of several off-system bridges in South Carolina. He used AASHTO BrR and LRFR for the concrete superstructures, load rated the substructure elements, and issued posting recommendations.
05/15-11/15	LADOTD, Contract No. 4400002791 (H.003495 & H.011111), I-49 & I-220 Interchange, Caddo Parish, LA – Load rating engineer responsible for developing and performing the AASHTOWare BrR load rating for the I-49 over MLK Bridge , including writing of the load rating report.
04-10/15	LADOTD, S.P. No.: H00256.5, Bayou LaLoutre Bridge Rehabilitation, St. Bernard Parish, LA – Design engineer responsible for performing the design and quantity calculations for the lower platform design of this vertical lift bridge.

16. Staff Experience:

Firm employed by TRC Engineers, Inc.			
Name	Sharath Ranganath, P.E.		Years of relevant experience with this employer
Title	Project Engineer		Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization	M.S. / 2015 / Civil Engineering B.S. / 2012 / Civil Engineering		
Active registration number / state / expiration date	#PE.0049283 / LA / 03-31-2027		
Year registered	2019	Discipline	Civil Engineer
			Other Pertinent Training / Certifications FHWA-NHI-130056 - Safety Inspection of In-Service Bridges for Professional Engineers, 11/2022
Contract role(s) / brief description of responsibilities			Bridge Design / Bridge Inspection Sharath possesses over 10 years of structural engineering experience. He is proficient in using advanced analysis software such as midas Civil, HEC-RAS, RAS Mapper, STAAD Pro V8, MDX and LEAP Bridge Concrete. Advanced skills include structural analysis design and detailing, hydraulic modeling and scour analysis.
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
06/25-09/25	US 190: Atchafalaya R @ K’Spgns Repairs, LA – He dedicated additional time to reviewing go-by plans, which enabled him to execute his assigned tasks effectively and in full alignment with project expectations. He detailed the barrier rail repair by specifying the removal of damaged portions and replacement with in-kind new concrete barriers, as well as the in-kind replacement of false chord plates. He also developed plans for the deck expansion joint repair, including the replacement of expansion seals with new silicone joint seals and the replacement of modular joints with new finger joints. This work included detailing new drainage requirements and replacing armor plates in the curbs, ensuring all activities were performed accurately, safely, and in compliance with project standards.		
01/25-05/25	Contract 3 for Movable Bridges, Iberia & Terrebonne Parishes, LA – He invested time in developing a solid understanding of load rating principles, with a primary focus on BrR load rating software, successfully applying this knowledge to deliver quality results on movable bridges. He performed the load ratings of approach slab spans for both simple and continuous spans using BrR software, as well as the pile cap load ratings and metal grid deck load ratings for both half-filled and fully filled concrete decks. Leveraging guidance from senior team members and reference materials, he completed all assigned tasks accurately and on time, ensuring full compliance with project requirements and applicable code standards.		
07/24-12/24	LA 1/LA 415 Connector, West Baton Rouge Parish, LA – He was assigned as the Lead Engineer for the Sunplus Bridge design and detailing, successfully delivering the work to project standards. He designed the prestressed concrete girders using LEAP Concrete for the superstructure and reinforced concrete piers for the substructure. His responsibilities included geometry calculations, vertical clearance checks, and preparation of GP&E sheets and typical sections. Subsequently, he contributed to the superstructure design for both the single and dual bridge options over the ICWW and LA 1 interchange, completing all tasks with a strong focus on accuracy, quality, and strict adherence to project requirements.		
08/23-09/23	Hernando de Soto Bridge over the Mississippi River Inspection, West Memphis, AR and Memphis, TN – Assigned as a bridge inspector during the completion of a hands-on structural inspection of the two main arch truss spans which included cables, ties and upper chord members with the help of man-lift. He also assisted the UAS inspection team with organizing and reviewing data.		
03/23-05/23	OSARC Bridge Inspection, Statewide Mississippi – Assigned as an assistant team leader under this contract which involved the inspection of 178 bridges consisting of complex bridges as well as timber substructures. Specifically, he participated in the inspection of 22 bridges, four of which involved his		

	hands-on inspection of a non-redundant steel tension member (NSTM) rail car bridges. He compiled 11 bridge inspection reports which were submitted within 30 days of the inspection.
06/19-02/20	Freeo Creek Relief Structures, Ouachita Co, AR – Project involved the replacement of four bridge structures along SH 7. Lead engineer responsible for analysis and design of the curved steel girder unit (3 deg curve, 7.6% superelevation and 20 deg skew) using LEAP Bridge Steel software and the prestressed square piles using LPILE and RC Pier software. He also performed the hydraulic design for the project which included scour analysis and report compilation.
04/20-02/21	Cornie Bayou, Harper Creek, and Lapile Creek Bridge Replacements, Columbia and Union Counties, AR – Project engineer for the replacement of 3 bridges. Responsible for the entire project design and detailing effort which included precast prestressed concrete girder units using RC Pier software and pile design using LPILE software. He was also involved in CWP and performed a single mode seismic analysis for each structure.
02/20-11/20	Big Creek, Little Piney Creek, and Big Creek Branch Structure, Lee and Monroe Counties, AR – Project Engineer during the replacement design of three bridge structures along State Highways 78, 238 and 259. Designed precast prestressed concrete girder units (40 deg skew) using LEAP Bridge Concrete and pipe piles using RC Pier, LPILE and Midas Section Designer for moment curvature analysis. Also performed the single mode seismic analysis (Zone 3) for the structures.
11/17-01/18	NYSTA Syracuse Bundled Bridges, Syracuse, NY – Design engineer during the design of three replacement continuous span structures along the New York State Thruway. His role included superstructure design using LEAP Bridge Concrete (CON/SPAN). He also performed railroad load rating assessments, verified vertical clearance geometry, estimated steel weights, and conducted preliminary calculations for the Spring Street Superstructure Replacement project.
05/18-03/19	Hwy 212 over Big Creek Relief Structures, Cleveland Co., AR - Analyzed and designed three precast-prestressed concrete slabs using Leap concrete and pipe piles using RC Pier and LPILE. Provided bridge layout and detailing of other components using MicroStation. Also involved in estimation and modeling of cut and fill for embankment.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Sandesh GC, P.E.		Years of relevant experience with this employer	2
Title	Bridge Engineer		Years of relevant experience with other employer(s)	4
Degree(s) / Years / Specialization			M.S. / 2020 / Structural Engineering B.S. / 2017 / Civil Engineering	
Active registration number / state / expiration date			#6201312379 / MI / 04-14-2027	
Year registered	2023	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Bridge Design / Load Rating Mr. GC possesses six (6) years of experience with analyzing and designing bridges. He is well-versed with AASHTO standards, as well as the design standards of the LADOTD and several other DOTs. He has designed and analyzed a variety of bridge structure components, including prestressed concrete bulb-T beams, box beams, hammerhead piers, wall-type piers, post-tensioned straddle bents, end bents, drilled shaft foundations, steel pile foundations, and retaining walls. He has also reviewed shop drawings; load rated steel and concrete bridges; prepared quantity and cost estimations; calculated geometric properties of bridges, including beam seat elevation, screed elevations, and haunches; and performed construction engineering, bridge demolition analysis, shipping and handling analysis, lifting loop calculations etc. He is additionally adept at the use of various software, including LEAP Bridge Concrete (Superstructure, Substructure, Geometry), Merlin-Dash, DESCUS, LARSA 4D, AASHTOWare BrR, RISA 3D, L-Pile, and MATHCAD.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
06/24-Present	LADOTD, LA 1/LA 415 Connector CMAR, West Baton Rouge Parish, LA - Serving as a bridge engineer responsible for the design, drafting, and design review of prestressed girder bridges, multiple column piers, and abutments.			
09/22-08/23	LADOTD, I-10 Calcasieu P3 Program, Louisiana - Bridge design engineer (Bidding Phase) responsible for the design of six bridges and design review of three bridges. The bridge designs included the design of prestressed concrete beams, abutments, multiple column piers, and steel pile foundations.			
06/21-12/23	Indiana Department of Transportation, I-65/I-70 North Split Exchange Design-Build, Indianapolis, IN - Served as a lead design engineer on this \$320 million design-build project responsible for the design of all 14 bridges. His work included the design of new prestressed bulb-tee bridges with curve-chorded geometry, design of post-tensioned straddle bents, design of integral/semi-integral abutments, and design of other bridge components. He also load rated all of the bridges and designed structural retaining walls, along with sign and luminary foundations. Retaining wall designs included sheet piles, soldier piles and lagging systems, as well as cast-in-place concrete retaining gravity walls. He coordinated with the engineering technicians to develop bridge plans and reviewed the resulting work.			
06/20-10/20	Indiana Department of Transportation, I-69 Section 6 Design-Build, Indianapolis, IN - Served as a design engineer during the bidding phase responsible for the design and design review of 10 bridges. He designed prestressed concrete bulb-T beam bridges and other vital bridge components as well as worked on the quantity estimation of the bridge structures and geometry calculations.			
08/21-12/21	Maryland State Highway Administration, I-495 and I-270 P3 Program, Virginia/Maryland - Design engineer during the bidding phase. For this project, he was responsible for the design and design review of four bridges. The bridge designs included the design of curved steel girders, abutments, hammerhead piers, wall-type piers, multiple column piers, drilled shaft foundation, and steel pile foundations.			

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Michael Schrepfer		Years of relevant experience with this employer	20
Title	Inspection Team Leader / Practice Safety Leader		Years of relevant experience with other employer(s)	15
Degree(s) / Years / Specialization			ME / 1998 / Coastal Engineering BS / 1990 / Ocean Engineering	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	Other Pertinent Training / Certifications FHWA / NHI #130055 - Safety Inspection of In-Service Bridges, 1994 FHWA / NHI #130053 – Bridge Inspection Refresher Training, 2024 FHWA – SNBI Training, 2024 FHWA / NHI #130078 – Fracture Critical Inspection Techniques for Steel Bridges and Refresher, 2009/2024 FHWA / NHI #130110 – Tunnel Safety Inspection, 2017 (Refresher 2021) FHWA / NHI #130087A - Inspection of Ancillary Highway Structures, 2024 LADOTD Movable Bridge Inspection Workshop, 2012 LADOTD Maintenance and Rehabilitation of Historic Bridges, 2016 LTAP – Inspection of Local Bridges, 2022 ATSSA - Traffic Control Supervisor, 2024 and Flagger, 2024	
Contract role(s) / brief description of responsibilities			Bridge Inspection Task Leader/Inspection Team Leader Michael possesses 35 years of experience and progressive responsibility with the performance of a wide variety of above and underwater facility inspections throughout the United States and in overseas locations that have included waterfront structures, bridges and military facilities. The types of bridges he has inspected consist of concrete and masonry arches, simply supported and continuous concrete, steel and timber girder, steel trusses, fracture critical, and movable. Over the course of conducting his work, Michael has operated a wide range of equipment including digital photography and video, various sized watercraft, commercial diving equipment, non-destructive testing equipment, bucket trucks and Snoopers, and fathometers.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/25-Present	LADOTD, S.P. No. 44-21515; Movable Bridge Inspection, Iberia and Terrebonne Parish, LA – Team Leader performing in-depth and NSTM inspections of 5 swing bridges. Led all structural, electrical, mechanical, plumbing, architectural, and coating assessment inspections. Wrote the element level report in InspectX and the SNBI coding for each bridge. Coordinated and managed the traffic control, inspection boats, and safety operations.			
11/21-01/22	LADOTD, S.P. No. 44-17264; H.011965.5, LA 47 over IWGO, Bridge Rehabilitation, New Orleans, LA – Senior team leader performing the bridge cleaning/washing inspection for the rehabilitation design of this tied arch/deck truss bridge. He led the cleaning operations and subs with use of manlift, platform truck, snooper truck, and safety boat. He supervised traffic control, safety operations, and wrote the inspection and cleaning reports.			
02/16-12/19	LADOTD, 44-4920 (H.009859.5), Complex Load Rating and Inspection, Statewide, LA – Senior team leader for the load rating inspections of 15 complex truss and moveable bridges over major waterways. The bridges included the steel tied arch truss bridge LA 47 over IWGO, riveted plate girder and deck truss Riverbound Expressway (US 90B), and 5 movable bridges: Intracoastal Waterway Bridge at Ellenders (vertical lift), LA 654 over Bayou LaFourche (vertical lift), LA 657 over Bayou LaFourche (vertical lift), LA 319 Intracoastal Canal Bridge (bascule), LA 83 over Patout Bavou (swing),			

	Local Road over Bayou Terrebonne (swing), Bridge over Bayou Teche at Adeline (swing). He planned, coordinated with state and local agencies (DOTD, USCG, LSP) and managed traffic control, special aerial access, and rope access teams; developed the safety plans, and led the inspection teams. The inspections involved the use of special access equipment such as manlifts, snoopers, boats, confined space entry, as well as coordination for bridge openings with marine traffic during the inspections. He directed the document search and collection of as-built plans, bridge inspection reports, and other historical documents in hard copy and electronic format. He managed the project accounting and subcontractors. He performed QA/QC of the inspection reports.
03/16 – 08/23	LADOTD, Contract Nos. 4400005960 and H.013321 Complex Bridge Inspections – Senior team Leader for the in-depth inspections of complex bridges that included trusses and movable bridges . These bridges included: I-10 Mississippi River, I-10 Calcasieu River, US 190 Mississippi River bridges (cantilever and deck truss), I-310 Luling (cable stayed/box girder) and US 90 over IHNC, Danziger Bridge (vertical lift), LA 1 over Company Canal (vertical lift), LA 23 over ICCW (vertical lift), LA 39 Claiborne over IHNC (vertical lift through truss). He led inspection teams during the inspections and operated various equipment including a bucket truck, manlifts, bucket boat and snoopers. He wrote the inspection reports in DOTD AssetWise format, developed element level quantities and condition states, and SI&A data. He searched for bridge plans and inspection reports from the DOTD Plans and Microfilm Rooms. He developed project safety plans and inspection schedules for multiple inspection teams. He coordinated with 8 th Coast Guard District to obtain permits and notice to mariners. Performed all traffic control coordination, reviewed and submitted traffic control plans, and worked directly with DOTD Districts to obtain permits and provide notice to the traveling public for bridge inspections under multiple task orders.
09/14-12/14; 01/15-03/15	LADOTD, Movable Bridge Inspections, LaFourche Parish, LA – Senior team leader for the special above and underwater inspections of two pontoon bridges to develop repair and maintenance plans and documents. He planned the logistics, scheduling, and inspection operations. He led the field inspections and performed the diving, inspection report writing and repair recommendations.
12/12-04/13	LADOTD, S.P. No. 002562.5 – Bayou LaLoutre Bridge Rehabilitation, St. Bernard Parish, LA – Senior Team Leader for the special rehabilitation inspection of this vertical lift bridge . He planned, coordinated with state and local agencies and subcontractors (including traffic control), and led inspection team. Used special access equipment such as manlifts and coordination for bridge openings with marine traffic during the inspection. He performed ultrasonic NDT of the primary steel members and thermal imaging of the concrete deck. He directed the search and collection of as-built plans, bridge inspection reports, and other historical documents in electronic format located at DOTD and General Files. Performed coordination with 8 th Coast Guard District to provide notice to mariners. Inspected and corrected traffic control patterns and operations daily during the inspections.
08/09-11/09	LADOTD, 44-0641 (700-99-0429) / H.005330.5 (701-65-1215) Little Caillou and Bayou LaCarpe Bridges, Houma, LA – Senior Team Leader for the special rehabilitation inspections of two vertical lift bridges . He planned, coordinated with state and local agencies and subcontractors (including traffic control), and led the inspection teams and in-house traffic control operations. The inspection involved the use of special access equipment such as manlifts and coordination for bridge openings with marine traffic during the inspection. He managed the project safety, accounting and subcontracts. He performed all traffic control coordination, reviewed and submitted traffic control plans, and worked directly with DOTD Districts to provide notice to the traveling public. He inspected and corrected traffic control patterns and operations daily during the bridge inspection operations. He directed document searches and collection of as-built plans, inspection reports, historical documents on DOTD databases, Section 51 office, and General Files.
05/12-05/16	LADOTD, Contract No. 4400002184, Bridge Preventative Maintenance Program - Senior Inspection Team Leader for the special rehabilitation inspections of 26 highway bridges to develop maintenance repair plans. He planned and coordinated the inspections which included traffic control and special access equipment. He wrote the inspection reports and recommended bridge repairs. He directed the search and collection of as-built plans, bridge inspection reports, and other historical documents located on the DOTD database, Section 51 Bridge Maintenance office, and DOTD General Files. Performed all traffic control coordination, reviewed and submitted traffic control plans, and worked directly with DOTD Districts to obtain permits. Inspected and corrected traffic control patterns and operations daily during the bridge inspection operations.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Paul Misch, Jr., P.E.		Years of relevant experience with this firm/employer	22
Title	Senior Bridge Engineer		Years of relevant experience with other firm(s)/employer(s)	6
Degree(s) / Years / Specialization			M.S. / 1999 / Civil Engineering B.S. / 1996 / Civil Engineering	
Active registration number / state / expiration date			#PE.0034416 / LA / 09-30-2027	
Year registered	2009	Discipline	Civil Engineering Other Pertinent Training / Certifications NHI Course #130055, Safety Inspection of In-Service Bridges, 2005 NHI Course #130053, Bridge Inspection Refresher Course (2015) NHI Course #130056 – Safety Inspection of Bridges for Professional Engineer, 2024	
Contract role(s) / brief description of responsibilities			Bridge Design / Bridge Inspection Paul offers more than 28 years of new and rehabilitation bridge design experience which has encompassed the design and detailing of steel and concrete superstructures, as well as substructure design, including integral and semi-integral abutments, hammerhead and rigid frame piers, steel piling, drilled caissons and spread footings. In addition, he has designed temporary works for bridge contractors.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
03/18-02/19	WVDOH, I-70 Bridges, Rehabilitation of Greenwood Bridge WB & EB (I-70 WB & EB Over Wheeling Creek), Ohio County, WV - Member of the design team that developed rehabilitation plans for these curved and skewed steel girder bridges having span lengths of 89’-137’-83’. Responsible for detailing modifications to the bridges for conversion to semi-integral abutments. Detailed demolition limits for the existing abutment backwalls and portions of the wingwalls. Developed plan details for new shear blocks and concrete end diaphragms to be built in phases for maintenance of traffic purposes. Also detailed modifications to existing steel end crossframes for embedment in the new concrete end diaphragms.			
03/18-02/19	WVDOH, I-70 Bridges, Rehabilitation of Elby’s Bridge WB & EB (I-70 WB & EB Over Ramp B, Ramp C and Wheeling Creek) – Ohio County, WV - Member of the design team that developed rehabilitation plans for the seven span, steel rolled beam bridges with span lengths ranging from 39’ to 92’. Responsible for detailing modifications to the bridges for conversion to semi-integral abutments. Detailed demolition limits for the existing abutment backwalls, pedestals and portions of the wingwalls. Developed plan details for new shear blocks, pedestals, concrete end diaphragms and end zone regions of the deck slabs. Also detailed modifications to existing steel end crossframes for embedment in the new concrete end diaphragms.			
06/13-04/15	WVDOH, Phill G. McDonald Memorial Bridge Rehabilitation, I-64 Over Glade Creek, Raleigh County, WV – Bridge Design Engineer responsible for developing the rehabilitation plans for this five-span (125’-560’-784’-560’-150’) bridge consisting of a three-span continuous steel deck truss and two welded plate girder approach spans. The overall bridge length is 2,179' with a roadway width of 72'. Tasks included bearing replacements, strip seal deck joint replacements, neoprene trough replacement at finger joints, addition of gusset plate stiffening angles, miscellaneous bolt replacements, bird screen repairs, addition of chord member drain holes, spot painting, concrete patching/crack sealing on the deck and piers, and pier door replacements.			
03/14-06/15	WVDOH, Kanawha Falls Bridge Rehabilitation, County Route 13 over Kanawha River, Fayette County, WV – Bridge Design Engineer responsible for developing rehabilitation plans for this historic (1928) four-span (265’-400’-265’-73’) bridge which consists of three through trusses, a rolled beam approach span and a roadway width of 21.5'. Tasks included compiling quantities, designing a phone conduit system and an 8” diameter waterline			

	connection to the floor system, checking of the span 4 deck slab design and coordinating the development of rehabilitation plans between four (4) design offices.
07/12-07/12; 07/15-07/15; 07/16-07/16	WVDOH, Fifth Street Bridge, Wood County, WV - Team Leader for the in-depth inspection of this 905' two-span Warren through truss over the Little Kanawha River and CSX Railroad. The inspection included fracture critical steel bents. He provided a written inspection report and CAD drawings of the deterioration.
10/11-10/11 10/12-10/12 10/14-10/14	WVDOH, Inspection of 35th Street Bridge and Ramps A & B, Kanawha County, WV – Team Leader performed an in-depth inspection of 8 welded steel plate girder spans and substructure consists of one full height reinforced concrete cantilever abutment and 9 two-column reinforced concrete pier bents. He provided a written inspection report and CAD drawings of the deterioration.
01/13-01/13	WVDOH, Kanawha Falls Bridge, Fayette County, WV – Participated in the in-depth inspection as part of a rehabilitation of this three-span (265 feet-400 feet-265 feet) through-truss and simple span two-girder plate girder bridge over the Kanawha River, CSX and Norfolk Southern Railroad and County Route 13/2. All elements of the bridge were either verified from shop drawings or documented when no existing information was available.
05/11-05/11 08/12-08/12	WVDOH, I-470 Approach Bridges Inspection, Ohio County, WV - Inspector performing an in-depth inspection of this 29-span twin-bridge structure which consists of multiple continuous spans of welded steel plate girders. The bridge has concrete hammer-head piers, two-column concrete piers with fracture critical steel pier caps, and a full height abutment. The overall length is 3545 feet.
09/05-08/10	WVDOH, Phill G. McDonald Memorial Bridge Inspection over Glade Creek, Raleigh County, WV - Team Leader performed in-depth and routine inspections for 5 cycles of this five-span bridge which consists of a three-span steel deck truss and two-span welded plate girders. He performed a load rating analysis of the gusset plates using the LFR method for the three-span steel deck truss bridge. This bridge is regarded as one of the highest truss bridges in the world.
10/03	WVDOH, Veteran's Memorial Bridge Inspection, Brooke County, WV – Assigned as an Inspector to perform periodic inspection of this cable-stayed bridge spanning Ohio River. The bridge consists of a single 360' inverted Y-shaped concrete tower. Twenty-six (26) paired cables reach across the 690-foot West Virginia back span and the 820-foot main river span to two Ohio approach spans of 314 and 140 feet. He inspected the concrete deck, steel superstructure, approach span piers and portions of the concrete tower.
02/13-02/14	WVDOH, WV Thomas Buford Pugh Memorial Bridge Replacement (WV Rt. 41 Over the New River), Fayette County, WV - Responsible for the Superstructure Type, Size and Location Study for this three-span (217'-250'-190'), curved steel plate girder bridge. Tasks included framing plan development and preliminary design of steel girders with 125' radii and sharply skewed abutments.
06/11-08/14	WVDOH, Bridge Street Bridge Replacement, Taylor County, WV - Responsible for preliminary studies and the final design of this two-span (173'-130') steel plate girder bridge carrying Bridge Street over the Three Fork Creek and CSX Railroad in the City of Grafton, WV. Tasks included designing steel plate girders, deck slab, rigid frame concrete pier with drilled caissons, extensive MSE wall layouts, conceptual bridge demolition and erection schemes over several CSX rail lines. Also checked the design for the integral abutments founded on steel H-piles.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Denny Dispennette, P.E.		Years of relevant experience with this employer	9
Title	Civil Engineer		Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization			M.S./ 2012 / Civil Engineering B.S. / 2010 / Civil Engineering	
Active registration number / state / expiration date			#PE.0044141 / LA / 03-31-2028	
Year registered	2019	Discipline	Civil Engineering Other Pertinent Training / Certifications FHWA-NHI-130055 - Safety Inspection of In-Service Bridges, 2014 FHWA-NHI-130053 - Bridge Inspection Refresher Training, 2021 FHWA-NHI-130078 - Fracture Critical Inspection Techniques for Steel Bridges, 2021 FHWA-NHI-130092 - LRFR for Bridge Superstructures, 2014	
Contract role(s) / brief description of responsibilities			Inspection Team Leader / Load Rating (Satisfies MPR #4) Denny possesses more than 14 years of experience involving bridge load rating, bridge inspection, and design while working for the WVDOH (5) and TRC (8). His expertise includes extensive bridge load rating work, performance of in-service bridge safety inspections, hauling permit evaluation, and overall guidance with respect to the WVDOH’s load rating program, including development of the WV Bridge Load Rating Manual. He has provided load rating support statewide to bridge engineers, implemented load rating policies to comply with NBIS requirements, and analyzed various types of bridge materials, including steel, concrete, and timber using such design philosophies as LFRD, LFD, and ASD. He has also evaluated simple bridges and complex bridges using AASHTOWare BrR, LARSA 4D, MDX, and much more.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
10/22-07/23	Trout Run Cutoff Bridges – Hardy County, WV (WVDOH) – Designer and load rater for the twin bridges carrying US48 over a local road. He designed the two different (EB & WB) steel superstructures (girders and all associated details) and load rated each of these new bridges to be constructed next year.			
06/25-Present	WVDOH, District 1 Evaluation Engineer – Task Order assignment to serve as the District 1 Evaluation Engineer. In this role, he is responsible for the routine load rating review (evaluation) of every bridge in District 1. He leads 3 to 9 people within TRC as they load rate bridges, handles all client interaction, and makes bridge weight limit recommendations and repair recommendations to the District Bridge Engineer. During this project, he has overseen the load rating by TRC of the Patrick Street Bridge, a 27-span Kanawha River crossing located in Charleston, WV. In an effort to help the district successfully meet their federal deadline, he led the review of over 400 bridges in just four months.			
04/22-07/22; 04/23-07/23; 04/24-Present	WVDOH, Blennerhassett Island Bridge, Parkersburg, WV (WVDOH) – Project Manager/Team Leader during the Routine (2022, 2024) and Special inspections (2023) of this network arch bridge that carries U.S. Route 50 over the Ohio River and historic Blennerhassett Island. The longest bridge in West Virginia, the structure has a total length of 4008’-9”. Led the performance of a hands-on inspection of every element of the structure which included the Ohio approach (three-span steel girder unit with a total length of 489’-9”), main span (878’-6” network tied-arch unit that crosses the main channel of the Ohio River) and WV approaches consisting of an eight-span steel girder unit (total length of 2,624’-10½”). He also planned the inspection, safety,			

	subcontractor coordination/contracting, and traffic control; wrote the inspection report; developed the element level data; and updated the SI&A coding. Presently leading the load rating of this structures using LARSA 4D and AASHTOWare BrR software.
12/21-01/22	Linden Street Bridge over Lackawanna River, Scranton, PA (PennDOT) – Load rater for the superstructure (steel girder) and substructure load rating using LRFR.
12/21	LADOTD, Contract No. 44-13321; H.09730.5 Retainer Contract for In-depth Bridge Inspections (On-System), Statewide – Team Leader responsible for the routine and element level inspection of the I-10 over Calcasieu River truss bridge . He inspected the deck, steel superstructure (girders, floor beams, stringers, bearings), steel substructure (bent caps, columns, diagonal bracing, gusset plates) using aerial access equipment. He wrote the inspection report defect list and updated the drawings for the defects.
11/20-11/20	General Engineering Services Contract, Franklin County Engineer’s Office (FCEO), OH – Team Leader responsible for 17 bridges. He led the field inspection and wrote the inspection reports in AssetWise in accordance with NBIS and ODOT standards.
12/19-12/20	LADOTD, Contract No. H.012485.1 Off-system Load Rating, Statewide, LA – Load rating engineer responsible for load rating of 300 off-system bridges (COSLAB, COPCSS, steel and concrete girders, culverts). He rated the concrete panel and slab superstructures using AASHTOWare BrR software and timber pile substructure units using Excel and STAAD. He was the responsible engineer for over 50 bridge load rating reports. The load ratings were performed using the current <i>AASHTO Manual for Bridge Evaluation</i> and <i>DOTD Policies and Guidelines for Bridge Rating and Evaluation</i> . He provided repair recommendations for bridges with 3 ton or closure ratings.
10/19-03/20	Off-system Bridge Load Rating, South Carolina Department of Transportation, Statewide, SC - Load rating engineer responsible for the load rating of several off-system bridges in South Carolina. He used AASHTO BrR for the concrete superstructures, load rated the substructure elements, issued posting recommendations, and updated NBI data.
04/18-12/19	LADOTD, Contract No. 4400004920 (H.009859.5) Complex Load Rating and Inspection, Statewide, LA – Performed load ratings and inspections of complex bridge structures that included trusses and movable (vertical lift, bascule, swing) bridges. Services included: Plan and document retrieval and review; Bridge inspection; and Structural modeling and analysis. Load Rated each assigned bridge based on present condition, capacity and loading using the load rating provisions in the current <i>AASHTO Manual for Bridge Evaluation</i> and <i>DOTD Policies and Guidelines for Bridge Rating and Evaluation</i> . Also peer reviewed ratings.
10/18-12/18	I-70 Bridge Rehabilitation, Ohio County, WV (WVDOH) – Team leader for the rehabilitation bridge inspections of four steel multi-girder bridges carrying I-70 EB and WB. He ensured the completion of thorough condition documentation as well as geometric inventory measurements to provide information for the rehabilitation of each structures. He also participated in the preparation of rehabilitation plans for the bridges.
11/18-12/18	Kanawha Falls Bridge, Kanawha Falls, WV (WVDOH) – Team leader for the emergency bridge inspection a 90-year-old, three-span, riveted through truss over the Kanawha River. He led and performed the inspection of the entire floor system to verify conditions and to advise if additional emergency repairs were required. He led and performed an inspection of the truss lower chords and stringers looking for critical findings that might require immediate repair or preclude the bridge from reopening. A hands-on inspection of the lower chords and floor beam to lower chord connections was also conducted. He developed and submitted an inspection report.
10/17-02/18	Office of State Aid and Construction, Bridge Inspection and Off-system Load Rating Contract, Statewide, MS - Load rating engineer responsible for the performance of load rating analyses on the timber substructure elements of 160 off-system bridges in Lincoln, Pike, and Amite counties. He analyzed timber and concrete substructure components in compliance with the AASHTO MBE. This load rating effort was completed on an accelerated schedule.
10/12-09/17	West Virginia Division of Highways, Charleston, WV – Bridge engineer/load rater/bridge inspector while employed by the WVDOH. His responsibilities included the load rating of trusses, steel deck girders, steel box beams and simple span bridges ; performance of QA/QC on load ratings; development of the load rating policy for the State’s load rating program; review of consultant load rating reports; and teaching classes on load rating to State bridge engineers. He also served as a team member during the inspection of several complex girder and truss bridges, including I-470 over the Ohio River and the Hi Carpenter Memorial Bridge over the Ohio River, and during routine inspections of other bridges throughout the state.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Nichole Caiazzo, P.E.		Years of relevant experience with this employer	11
Title	Bridge Engineer		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization			B.S. / 2008 / Civil Engineering	
Active registration number / state / expiration date			#PE.0041078 / LA / 03-31-2027	
Year registered	2016	Discipline	Civil Engineering Other Pertinent Training / Certifications FHWA-NHI-130092 – Fundamentals of LRFR for Bridge, 2016 FHWA-NHI-132082 – LRFD for Highway Bridge Substructures, 2018 FHWA-NHI-132010B – LRFD for Foundation Design, 2018	
Contract role(s) / brief description of responsibilities			Load Rating / Bridge Rehabilitation Design (Satisfies MPR #4) Nichole has over 18 years of experience in the discipline of civil engineering which has been focused on the inspection, design and review processes associated with new bridges and bridge maintenance and repair, as well as the load rating of new, existing and rehabilitated bridges. Over the course of accumulating her experience, she has gained experience with designing, detailing and analyzing highway bridge elements and is adept with the use of such software as AASHTOWare BrR (formerly Virtis), MDX, Merlin-DASH, LEAP Consplan, LEAP RC-Pier, FB-MultiPier, LARSA 4D, Consys, GTStrudl, and STAAD.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
05/23-Present	Ohio Department of Transportation, VAR-STW-Statewide Load Rating - Performing checks and load rating of reinforced concrete slab bridges using AASHTOWare BrR software.			
11/19-12/20	LADOTD, Contract No. 4400004920 (H.012485.1), Complex Off-system Bridge Rating and Evaluation, Statewide, LA – Responsible for the inspection and load rating of 346 off-system bridges (COSLAB, COPCSS). She performed load rating analysis using LRFR with AASHTOWare BrR for the superstructures and substructures (timber and concrete piles). Provided repair recommendations for bridges with 3-ton or closure ratings.			
05/19-12/21	South Carolina Department of Transportation, Bridge Load Rating and Evaluation Services – District 4, SC - Engineer-of-record, load rater and reviewer responsible for reviewing as-built plans and recent inspection reports, and completing load capacity ratings and related tasks for 60 on- and off-system bridges consisting of steel plate girder, prestressed cored slab, reinforced concrete flat slab, and reinforced concrete precast panel superstructures. The load rating was performed using AASHTOWare BrR in accordance with the SCDOT Load Rating Guidance Document and AASHTO Manual for Bridge Evaluation (MBE) using the Load Resistance Factor Rating (LRFR) and Load Factor Rating (LFR) methods. Also led the load rating QA process.			
09/21-11/21	City of Bossier City, Walter O. Bigby Carriageway, Bossier City, LA - Bridge engineer responsible for the review of shop drawings for the steel girder superstructure of a new 1,550-foot, 10-span bridge. The structure consists of a horizontally curved, haunched 4-span steel plate I-girder main span continuous unit over the Union Pacific Railroad and prestressed concrete bulb tee approach spans.			
04/16-06/19	LADOTD Contract No. 4400004920 (H.009859.5) On-system Complex Load Rating, Statewide, LA – Bridge engineer for the load rating of movable and complex truss bridges using AASHTOWare BrR in accordance with the AASHTO Manual for Bridge Evaluation (MBE), the Load Resistance Factor Rating (LRFR) method, and DOTD Policies and Guidelines for Bridge Rating and Evaluation. Bridges that she load rated included LA 670 over Bayou Teche (swing bridge), LA 47 over IWGO (tied arch, deck truss, steel & concrete girder, concrete slab), US 90 Business Riverbound Expressway (deck truss and steel plate girder, floorbeams, stringers, gusset plates), and I-220 over Russell Road (steel plate girders) . She load rated reinforced concrete slab approach spans and open steel grid decks, along with portions of the main span, stringers and floorbeams in the main span, and reinforced			

	concrete bent caps. She used AASHTOWare BrR, CONSYS software and Mathcad hand calculations to load rate open steel grid decks, floorbeams, stringers, and concrete bent caps. Developed influence lines for existing and new girders, as well as hammerhead bent caps using AASHTOWare BrR software.
08/22-05/25	West Virginia Department of Transportation – Division of Highways, Coalfields Expressway Pineville to Mullens Section, Wyoming County, WV - Project involved the study, design and preparation of contract plans for the Coalfields Expressway project from the access at Pineville to Mullens (8.2 miles). Included in the work is the preparation of TS&L documents and final detail bridge plans for the Still Run Bridge (1,138', 4-span steel plate girder bridge, 260' +/- above the creek/valley floor) and the Marsh Fork Bridge (91.5', single span steel plate girder bridge). Responsibilities have included design of the 206 foot long reinforced concrete box culvert that carries Meadow Fork under Twin Falls Connector. Tasks also included wingwall design, quantity calculations, preparing cost estimate and plan preparation. Responsibilities for the Still Run Bridge included checking quantities and cost estimate for the Span Arrangement Report.
04/19-12/20	South Carolina Department of Transportation, SCDOT Bridge Inspection and Evaluation Services – Engineer-of-record and load rater responsible for reviewing as-built plans, recent inspection reports and completing load capacity ratings and related tasks for 10 on- and off-system bridges consisting of prestressed concrete beam, reinforced concrete tee beam and steel plate girder superstructures. Load rating was performed using AASHTOWare BrR in accordance with the SCDOT Load Rating Guidance Document and AASHTO Manual for Bridge Evaluation (MBE) using the Load Resistance Factor Rating (LRFR) and Load Factor Rating (LFR) methods.
05/18-07/18	West Virginia Department of Transportation-Division of Highways, Henrietta Bridge Renovations, Calhoun County, WV - Bridge engineer responsible for reviewing the load rating of the 3-span superstructure replacement consisting of continuous steel beams superstructure on repaired substructure. Load rating was performed using MDX in accordance with the AASHTO Manual for Bridge Evaluation (MBE) using the Load Resistance Factor Rating (LRFR) method and the WVDOH Bridge Design Manual.
08/18-09/19	I-70 Bridges Rehabilitation, Ohio County, WV and Belmont County, OH - Project involved the rehabilitation/replacement of seven (7) bridges along I-70 using cursory inspection information, discussions with the WVDOH, and analysis to establish rehabilitation efforts in accordance with WVDOH/ODOT manuals and standards. Performed design and analysis in accordance with AASHTO LFD Standard Specifications for analysis of existing bridges and LRFD for new bridges and repairs of existing bridges. Tasks for this project included: I-70 (EB & WB) over Wheeling Creek (Elbys Bridges) : Responsible for using RC-Pier for the substructure analysis of two (2) bridges consisting of a 7-span steel plate girder superstructure supported by reinforced concrete abutments with steel piles, multi-column piers on spread footings with steel piles, multi-column piers on caissons and spread footings with concrete piles and multi-column piers with a crash wall on spread footings. Bearings were replaced at all expansion piers and the cap was built-up at the overhang to resolve existing shear issues. Current and proposed thermal loads were modeled to compare cap, column and footing deficiencies. I-70 (EB & WB) over Wheeling Creek (Cemetery Bridges) : Bridge engineer responsible for using RC-Pier for the abutment analysis and checking the pier analysis of these two (2) bridges consisting of a 3-span steel plate girder superstructure supported by reinforced concrete abutments with steel piles and wall piers with spread footings. I-70 over Wheeling Creek (BEL-70) : Bridge engineer responsible for using RC-Pier for the pier analysis of this bridge consisting of a 7-span steel beam superstructure supported by multi-column piers with some caissons (wider columns) on spread footings with steel piles. The superstructure changed from 13 to 10 beams and the bearings were replaced.
02/09-12/12	Virginia Department of Transportation, Bridge Load Rating, Statewide, VA - Bridge engineer assigned to perform the load rating of over 200 existing bridges using Virtis in accordance with the AASHTO Manual for Bridge Evaluation (MBE) using the Load Resistance Factor Rating (LRFR) and Load Factor Rating (LFR) methods as specified by VDOT Guides and Instructional and Informational Memoranda. The bridge types including steel rolled beam and girder, prestressed box and I-beam, prestressed slab, reinforced concrete slab and tee beam, and timber superstructures. Developed the Virtis Software training and load rating instruction, references, project setup and procedures for VDOT load rating.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Craig Jacob, P.E.		Years of experience with this employer	4
Title	Bridge Engineer		Years of experience with other employer(s)	22
Degree(s) / Years / Specialization			B.S. / 1999 / Civil and Environmental Engineering	
Active registration number / state / expiration date			#PE.68866 / OH / 12-31-2026	
Year registered	2004	Discipline	Civil Engineer	
			Other Pertinent Training / Certifications FHWA / NHI #130053 - Bridge Inspection Refresher Training, 2022 FHWA / NHI #130055 - Safety Inspection of In-Service Bridges, 2005 FHWA / NHI #130078 – Fracture Critical Inspection Techniques for Steel Bridges, 2017	
Contract role(s) / brief description of responsibilities			Bridge Design / Inspection Team Leader	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
02/22-Present	Ohio Department of Transportation – District 12, CUY-77-1121, Cuyahoga County, OH - Lead Structural Engineer for this project which involves a realignment and shoulder widening for safety improvements along I-77 in the Cleveland urban corridor. Serving as lead structural engineer on the design and plan production for nine new retaining walls and the reconstruction of two underpass bridges within the project limits to facilitate realignment of the interstate.			
06/22-10/24	Ohio Department of Transportation – District 11, HAS-151-0485 Design-Build, Harrison County, OH - Structural Engineer for this Design-build contract involving a complete replacement of the bridge carrying SR 151 over the G&W Railroad. The overpass alignment is highly skewed to the railroad alignment. The proposed structure follows the existing alignment but constructs one straddle bent over the railroad, instead of the six straddle bents of the existing bridge. Responsibilities include design development, quality review, and plan production.			
11/22 - 08/23	ODOT PID 116592/TRC 491195 – Statewide Load Rating, OH – Load rater performing LRFR and LFR ratings of steel beam and plate girder bridges. Reviewed completed ratings of bridges.			
04/22 – 05/22	US 50, Blennerhassett Island Bridge, Parkersburg, WV – Bridge Inspector while using aerial access equipment to inspect the superstructure main span (tied arch) and approach spans (steel girder) components along with the bearings and piers.			
09/21	ODOT, HAM-71-0134 Lytle Tunnel NTIS Inspection – Team Leader for a condition and element level inspection of the liner, headwalls, approach wingwalls, and structural components of facility chambers in the 855-foot long, 3-barrel tunnel of I-71 below Lytle Park in Cincinnati.			
04/21 - 05/21	GDOT, Cable Stay Bridge On-Call Services – Project Engineer during the production of inspection procedure manuals for two cable stay bridges in the Georgia structure inventory. He assisted in authoring the inspection manuals for the Talmadge Memorial Bridge in Savannah and the Sidney Lanier Bridge in Brunswick.			
02/21 - 03/21	Indiana Department of Transportation, I-74 Emergency Bridge Repair - Crawfordsville District - Engineer of Record for a damage inspection, repair design, and bridge details to correct vehicular impact on the steel beam superstructure of Wesley Station Road over I-74.			

01/20-12/21	KYTC, Ohio River Fracture Critical Bridge Inspection Services – Project Manager and Inspection Lead for the fracture critical inspection of five long-span Ohio River bridges. The structures in the contract are the historic Roebling Suspension Bridge (Cincinnati, Ohio), the Irvin Cobb Bridge (Paducah, Kentucky), the Carroll Cropper Bridge (Lawrenceburg, Indiana), the Ben Williamson Bridge (12th Street Ashland, Kentucky), and the Simeon Willis Bridge (13th Street Ashland, Kentucky). He led the load rating evaluation of the Carroll Cropper Bridge, a complex tied arch thru truss with suspender cables, based on as-inspected condition while using AASHTOWare BrR, LRFR and other software. Also authored the capacity evaluation report. He managed the execution of the project, coordinated with railroads and a traffic control subconsultant, communicated with Cabinet and District engineers, directed inspection staff, and updated the condition and element level records in the state inventory database (BrM). He led or reviewed deliverable reports on noted structural conditions and maintenance recommendations, including documentation of fatigue cracks verified with NDT.
10/19-10/20	South Carolina Department of Transportation, Bridge Load Ratings, SC - Task Leader and Quality Control Reviewer for a team of analysts during the load rating of more than 200 bridges in two South Carolina districts using AASHTOWare BrR and LRFR method. Work included the production of load rating documentation as engineer-of-record for the state bridge management system.
04/13; 04/17	KYTC, Ohio River Fracture Critical Bridge Inspection Services – Team leader for a fracture critical inspection of the 5,340-foot-long Irvin Cobb Bridge (Paducah, Kentucky) which consists of ten main simple-span thru truss units with a maximum span length of 716 feet across the Ohio River.
06/12; 06/16	KYTC, Ohio River Fracture Critical Bridge Inspection Services – Team leader for a fracture critical inspection of the 5,746-foot-long Clark Memorial Bridge (Louisville, Kentucky). The bridge consists of two adjacent 3-span continuous thru truss superstructure units with a maximum span length of 820 feet across the Ohio River.
09/11-03/12	Brown County Engineers Office, Truss Load Ratings - Brown County, OH - Lead inspector and structural analyst for the condition evaluation and documentation of deterioration on 10 pony truss structures maintained by the County Engineer's Office. Assessments included field measurements to verify as-built configuration and current deterioration of steel gusset plates. He also processed the condition information to perform a capacity evaluation of the truss members and gusset plate connections.
08/11-10/11	Ohio Department of Transportation, District 8, CLI-71-4.26, SR 380 over IR 71 Bridge Rehabilitation, Wilmington OH - Lead Bridge Inspector, Designer, and Load Rating Analyst for a deck replacement on the existing steel plate girders of SR 380 over IR 71 with semi-integral and composite conversion.
07/11	Kentucky Transportation Cabinet, Inspection of Ohio River Bridges - Inspection Team Leader on the Simon Kenton Memorial Bridge (US 62/68) to assess fracture critical members, measure gusset plate deficiencies, and appraise the entire suspension bridge for condition rating and repair/maintenance recommendations.
03/10; 04/11; 02/12	City of Middletown, Bridge Inspection and Analysis, Middletown, OH - Lead Engineer for the structural inspection, scour inspection, and load rating of 20 off-system bridges and large culverts in the municipality. Reviewer of annual city bridge inspections.
11/07-04/08	Ohio Department of Transportation, District 6, FRA-23-12.11, 4th Street Bridge over the NS Railroad and I-670, Columbus, OH - Inspection Team Leader and load rater for the seven-span bridge which consists of dog-legged steel beams, varying substructure skews, left and right horizontal curves with super-elevation reversal, and cantilevered structural concrete beams on abutment wingwalls.
07/15-11/15 07/11-11/11 07/09 - 11/09	ODOT District 8, Steel Pier Cap Inspections – Team leader for the fracture critical inspection of 51 structural steel pier caps on 13 different bridges in Hamilton County. Inspections included an evaluation of fatigue prone details and section loss measurement for capacity evaluation. He also produced condition rating reports for the fracture critical components and performed load ratings on several of the bridge pier caps.
08/08	KYTC, Ohio River Fracture Critical Bridge Inspection Services – Team leader for a fracture critical inspection of the 2,497-foot-long John F. Kennedy Bridge (Louisville, Kentucky) which consists of a 5-span continuous thru truss superstructure with maximum span length of 700 feet across the Ohio River.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Cody Shields, P.E.		Years of experience with this employer	11
Title	Civil Engineer		Years of experience with other employer(s)	0
Degree(s) / Years / Specialization			B.S. / 2011 / Civil Engineering	
Active registration number / state / expiration date			#PE.0044457 / LA / 09-30-2026	
Year registered	2020	Discipline	Civil Engineer	
			Other Pertinent Training / Certifications FHWA-NHI-130056 - Safety Inspection of In-Service Bridges for Professional Engineers, 2019 FHWA-NHI-130053 – Bridge Inspection Refresher Training (SNBI), 2024	
Contract role(s) / brief description of responsibilities			Bridge Inspector	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/23-08/23	TDOT NBIS Bridge Inspections, Contract E2456 (3 Work Orders) – Team Leader and/or Bridge Inspector for the routine inspections of off-system bridges in both Shelby Co. and Gibson Co. in Tennessee. Inspections were performed using InspectX software. Bridge superstructures included precast channel slabs (PCCS), concrete box beams and prestressed I-beams. Substructures included concrete abutments, pile bents, and pier systems. Inspections also included multi-span concrete box culverts.			
11/22-12/22	Ohio Department of Transportation, VAR-STW-Statewide Load Rating – Load rater assigned to perform LRFR and LFR ratings of steel beam and plate girder bridges with multiple doglegs on a curved alignment with variable flares pegged to a BrR line girder.			
2/20-09/20	Contract No. H.012485.1 Off-system Load Rating, Statewide, LA (DOTD) – Load rater for off-system bridges which included both COSLAB and COPCSS bridges. Reviewed inspection reports and performed analysis on bridge elements using AASHTOWare BrR (superstructure) and STAAD (substructure) software.			
11/17-12/17	Contract No. H.009730.5 Retainer Contract for Inspection of Complex Bridges, Statewide, LA (LADOTD) – Bridge inspector for the in-depth inspection of the Judge Perez vertical lift bridge. Documented deficiencies observed on the concrete bridge deck, parapets, open-grid metal deck (lift section), abutments, and bents			
10/17-11/17	Off-System Timber Bridge Inspections (MDOT) - Bridge inspector for over 40 bridges in three counties in southwest Mississippi. All bridges were either partially or fully comprised of timber components: piling, pile caps, girders, decking, and railing. Inspections included noting any elements that were deteriorated or damaged, taking detailed photographs of the condition of the bridge and all elements, and documenting everything in a report furnished to the client.			

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Mark Christensen, P.E.		Years of experience with this employer	20
Title	Bridge Project Manager/Engineer		Years of experience with other employer(s)	20
Degree(s) / Years / Specialization			M.B.A. / 1987 / Engineering and Science Management B.S. / 1985 / Civil Engineering	
Active registration number / state / expiration date			#45569 / CA / 12-31-2026	
Year registered	1990	Discipline	Civil Engineering Other Pertinent Training / Certifications FHWA-NHI-130055 - Safety Inspection of In-Service Bridges Certificate 10-Hour OSHA Construction Safety Certificate	
Contract role(s) / brief description of responsibilities			Sr. Bridge Engineer (movable)	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
05/16-03/21	San Francisco Public Works, Third Street Bridge Rehabilitation, San Francisco, CA - Project Manager for design, environmental documentation and construction support services for this project. The historic Third Street Bridge over Mission Channel, commonly known as the Lefty O’Doul Bridge, is a single leaf, heel trunnion type bascule span bridge . Mr. Christensen led a team of structural, bridge and environmental engineers to inspect and assess the condition of the bridge and then prepare rehabilitation plans which allowed the City to bid the project. Construction is complete. Presently assisting the Client with closeout duties.			
02/04-06/07	San Francisco Public Works Fourth Street Bascule Bridge Retrofit and Rehabilitation, San Francisco, CA - Served as Project Engineer responsible for providing construction support services and construction inspection assistance on this \$23 million historical bascule bridge rehabilitation project. The structure is a one-of-a kind in California with slender, steel-laced towers supporting a massive overhead counterweight which was retrofitted to a subterranean pit for seismic safety.			
04/18-05/18	County of Alameda, Moveable Bridge Inspection, Alameda, CA - Served as TRC’s project manager for an in-depth inspection of the Park Street, High Street and Miller Sweeney moveable bascule span bridges over the Alameda Tidal Basin. Areas of inspection included the floor system, truss members, gussets plate, and upper lateral system of the Park and High Street Bridges. Inspections were done from a bucket boat that had a basket with 62' reach capable of reaching all locations of the floor system and the upper truss gussets from the water, as well as a boom truck to inspect the upper lateral system and sway braces. Areas of inspection on Miller Sweeney included the steel box girder spans, orthotropic steel deck, pre-cast concrete girders spans and concrete piers. A report was prepared and submitted to the Prime consultant.			
11/18-12/19	West Virginia Division of Highways, I-70 Bridge Rehabilitation, Ohio County, WV - Project Manager for the Rancho Cordova office where he managed, designed and oversaw the work of design engineers for the rehabilitation of two bridges on this fast-paced project. The total project included 27 bridges designed by three firms in offices across the U.S. Work began in November of 2018, with 2700 final plan sheets, specifications and construction cost estimates being completed in June 2019. Mr. Christensen provided QA/QC reviews of all submittal and RFI responses prepared for construction of this project.			
11/18-06/19	Monterey Peninsula Regional Park District, Five Bridges Inspection and Repair/Rehabilitation- Monterey County, CA - Served as Design Engineer to provide safety inspections and repair / rehabilitation recommendations on five bridges, four precast prestressed concrete double-tee pedestrian bridges and one prefabricated steel truss vehicular / pedestrian bridge.			

04/16-12/20	Fresno County, Fresno Canal Bridge Replacement at McKinley Avenue, Fresno, CA - Served as Design Engineer for the replacement of this two-span, structurally deficient, timber stringer bridge. The new bridge is a clear span precast/prestressed voided slab bridge with composite concrete topping slab and is 10' longer than the existing bridge to improve channel hydraulics and alleviate scour.
07/15-12/19	Monterey County, Gonzales River Road Bridge Replacement, Monterey County, CA - Served as Project Engineer for preliminary and final PS&E design services associated with a replacement of the superstructure for an existing 23-foot wide / 29-span bridge with a two-lane, 1700-foot-long/21-span bridge having a clear width of 40 feet. The profile of the roadway will be raised so that the new superstructure has two feet of freeboard.
06/08-04/10	Glenn County, Campbell Slough Bridge Replacement, Glenn County, CA - Design Engineer for the replacement of an existing nine-span bridge with a four-span cast-in-place reinforced concrete slab bridge over Campbell Slough. Project included a temporary roadway detour of County Road Z traffic. The design included driven pile options (precast/prestressed concrete or cast-in-steel-shell concrete), metal tube bridge railing (type 215), and a reinforced concrete drop cap to meet latest seismic code requirements at the piers.
03/15-02/16	Fresno County, Bridge Preventive Maintenance, Scour Mitigation at Various Locations, Fresno, CA - Design Engineer for this Bridge Preventive Maintenance project which included the design of scour countermeasures and various other repairs for seven (7) County bridges. TRC developed a preliminary report to summarize the preventive maintenance needs at each bridge. The County concurred with the report and TRC performed work in the final design phase of the project.
04/08-06/11	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge Projects C & D (Phase 9), Shelby County, TN - Served as Project Engineer for the seismic retrofit design of Projects C & D. The retrofit work included abutment, footing, column, bent cap and bearing retrofits. Large modular joints were installed at a few locations in the deck. A PS&E package was prepared. Construction Cost: \$60,000,000.
08/07-12/10	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge, Ramps and Group I2 (Phase 8), Shelby County, TN - Served as Project Engineer for seismic retrofit design of the ramps and Group I-2. The design included abutment, footing, column, bent cap and bearing retrofits. Large modular joints were installed at a few locations in the deck. A PS&E package was prepared. Construction Cost: \$43,500,000.
06/05-09/07	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge, Project 6 (Phase 7), Shelby County, TN - Served as Project Engineer for a seismic retrofit design from the east end of the tie-arch structure (Pier C) to Pier E12. Design consisted of replacing existing bearings with lead-core isolator bearings; large modular expansion joints in the deck, cross frames and bottom lateral bracing; and a longitudinal deck joint at the junction of Pier E3 and Pier NO1. A PS&E package was prepared.
03/04-12/06	Tennessee Department of Transportation, I-40 Mississippi River Relief Bridges, Group A and B (Phase 6) - Crittenden County, AR - Served as Project Engineer for the retrofit design of Group A and B, a \$50 million project. He coordinated the seismic retrofit on Group A and substructure design work on Group B. A PS&E package was prepared.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Cameron Pinkerton, P.E.		Years of experience with this firm/employer	21
Title	Senior Bridge Engineer		Years of experience with other firm(s)/employer(s)	1
Degree(s) / Years / Specialization			B.S. / 2004 / Civil Engineering	
Active registration number / state / expiration date			#73288 / CA / 12-31-26	
Year registered	2008	Discipline	Civil Engineering Other Pertinent Training / Certifications 10-Hour OSHA Construction Safety Certificate LRFD Course – Load and Resistance Factor Design (LRFD) Methodology for California Bridges, 2006	
Contract role(s) / brief description of responsibilities			Bridge Design (Movable)	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
05/16-3/21	San Francisco Public Works, Third Street Bridge Rehabilitation, San Francisco, CA - Project Engineer for design, environmental documentation and construction support services for this project. The historic Third Street Bridge over Mission Channel, commonly known as the Lefty O’Doul Bridge, is a single leaf, heel trunnion type bascule span bridge. Mr. Pinkerton provided bridge inspection services to rehabilitate the condition of the bridge and then prepared rehabilitation plans, allowing the City to bid the project. Construction is complete, just assisting the Client with closeout duties.			
02/04-06/07	San Francisco Public Works Fourth Street Bascule Bridge Retrofit and Rehabilitation, San Francisco, CA - Served as Design Engineer responsible for providing construction support services and construction inspection assistance on this \$23 million historical bascule bridge. The structure is a one-of-a-kind in California with slender, steel-laced towers supporting a massive overhead counterweight which was retrofitted to a subterranean pit for seismic safety.			
04/18-05/18	County of Alameda, Moveable Bridge Inspection, Alameda, CA - Served as inspector for the in-depth inspection of Park Street, High Street and Miller Sweeney moveable bascule span bridges over the Alameda Tidal Basin. Areas of inspection included the floor system, truss members, gussets plate, and upper lateral system of Park and High Street Bridge. Inspections were done from a bucket boat that had a basket with 62' reach capable of reaching all locations of the floor system and the upper truss gussets from the water as well as a boom truck to inspect the upper lateral system and sway braces. Areas of inspection on Miller Sweeney included the steel box girder spans, orthotropic steel deck, pre-cast concrete girders spans and concrete piers.			
08/10-10/12	Louisiana Department of Transportation and Development, US-190 Mississippi River Bridge, Cleaning, Painting and Repair Phase I, Baton Rouge, LA - Bridge Inspector and Design Engineer for the Phase I rehabilitation on portions of the steel through truss bridge: splice plate repairs on the upper and lower chords, selected portal frames and upper laterals. Developed conceptual repair details and prepared plan drawings.			
11/18-12/19	West Virginia Division of Highways, I-70 Bridge Rehabilitation, Ohio County, WV - Project Engineer for the Rancho Cordova office where he designed the rehabilitation of two bridges on this fast-paced project. The total project included 27 bridges designed by three firms in offices across the U.S. Work began in November of 2018 and 2700 final plan sheets, specifications and construction cost estimates were completed in June of 2019. Mr. Pinkerton provided RFI responses prepared for construction of this project.			
11/18-06/19	Monterey Peninsula Regional Park District, Five Bridges Inspection and Repair/Rehabilitation, Monterey County, CA - Served as Inspection and Design Engineer to provide safety inspections and repair / rehabilitation recommendations on five bridges, four precast prestressed concrete double-tee pedestrian bridges and one prefabricated steel truss vehicular / pedestrian bridge. Phase 2 of the project to develop bid documents will be starting soon.			

04/08-06/11	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge Projects C & D (Phase 9), Shelby County, TN - Served as Project Engineer for the seismic retrofit design of Projects C & D. The retrofit work included abutment, footing, column, bent cap and bearing retrofit. Large modular joints were installed at a few locations in the deck. A PS&E package was prepared. Construction Cost: \$60,000,000.
08/07-12/10	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge, Ramps and Group I2 (Phase 8), Shelby County, TN - Mr. Pinkerton served as Design Engineer for the seismic retrofit of the ramps and Group I-2. The retrofit work included abutment, footing, column, bent cap and bearing retrofit. Also, large modular joints were installed at a few locations in the deck.
06/05-09/07	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge (Phase 7), Project 6, Shelby County, TN - Served as Design Engineer for the seismic retrofit of the I-40 main line superstructure which includes cross frame replacement, bearing replacement with isolation bearings and joint replacement with large modular joints. A PS&E package was prepared, and construction support was provided. Construction Cost: \$16,000,000.
02/07-12/08	Tennessee Department of Transportation, Interstate 40 Mississippi River Relief Bridges (Phase 6), Group A and B, Crittenden County, AR - Served as Design Engineer for the retrofit and design of Group A and B. He was responsible for preparing seismic analysis using the SEISAB computer program. The computer model was of a 17 span, 3 frame steel girder bridge. Mr. Pinkerton worked closely with the bridge designer to find solutions to limit the displacements of the bridge and develop an efficient design. He assisted in the design of components of the bridge, including in the design of the retrofitted spans, footings, columns, and abutments. This is a \$50 Million project for Group A and B combined.
06/06-01/07	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge (Phase 6), Group A and B, Crittenden County, AR - On-site Inspector for the retrofit and replacement of the Group A and B bridges. Job duties included: inspection, writing RFI's, attending meetings with the Contractor and Client and preparing monthly estimates for the Contractors payment.
09/06-9/08	Tennessee Department of Transportation, Interstate 40 Mississippi River Bridge (Phase 5), Project 7, Memphis, TN - Served as Design Engineer providing construction support on this \$23 Million Retrofit of the Group G Substructure including Piers E1 to E5 across Mud Island and Wolf River, Piers E6 to E11 across the Pyramid parking lot and Ramp Piers NO 1 to NO3 and IL12 and IL13. He was responsible for addressing RFI's and submittals, preparing cost estimates, preparing details, and reviewing and preparing design calculations.
09/12-3/13	SANBAG, Laurel Street Grade Separation Project, City of Colton, CA - Served as Design Engineer and checked the design of two secant pile walls with a maximum design height of 27' which were situated between a service bridge and an underpass structure. Design considerations included surcharge loads from adjacent railroads, a 42" corrugated steel pipe which passed through one of the walls and an associated reinforced concrete box for drainage at the base of the wall which required careful consideration to ensure that its construction would not jeopardize the structural integrity of the newly constructed secant pile wall.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Janet Crouse, P.E.		Years of relevant experience with this employer	13
Title	Senior Roadway Engineer		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization			B.S. / 2003 / Civil Engineering	
Active registration number / state / expiration date			#PE.0040798 / LA / 09-30-2026	
Year registered	2016	Discipline	Civil Engineering	
			Other Pertinent Training / Certifications ATSSA – Traffic Control Design Specialist ATSSA – Traffic Control Supervisor (10/18/2024 – 10/18/2028)	
Contract role(s) / brief description of responsibilities			Roadway Design Task Leader (Satisfies MPR #8) Janet’s nearly 20 years of experience as a project engineer includes work on such projects as interstate highways, state and local roads, and site development parcels. Project tasks have included geometric design, drainage and site design, development of erosion control, signing and marking, and right of way plans. Offering more than 10 years of experience with Louisiana roadway design, she is very familiar with the latest applicable DOTD references, including the latest applicable editions, supplements and revisions.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/20-Present	LADOTD, S.P. No.: H.005121.5, LA1/LA415 Connector, West Baton Rouge Parish, LA – Roadway Design Engineer for the LA 1/LA 415 CMAR project involving 2.7 miles of new four-lane roadway with bridge crossings over the Gulf Intracoastal Waterway, Sun Plus Parkway, and LA 1. Responsible engineer-in-charge for developing roadway geometrics and plans for LA 415 beginning north of Court Street continuing south to the ICWW bridge crossing and includes the reconfiguration of the LA 415 connection at I-10 to a diverging diamond interchange with ramp modifications, as well as improvements to Court Street, Commercial Drive and a new Backage Road connection.			
11/14-Present	LADOTD, S.P. No. H.001234, Port Allen Canal Bridge, LA 1, West Baton Rouge Parish, LA – Roadway Design Engineer for the preliminary and final design of 2.26 miles of roadway associated with the bridge replacement of LA 1 over the Intracoastal Waterway. Project features 0.98 miles of new four lane roadway for LA 1 on new alignment, including a separate exit ramp for I-10 EB traffic, and coordination with the design of new 2,700’ twin bridges. Served as the responsible engineer-in-charge for the reconstruction of an existing frontage road, and a railroad at-grade crossing for Ernest Wilson Road and associated plan development. Also served as the responsible engineer-in-charge for the initial design and associated plan development which featured 1.27 miles of “Super Street” improvements to LA 1 that included the removal of eight median openings, four new signalized ”J-Turns” and left-turn storage. Developed MOT plans required to maintain four lanes of traffic on LA 1 with connections to the I-10 ramps. Project also included involvement with drainage design, geometric details, striping, joint layout, sequence of construction, cross sections, and quantities.			
08/15-01/21	City of Bossier, Walter O. Bigby Carriageway, Bossier City, LA – Served as the responsible engineer-in-charge for the design of North Parkway Extension roadway from North of Eatman Street to Benton Highway. Work included the design of two roundabouts at the intersections of Hamilton Road and Shed Road, the reconstruction of three side roads to tie into the new North Parkway Extension, widening of Hamilton Road from south of US 80 to the new roundabout, and the addition of a left-turn lane and driveway reconfigurations along Benton Highway. Total project length was approximately 5,300 feet of reconstructed city streets and 3,600 feet of new four lane roadway, which included a 1,470-foot bridge structure. Tasks involved the geometric design of the new alignment and roundabouts, the development of plan and profile sheets, geometric detail sheets, joint layout sheets, cross sections,			

	quantities, and assistance with the storm drainage. Completed for the City of Bossier, all design work was completed in accordance with all applicable and current DOTD specifications and standards.
10/12-09/14	LADOTD, S.P. No. H.011111, I-49 North – Preliminary & Final Bridge Plans, Caddo Parish, LA – Project Designer for engineering and related services for the bridge design and rating for the I-49/I-220 interchange bridges, specifically directional ramps EN, SE and WN, and the widening of existing I-220 bridges. Areas of responsibility included the design and plan sheet preparation for median barrier and barrier rail layout, bridge deck drainage, and quantity sheets, and design coordination with roadway design team and other team members.
06/21-07/22	City of Marble Falls, Avenue N Bridge at Backbone Creek, Marble Falls, TX - Design Engineer for the preliminary and final design of Avenue N bridge approaches. Tasks included the geometric design of bridge approaches; walk paths connecting new sidewalk to existing crushed granite trails and a new cul-de-sac at Backbone Street; and the development of roadway plan and profile sheets, walk path plan and profile sheets, quantities, and cross-section sheets.
04/23-09/23	Delaware County Engineers Office, DEL-CR98-01.58 Roundabout Design, Delaware County, OH – Roadway engineer for the preliminary design and layout of a roundabout to replace an existing 4-way intersection located at Piatt Road and Peachblow Road. Challenges included constraints due to right of way and existing drainage features. Areas of involvement included horizontal and vertical layout of roundabout and associated design checks, storm sewer and ditch design and development of Stage 1 plans using MicroStation ORD.
02/23-07/23	Mississippi Dept. of Transportation, SR 184 Bridge Replacement (BR 103.1), Prentiss, MS – Served as the responsible engineer-in-charge for the roadway design and final plan development of approximately 1,000 feet of two-lane roadway widening associated with a bridge replacement on SR 184. Areas of involvement included confirming the typical sections and proposed right-of-way that was developed during the preliminary design phase, along with final plan preparation that included guardrail design, ditch design, erosion control treatments, quantities, striping, construction signing and maintenance of traffic plans, cross sections and a construction cost estimate. Roadway plans were completed in MicroStation OpenRoads Designer (ORD).
06/14-10/14	West Virginia Department of Transportation, I-64 Design Study, Saint Albans Interchange, Nitro, WV - Responsible for providing engineering design during the preliminary layout for a diverging diamond interchange along I-64 at US 35 (St. Albans Interchange). The design included her review of the proposed traditional diamond interchange for US 35 and the layout of a diverging diamond interchange to improve traffic flow on ramps.
08/12-10/13	East Baton Rouge Parish, Old Hammond Highway Improvements, Segment 2, Baton Rouge, LA – Project Designer during the design of reconstruction work along Old Hammond Highway as part of the City’s Green Light Plan. Work consisted of the design for a new four-lane divided highway, intersection layout, roadway profiles, sub-surface drainage, sequence of construction drawings, and utility relocation including new 8” gravity sewer, a lift station and a force main. Task involvement included plan revisions and the development of drainage plans.
01/13-11/14	LADOTD, SPN# 44-2184, Louisiana Department of Transportation, Retainer Contract for Bridge Preventative Maintenance, Statewide - Responsible for providing engineering and related services under a retainer contract that involved the repair and/or preventative maintenance of bridge structures throughout the State of Louisiana. Task Order 1 involved bridges in East Baton Rouge, West Baton Rouge, East Feliciana and West Feliciana Parishes and included bridges on I-10, I-110, LA-1 and LA-67 crossing local roads and creeks. Areas of responsibility included preparing traffic control plans for several bridge sites as well as assisting in the preparation of general plan sheets, quantity sheets and other miscellaneous sheets.
10/08-05/11	US 441/SR 15 Widening from Clayton County Limits to North Carolina State Line, Rabun County, GA (GDOT) - Project Designer for the conceptual and preliminary design associated with widening over 7 miles of roadway between the northern city limits of Clayton to the North Carolina State line. The project included both urban and rural typical sections for widening to a four lane divided facility. Retaining walls were required to limit right-of-way impacts due to the steep terrain. Context sensitive design solutions were utilized to reduce the property and socio-economic impacts in the municipalities of Mountain City and Dillard. Tasks included on this project were geometric design, roadway drainage design, hydraulic design of major culverts, design of bicycle and pedestrian facilities, preparation of staged construction and maintenance of traffic plans and preparation of erosion and sediment control plans.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	William Travis Barr, P.E.		Years of relevant experience with this employer	2
Title	Project Manager / Senior Project Engineer		Years of relevant experience with other employer(s)	12
Degree(s) / Years / Specialization			B.S. / 2012 / Civil Engineering	
Active registration number / state / expiration date			#PE.0045675 / LA / 09-30-2027	
Year registered	2021	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Senior Roadway Engineer (Satisfies MPR #8) Travis has 14 years of experience and progressive responsibility in the fields of civil and roadway engineering consulting. His qualifications include extensive hands-on experience consisting of roadway geometrics, drainage design, cost estimating and project management. Having provided such services on several Louisiana roadway design projects, he is very familiar with the latest applicable DOTD references, including the latest applicable editions, supplements and revisions.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/24-Present	LADOTD, S.P. No.: H.005121.5, LA1/LA 415 Connector, West Baton Rouge Parish, LA – Serving as the Roadway Engineer-in-Charge for the LA 1/LA 415 CMAR roadway design project responsible for coordinating and managing the roadway design team. Key responsibilities include scheduling, task management, and overseeing design activities such as horizontal and vertical alignment, drainage systems, traffic maintenance, and layout planning for the LA 1 corridor, including the LA 1 and LA 415 interchange. Deliverables include preliminary layouts, design validation, calculations, and detailed plan preparation for the LA 1 roadway corridor.			
11/22-03/24	LADOTD, LA 447 Safety Improvements, Livingston Parish, LA - Served as responsible engineer-in-charge for the preliminary layout, design checks, calculations, and plan preparation for two (2) LA 447 highway roundabouts which included one multi-lane and one single-lane configuration. Mr. Barr additionally provided roadway design on adjoining roadway realignments.			
03/21-11/22	MOVEBR Transportation Program – Program Management, East Baton Rouge Parish, LA - Responsible for the management of eight projects in the program. Mr. Barr assisted in the leadership of each project through oversight of cost estimation, budgeting and adherence to design standards, as well focused on the overall constructability/feasibility of each project. As a part of his project management tasks, he assisted with the identification of project goals, economic development benefits, and overall feasibility.			
11/22-03/24	MOVEBR Transportation Program, Terrace Avenue, East Baton Rouge Parish, LA – Sr. Engineer responsible for project wide modeling, ADA design, Right of Way/ construction access, wall design and project wide drafting standards. Mr. Barr performed 1 mile of complex modeling within a confined urban corridor. Due to Right of Way restrictions, he also designed multiple retaining walls. The project is a corridor improvement project tasked with widened the roadway and adding sidewalks while not impacting right of way in the area.			
11/22-03/24	MOVEBR Transportation Program, Lee Drive, East Baton Rouge Parish, LA – Project Manager in responsible charge of quality control and assurance, geometric design, vertical design, site grading, suggested sequence of construction, scheduling, and construction cost development for a ¾-mile segment of this capacity improvement project. The overall project is a 2-mile roadway widening and drainage improvement project to establish a five-lane roadway corridor.			

03/17-03/21	Texas Department of Transportation – I-820 (SH-287 to I-20) Interchange Reconstruction (Southeast Connector Design-Build), Dallas, TX - Responsible for the evaluation of interstate plans, establishment of retaining wall locations to facilitate a proper sequence of construction, identification of bridge limits, and development of retaining wall structural requirements. He additionally produced exhibits, provided QA/QC of deliverables, coordinated work with stakeholders, and presented findings to key stakeholders. Travis led weekly task force meetings with major stakeholders to present status, potential roadblocks, project timelines, design philosophies and approach.
03/17-06/20	Washington Department of Transportation, SR 520 (I-5 to 84th Avenue) Interchange Reconstruction Design-Build, Seattle, WA - In responsible charge for the evaluation of interstate plans, maintenance of traffic, and pier and wall locations to facilitate sequence of construction, alternative design analysis, production of exhibits, and QA/QC of deliverables. Additionally coordinated and presented his findings to key stakeholders.
05/24-12/205	Mississippi Department of Transportation, SR 184 Bridge Replacement, Jefferson Davis County, MS - Senior Roadway Design Engineer responsible for the horizontal, vertical, drainage, and maintenance of traffic design and layout of the SR 184 bridge replacement corridor. Design includes preliminary layouts, design checks, calculations, plan preparation, scheduling, and coordination with MDOT staff.
08/18-02/20	Border Patrol / United States Army Corp of Engineers, Tucson 63 Boarder Wall Reconstruction, AZ. Served as Roadway Design Task lead in responsible charge for this very fast paced project which included project wide design standards, specifications and design of the Douglas portion of the Tucson 63 project. Totaling over 20 miles of boarder wall design, access roads, and patrol roads the Douglas portion of the Tucson 63 project had some of the most treacherous and complicated portions of the border to design and construct. Travis managed three design teams, QA/QC activities, design of the line and grade, wall and retaining system selection, limits of construction/right of way, typical section, compliance with environmental guidelines, scope/fee estimation, and scheduling. Additionally led weekly task force meetings with major stakeholders, including representation from construction, design, and the owner, to present status, potential roadblocks, project timelines, design philosophies and approach each week. He also led comment resolution meetings with the owner and reviewing agencies to ensure proper closeout of each item.
12/14-04/17	Town of Edgewood, Walker Road Improvements, Edgewood, NM - Served as the project manager and primary designer, including roadway horizontal and vertical design, drainage facilities, sanitary sewer design, and ADA-compliant design. For the horizontal design, guidance from the AASHTO Green Book and NMDOT standards was used to layout intersections and alignments based on the designated design speed. Stopping sight distances were calculated, and the design vehicle was used to verify that the layout adhered to the specified criteria.
12/14-04/17	Town of Red River, Pioneer Road Rehabilitation, Red River, NM - Served as a Highway Designer for the Pioneer Road Rehabilitation project which involved roadway horizontal and vertical design, drainage facilities, and ADA-compliant design.
01/13-05/14	New Mexico Department of Transportation, Paseo Del Norte Interchange - Served as field engineer responsible for calculating design quantities, tracking completion and to date quantities for earthwork and road tasks. Tracked and maintained schedule and helped design earthwork flow and haul routes.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Anhhuy (Ann) Truong, P.E.		Years of experience with this employer	3
Title	Senior Roadway Engineer		Years of experience with other employer(s)	27
Degree(s) / Years / Specialization			B.S. / 1996 / Civil Engineering	
Active registration number / state / expiration date			#PE.0051245 / LA / 09-30-2026	
Year registered	2026	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Senior Roadway Engineer (Satisfies MPR #8) Ann offers 30 years of highway design experience which has been gained while delivering many PA/ED and PS&E projects in both the public sector and private sector as a design lead and senior engineer. She has assisted with the successful delivery of numerous major highway design projects, including Express Lanes and HOV lane improvements, and developed stage construction plans for projects throughout densely populated areas such as Los Angeles, Orange, and San Bernardino Counties. She has successfully prepared staging approaches that emphasize safety, operability, and a practical construction sequence which have resulted in her achievement of numerous awards for her efforts, including the ASCE Orange County’s Project of the Year Award, Caltrans District 12 Superior Accomplishment Award, and Caltrans District 12 Sustainable Superior Accomplishment Award.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/25-Present	LA Department of Transportation and Development, LA1/LA415 Connector, West Baton Rouge Parish, LA - Roadway Design Engineer for this project which includes the design of a full diamond interchange connection at LA 1 and the realignment of LA 1 in both directions to accommodate ramp configuration and future widening. Ms. Truong has prepared detailed design plans and construction cost estimates for mainline roadways and associated ramps. She also evaluated interchange alternative concepts by comparing multiple interchange design alternatives while considering such factors as traffic operations, constructability, right-of-way impacts, and cost-effectiveness.			
11/23-01/26	SBCTA, I-10 Express Lanes, Contract 2, San Bernardino County, CA - Design Engineer responsible for delivery of the I-10 Express Lanes Contract 2 PS&E. The project will implement one Express Lane in each direction between the I-10/I-15 interchange in Ontario and Pepper Avenue in Colton. Additional improvements include the construction of four new or extended acceleration/deceleration lanes. The project team is thinking progressively and designing the facility to accommodate an eventual second Express Lane, with soundwalls being built in their ultimate condition. The project has been divided into two segments: Contract 2A and Contract 2B. Ms. Truong is responsible for delivering the construction staging and traffic handling plans for Contract 2B, a 5-mile segment extending from Sierra Avenue to Pepper Avenue. She also reviewed comments from Caltrans and coordinated with the design team to provide comment responses.			
11/23-01/26	Metro, I-105 Express Lanes Segment 1 (Imperial Highway/Sepulveda Boulevard to Central Avenue), Los Angeles County, CA - Design Engineer supporting this Express Lanes project on I-105. The project will implement a new median lane in each direction for approximately 9 miles from Sepulveda Boulevard to Central Avenue to be managed with the existing HOV lanes as a tolled express facility. The project will also lower the profile of local roads to improve vertical clearance between the roadway and I-105. Ms. Truong is responsible for the construction staging effort, including preparation of the Work Site Traffic Control plans for local streets overlapping proposed bridge widening for the project. The construction staging plans are being developed			

	to accommodate a high volume of truck traffic. Also, traffic on local streets is being shifted where possible during the reprofiling of the road to maintain efficient traffic operations during construction.
11/24-01/26	Caltrans District 12, I-405 South Multi-Asset Project Design-Build (Contract No. 12-0Q9704), Orange County, CA - Design Engineer supporting the delivery of plans for Segments 3 and 4 of this multi-asset Design-Build project. Proposed improvements included pavement rehabilitation, bridge railing upgrades and replacement of bridge approach/departure slabs, construction of a sound wall along the I-405 off-ramp to University Drive/Jeffrey Road, maintenance vehicle pullouts, and relocation of existing irrigation facilities at the Jeffrey Road and Bristol Street interchanges to reduce maintenance worker exposure. Additionally, Class II bicycle lanes will be implemented on Irvine Center Drive and Jeffrey Road/University Drive. Ms. Truong is responsible for preparation of the DSDD and providing QC review of the roadway, lighting, and signing calculations and plans.
03/22-12/25	OCTA, I-5 Widening Project PS&E Segment 3, El Toro Road to Alicia Parkway, Orange County, CA - Project Engineer responsible for providing design support during construction. This project involves widening a three-mile freeway segment including replacement of Los Alisos Boulevard OC, modifications to Aliso Creek bridge and El Toro Road UC, ramp improvements, and Americans with Disabilities Act (ADA)-compliant upgrades for 16 curb ramps. During construction, Ms. Truong was responsible for revising the staging plans for northbound I-5 to maintain the existing number of general-purpose lanes during median widening, increase available working space for the contractor, and provide safe ingress/egress. She also oversaw the design of modifications to four ADA-compliant curb ramp upgrades to accommodate field conditions as well as two new ADA-compliant curb ramps to accommodate a driveway designed during the construction phase.
01/08-12/15	OCTA, SR-91 Widening from Lakeview Avenue to SR-241, Orange County, CA - Project Engineer/Design Lead while serving as the Caltrans Project Engineer-in-charge of developing this 8-year multi-phase, multi-asset project from the PA/ED phase to the PS&E phase and through the construction phase for widening the SR-91 mainline one lane in each direction and adding auxiliary lanes from Lakeview Avenue to the SR-241/SR-91 Separation. Additional improvements included modifications to the geometry of the existing weigh stations at Weir Canyon, Maintenance Vehicle Pullouts, and one 2,000-ft soundwall. Ms. Truong managed the design team and coordinated with other Caltrans functional units, OCTA, cities, and agencies to prepare PA/ED technical studies. Her responsibilities included developing the construction staging plans, which involved preparing a temporary westbound ramp entrance at Imperial Highway to eliminate the need for a ramp closure. She also assisted with the public hearing and the environmental document, draft project report, and final project report approval; delivered the PS&E contract; and provided construction support. As the Project Engineer, Ms. Truong was a proud recipient of the ASCE Orange County 2012 Project of the Year Award for this project.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.	
Name	Ja’Porcha Joubert, EI	Years of relevant experience with this employer	<1
Title	Roadway Designer	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		B.S. / 2023 / Civil Engineering	
Active registration number / state / expiration date		#EI.0035872 / LA / 03-31-2027	
Year registered	2024	N/A	
Contract role(s) / brief description of responsibilities		Roadway Designer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
03/26-Present	LADOTD, LA1/LA415 Connector, West Baton Rouge Parish, LA - Serves as an Engineer Intern for this project while tasked with the development of pavement marking plans. This project includes approximately 2.7 miles of new four-lane roadway and bridges over the Gulf Intracoastal Waterway, Sun Plus Parkway, and LA 1. This project also includes an interchange reconfiguration to a diverging diamond at the LA 415 connection to I-10 with ramp modifications, and the realignment of LA 1 to accommodate ramp configuration and future widening.		
08/23-12/23	East Baton Rouge Parish, Old Hammond Highway Improvements, Segment 2, Baton Rouge, LA - Served as a student intern for this project tasked with quantity calculations and final plan sheet revisions for the reconstruction work along Old Hammond Highway. This project involves the reconstruction of a two-lane highway to a four-lane divided highway and intersecting side roads as part of the City’s MoveBR Plan.		
01/24-03/26	LADOTD, Traffic Monitoring Section, Baton Rouge, LA – Employed as a Traffic Monitoring Engineer Intern 2. Responsibilities included assisting senior engineers with editing and creating Louisiana road and highway segments using ESRI Roads & Highways integration processes; coordinating with contractors to ensure work was completed in compliance with approved plans and specifications; supporting senior engineers by uploading, extracting, and managing traffic data within Transportation Data Management Systems (TDMS); and performing quality assurance and quality control (QA/QC) on traffic data uploaded to the DOTD’s traffic server.		

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Christopher Hassell, P.E.		Years of experience with this employer	5
Title	Project Roadway Engineer		Years of experience with other employer(s)	16
Degree(s) / Years / Specialization			B.S. / 2005 / Civil Engineering	
Active registration number / state / expiration date			#PE078149 / PA / 09-30-2027	
Year registered	2010	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Roadway Engineer Chris possesses 21 years of experience in transportation engineering with an emphasis on the design of highways. He has extensive experience with the design of many project types, including feasibility and corridor studies, safety improvements, bridge replacements, intersection improvements (including roundabouts), roadway widenings, interchange reconstructions, total roadway reconstructions, and design/build projects. His design experience includes utility coordination, horizontal and vertical design, earthwork, roadside protection, drainage design, pavement design, creating right-of-way plans, maintenance and protection of traffic layout, developing final design plans, tabulation of quantities, and writing specifications.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
02/24-Present	Louisiana Department of Transportation and Development, S.P. No.: H.005121.5, LA1/LA415 Connector, West Baton Rouge Parish, LA - Roadway engineer for the geometric design of new LA 415 alignment from North of the Intracoastal Waterway to the connection at LA 1. Design includes options for a single bridge structure and dual bridge structures for LA 415 Northbound and Southbound. Horizontal and vertical geometry were developed for each option and for the Sun Plus Parkway entrance and exit ramps. Coordination with structural team was required to meet vertical clearance requirements for the ICWW bridge and the bridges over Sun Plus Pkwy. Each roadway option was modeled for determining limits of construction, developing cross sections and earthwork quantities and identifying potential utility conflicts. Other tasks included conceptual development of alternate designs to improve access to local businesses along LA 415, south of I-10.			
12/16-05/17	Texas Department of Transportation (TxDOT Houston District), SH 288 Design/Build Toll Lanes Expansion, Houston, TX - Roadway Task Manager for the project involving the design of 10-miles of new 4-lane toll road inside the existing 6-lane freeway. The designed portion of the project included 4-miles of new roadway, three new ramps to the existing lanes, and seven new bridges. This section was designed in 6 months. Mr. Hassell was responsible for alignment design, drainage design, and final plans.			
08/15-02/18	Pennsylvania Department of Transportation (PennDOT District 2-0), SR 0006-530, SR 0006 Improvements in Borough of Kane, McKean County, PA - Project Engineer for the preliminary engineering, final design, and construction services for the pavement resurfacing/reconstruction of SR 0006 in the Borough of Kane. The project extended from approximately 900' north of Easton Street to the intersection with SR 0321, and included drainage upgrades, signal upgrades, and improvements for ADA access. Mr. Hassell was responsible for pavement design and PS&E package.			
04/13–01/19	Pennsylvania Department of Transportation (PennDOT District 5-0), SR 0073-05S, SR 73/662 Intersection Improvements, Berks County, PA - Roadway Task Manager for the preliminary engineering, final design, and construction consultation for the safety improvements of two separate intersections of SR 0073 with SR 0662. To address safety issues, roundabouts were proposed at each intersection which included extensive approach roadway work and the relocation of the minor roadways. Mr. Hassell was responsible for alignment design, intersection grading, traffic control, and PS&E package.			
05/13-05/19	Pennsylvania Department of Transportation (PennDOT District 8-0), SR 0181-017, North George Street Improvements, York County, PA - Roadway Task Manager for the preliminary engineering and final design to improve the I-83 Exit 22 interchange with SR 181. A substandard on-ramp			

	was relocated to a new location and SR 181 was widened to accommodate the change. The project is part of the I-83 North York Widening and included 3 new culverts, installation of sound barrier along I-83 and provisions to allow the future widening of I-83 to 6-lanes. Mr. Hassell was responsible for alignment design, intersection grading, traffic control, and the right-of-way plan.
06/14-07/16	Pennsylvania Department of Transportation (PennDOT District 10-0), SR 0228-271, Cox's Corner Roundabout, Butler County, PA - Project Engineer for the project involving safety improvements at the intersection of SR 0228 and Saxonburg Blvd. To address safety issues, a roundabout was proposed which included relocating the intersection 500' and raising the roadway. Mr. Hassell was responsible for drainage design, E&S, SWM, and right-of-way plan.
05/13-05/19	Pennsylvania Department of Transportation (PennDOT District 8-0), SR 2003-029, North Hills Road Widening, York County, PA - Roadway Task Manager for the preliminary engineering and final design to add an additional lane on North Hills Road. The project is part of the I-83 North York Widening and included reconstructing the existing at-grade railroad crossing to the future 7-lane roadway width. Mr. Hassell was responsible for railroad coordination, alignment design, intersection grading, right-of-way plan, traffic control, and PS&E package.
02/07-02/14	Pennsylvania Department of Transportation (PennDOT District 9-0), SR 0056-TSM and 025, Strayer Street, Cambria County, PA - Project Engineer for the preliminary engineering and final design for numerous Transportation Systems Management intersection projects to improve existing safety concerns throughout the City of Johnstown. Improvements included the removal of sight distance obstructions, curve widening, signal upgrades, ADA curb ramp installation, and drainage upgrades. Mr. Hassell was responsible for alignment design, intersection grading, ADA curb ramp design, drainage design, E&S, right-of-way plans, traffic control, and PS&E packages.
01/11-08/14	Pennsylvania Department of Transportation (PennDOT District 5-0), SR 0562-02S, Shelbourne Road & Oley Turnpike Road Intersection Improvements, Berks County, PA - Roadway Task Manager for the preliminary engineering, final design, and construction consultation for the intersection improvement of SR 0562 with Shelbourne Rd. and Oley Turnpike Rd. Mr. Hassell was responsible for utility coordination, alignment design, intersection grading, ADA curb ramp design, drainage design, E&S, right-of-way plan, traffic control, and PS&E package.
09/05-12/12	Pennsylvania Department of Transportation (PennDOT District 1-0), SR 0038-A00, Emlenton Hill, Venango County, PA - Project Engineer for the feasibility analysis, preliminary engineering, and final design for safety improvements to 1.5 miles of steeply graded 2-lane highway. Improvements included roadway betterment, reconstruction and complex retaining walls to support the widened roadway. Mr. Hassell was responsible for alignment refinements, intersection grading, drainage design, right-of-way plan, traffic control, and PS&E package.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Geoff Gribble, P.E.		Years of relevant experience with this employer	4
Title	Senior Roadway Engineer		Years of relevant experience with other employer(s)	23
Degree(s) / Years / Specialization			B.S. / 1999 / Civil/Environmental Engineering	
Active registration number / state / expiration date			#PE073596 / PA / 09-30-2026	
Year registered	2006	Discipline	Professional Engineer	
Contract role(s) / brief description of responsibilities			Roadway Design Geoff brings over 27 years of experience which includes responsibility for leading and managing the design and analysis of highways and bridges in the public sector. Associated responsibilities include schedule monitoring, cost containment, resource management, organizing project activities, QC/QA checks, agency and client coordination, approvals, and project coordination in a team-oriented environment across various disciplines and subconsultants.	
Experience dates (mm/yy–mm/yy)		Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”; etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
01/25-Present		Louisiana Dept. of Transportation and Development, S.P. No.: H.005121.5, LA1/LA415 Connector, West Baton Rouge Parish, LA – Engineer responsible for assisting in the development of preliminary engineering for a new 2.5-mile roadway extending LA 415 up to LA 1. Design effort included a new diamond interchange with LA 1, modified diamond interchange with Interstate 10, new multi-span bridge over ICWW and new interchange with Sun Plus Parkway. Design duties consisted of laying out the LA 1 new lane configuration, development of profiles for the new entrance and exit ramps from LA 415 to LA 1, pavement marking layout along LA 1, intersection layout, alternate studies and QC/QC of numerous plan sets for 30% submissions.		
05/09-3/21		PennDOT District 4-0, S.R. 0081, Section 511, Great Bend Twp/Boro & New Milford Twp/Boro, Susquehanna County, PA - Project manager responsible for nine (9) miles of Interstate reconstruction on I-81 from Exit 223 up to the New York State Line. Included nine (9) miles of pavement reconstruction; replacement of 11 mainline structures, one (1) overhead structure and one (1) box culvert; two (2) box culvert rehabilitations; and full drainage replacement. It also included upgrades to the Exit 230 diamond interchange and modifications to the PA Welcome Center southbound interchange ramps. Design activities included the completion of alternate alignment studies, value engineering, VEACTT, railroad coordination and public involvement. Total construction cost is estimated at \$200M.		
05/14-03/16		PennDOT District 4-0, S.R. 0029, Section FP1 Paving Project, Hanover Township, Luzerne County, PA - Project Manager responsible for leading the overall Preliminary and Final Design effort of the resurfacing of a divided limited access facility project along with two interchanges included mill and overlay, full concrete glare screen update, base repair areas, soft spot removal areas, selected guide rail improvements, rehabilitation of four bridges for new barrier installation/deck replacement and coordination with an ongoing/adjacent highway project. Total project length was 5 miles. Traffic control used short-term/long-term PATA Figures using half width construction. Total construction cost was \$8.9M.		
07/14-02/16		PennDOT District 4-0, S.R. 2004, Section FP1; SR 0011, Section FP1; SR 3023, Section FP1, Luzerne/Lackawanna Counties, PA - Project Manager responsible for leading the overall Preliminary and Final Design effort managing design schedule and securing necessary approvals for the This resurfacing project included a mill and overlay, ADA ramps, cross slope correction, base repair areas, select curb improvements, spot drainage upgrades, bituminous overlay of a bridge, parapet reconstruction and a railroad crossing replacement. Total project length was 3.98 miles. The project traversed through the cities of Wilkes-Barre and Scranton, including portions of each city’s business section and several side streets. Traffic control used short-term/long-term PATA Figures and detours for the sidewalk closures. Total construction cost was \$3.37M.		

06/10-11/12	PennDOT District 4-0, Pierce Street Paving Project, Kingston Borough, Luzerne County, PA - Project Manager responsible for leading the overall Preliminary and Final Design effort of this resurfacing project included mill and overlay, ADA ramps (34), sign upgrades, base repair areas, soft spot removal areas, selected curb improvements, and coordination with an ongoing bridge project. Total project length was 4,900 LF. The work limits traversed through the borough's business section and involved several side streets. Traffic control used short-term/long-term PATA Figures as well as detours for the sidewalk closures. Total construction cost was \$780K.
06/04-03/12	Pennsylvania Turnpike Commission, S.R. 903 Diamond Interchange, Penn Forest Township, Carbon County, PA - Project Manager responsible for the overall preparation and delivery of full conventional highway lighting plans, traffic signal plans, signing plans, pavement marking plans and traffic signal report submission for a new diamond interchange that included All-Electronic Tolling (AET). Design duties included lighting layout, signal design, and signal analysis consisting of warrant analysis, phasing, timing, and coordination with two adjacent intersections.
03/04-06/11,	Pennsylvania Turnpike Commission, Interstate 95 & Interstate 276 Interchange Project, Bucks County, PA - Highway Designer responsible for the line and grade submission which included setting line and grade for seven alignments, one of which had to coincide with both an underpass and an overpass bridge structure. Responsible for plotting grades at the bridges to ensure the required clearance criteria was satisfied. Responsible for determining whether the Design Manual 2 sight distance criteria had been satisfied at three side road intersections. Additional duties included preparation of a design exception report for horizontal clearance to the bridge pier adjacent to a travel lane as well as a full compilation of safety reviews for five (5) state routes in the project area.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Rajat Das, P.E.		Years of experience with this employer	5
Title	Quality Director / Senior Project Manager		Years of experience with other employer(s)	21.5
Degree(s) / Years / Specialization			MBA / 2004 / International Business M.S. / 2001 / Environmental Engineering B.E. / 1999 / Civil Engineering	
Active registration number / state / expiration date			PE#062.070414 / IL / 11-30-2027	
Year registered	2018	Discipline	Professional Engineer	
Contract role(s) / brief description of responsibilities			Hydraulics & Drainage Rajat has 21 years of experience and associated knowledge with the preparation of project scopes, delivery plans and budgets, construction plan set production, and feasibility studies for transportation drainage design and water resources development projects. He has managed and supervised hydrologic and hydraulic modeling, storm sewer systems, bridge and culvert replacement, scour analysis, channel restoration and stabilization projects for highway projects, railroads (UP, BNSF, CSX), and various government agencies. Experience includes several projects progressed using alternative delivery methods.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
10/19-02/21	80th Avenue Reconstruction Phase II Design, Will County, IL - As Drainage Design Manager, Mr. Das supervised all aspects of the drainage design and construction document preparation associated with a \$47 million reconstruction of 80th Avenue from 191st Street to 183rd Street within the Villages of Tinley Park and Mokena. The project involved widening of the roadway from a two-lane rural section to a four-lane urban section with auxiliary turn lanes added at cross streets. The widened roadway required a new storm sewer network design as well as significant detention storage and culvert replacements. Improvements also included the replacement of a bridge over the Union Drainage Ditch, rehabilitating a large culvert carrying the Tributary to the Union Drainage Ditch under 80th Avenue, and coordinating drainage improvements at the intersection of 80th Avenue and Interstate 80.			
06/17-08/19	Illinois Tollway, Tri-state Tollway (I-294) between 95th Street and LaGrange Road Phase II - Drainage Design Lead for this project which involved Phase II engineering services and project related permits for a proposed reconstruction of the Tri-State Tollway (I-294) between 95th Street (M.P. 17.8) and LaGrange Road (M.P. 20.7). The section features challenging geometrics through the toll plazas, extensive coordination requirements, and multiple locations with recorded drainage issues. Responsibilities included coordinating with the Tollway and governmental permitting agencies and managing drainage design activities, providing guidance on hydrology computations and hydraulics modeling using SUDA, review of drainage design computations, and overseeing the submittal of design and construction documents.			
03/18-06/19	Northern Indiana Commuter Transportation District (NICTD), West Lake Corridor New Starts Project, Lake County, IL - Drainage Design Manager for a nine-mile extension of the South Shore Line (SSL), known as the West Lake Corridor, to provide new passenger rail service to the municipalities of Hammond, Munster, and Dyer. The project provides new transit service between Dyer, Indiana and Metra’s Millennium Station in Downtown Chicago which is a total distance of approximately 30 miles. He supervised hydraulic modeling of bridge crossings, along with the drainage infrastructure design for track embankment, new stations, a maintenance yard, and green infrastructure initiatives. Co-ordinated with multiple local, state and federal agencies, including the USACE’s Chicago District, to determine acceptable design features for permitting requirements and mitigation of adverse impacts. Also served as the Drainage Lead during procurement services.			

02/14-09/17	Illinois Department of Transportation, US 51 Environmental Impact Study - Project involved the study, preparation, and submission of an EIS and Design Report for US 51 along a 70-mile corridor in central Illinois. The study included an evaluation of the feasibility of several alignments based on social, economic, environmental and engineering issues. The goal of the EIS was obtain a Record of Decision (ROD) that identified a Preferred Alternative for transportation improvements that would meet local and regional needs while improving safety and enhancing mobility. Mr. Das supervised and performed hydrologic computations and hydraulic modeling, along with the preparation of hydraulic reports for more than 36 cross-drainage structures which included structures located within a FEMA designated Floodway.
05/15-03/16	Illinois Department of Transportation, Central Avenue/BRC Railroad Grade Separation Phase I Study, Chicago, IL - As Senior Drainage Engineer, Mr. Das was part of a team to conduct a Phase I Study for the grade separation of Central Avenue and the Beltway Rail Company Railroad. The study was conducted using the principles of Context Sensitive Solutions (CSS) for stakeholder involvement while engaging a host of City of Chicago agencies. Also included the preparation of an EA and Combined Design Report. Mr. Das managed the preparation of the Location Drainage Study for the project location and supervised hydrology computations, hydraulics modeling and preliminary design.
02/14-12/15	Clarkson Construction and Kiewit Infra J.V., Johnson County Gateway, Kansas City, MO - Served as the Managing Senior Water Resources Engineer for the first ever design-build project for Kansas DOT. The scope of work included reconfiguring two system interchanges which included the design and construction of 27 bridges of varying complexity, 20 miles of state-owned multi-lane urban freeway, 3.5 miles of primary arterials street network and 14 ADA-compliant signalized intersections. Rajat supervised and performed the QA/QC reviews for hydraulic and hydrologic modeling of proposed storm sewer systems, major cross-drainage structures, and preparation of construction documents.
01/13-02/14	RTD Eagle P3, Denver, CO - Senior Drainage Engineer for the Eagle P3 Project which comprised elements of Design-Build, Finance, Operation and Maintenance (DBFOM) for approximately 33 miles from the Denver city center on three new lines of commuter rail to multiple suburban locations and the Denver International Airport. The overall design included 14 stations, 29 at-grade crossings, 36 bridges, and the relocation of 4 miles of BNSF mainline track. Mr. Das reviewed and managed design modifications during the construction of proposed storm sewer systems, coordinated with multiple reviewing and permitting governmental agencies, and supervised the preparation of construction documents.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Derek Spurlock, P.E.		Years of experience with this employer	17
Title	Senior Project Engineer		Years of experience with other employer(s)	0
Degree(s) / Years / Specialization		M.S. / 2008 / Civil Engineering B.S. / 2005 / Civil Engineering		
Active registration number / state / expiration date		#19202 / WV / 12-31-2026		
Year registered	2011	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities		Drainage and Hydraulics Derek has 17 years of design experience serving in the role of design engineer. His duties have primarily focused on roadway design, development of right-of-way plans, roadway drainage, and performance of hydraulic backwater analysis and scour analysis for various bridge projects.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
06/11-/09/11	City of Baton Rouge and Parish of East Baton Rouge, Old Hammond Highway, Baton Rouge, LA – Design Engineer for this project which involved the engineering design and analysis of an outfall improvement plan to handle the increase in flow caused by widening Old Hammond Highway and converting the current open ditch drainage system to a curb and gutter system. Mr. Spurlock developed the HEC-RAS model for both the existing outfall and the proposed design of the project.			
03/20-04/23	Ohio Department of Transportation, US-40 and SR-37 Intersection Improvement, Licking County, OH - This project consists of widening existing US-40 and SR-37 to add turn lanes to improve intersection functionality. This widening involves modifying horizontal and vertical geometry and adding superelevation to SR-37. The project is being designed using Bentley OpenRoads. Mr. Spurlock performed profile calculations and design, performed roadway analysis, prepared construction plans, and performed the drainage design.			
03/20-04/23	Ohio Department of Transportation, SR-37 and SR-256 Intersection Improvement, Fairfield County, OH - This project consists of widening existing SR-37 and SR-256 to add turn lanes to improve intersection functionality. The project is being designed using Bentley OpenRoads. Mr. Spurlock performed roadway analysis, prepared construction plans, and performed the drainage design.			
01/20-12/20	ODOT District 6, MAD-42-12.35, London, OH - Project involves the design of improvements along the busy US-42 corridor at the I-70 interchange where truck volumes had resulted in the pavement reaching its useful life. The project’s objective is to provide new, widened concrete pavement to accommodate the truck traffic, along with a new center turn lane and signalization, pavement marking modifications, access management measures to improve safety and address congestion, new drainage including post-construction BMPs, signing and pavement marking plans, and the development of a well-functioning Maintenance of Traffic Scheme. The project follows ODOT’s Staged Submittal process and includes R/W Plan Development. Mr. Spurlock has assisted with roadway and drainage design.			
03/20-04/22	West Virginia Division of Highways, Coalfields Expressway PIE Study: WV16 to Mullens, Wyoming County, WV - Project involved the preliminary design of 8.6 miles of four-lane and 3.8 miles of two-lane connector on new alignments. Preliminary plans included geometric design, major drainage design, permitting, erosion and sediment control, utility coordination and right-of-way. Responsibilities included hydraulic analysis of 3 bridges and a large box culvert, acquisition of an NPDES permit for core drilling of the entire project, and geometric design of the 1500’ Twin Falls Access.			

02/19-01/21	West Virginia Department of Transportation - Division of Highways, US 220 Tier II Design Study, Mineral County, WV & Allegany County, MD - This project consisted of upgrades to US Route 220 from the US Route 50 intersection near Claysville, WV to its intersection with Placid Lane in Maryland. Mr. Spurlock was responsible for developing new alignment alternatives for approximately 11 miles of highway and performing the hydraulic analysis for proposed bridges that cross the North Branch Potomac River.
07/15-01/19	West Virginia Department of Transportation - Division of Highways, US 35 Design-Build/P3 Project, Mason and Putnam Counties, WV - As a Design Engineer, Mr. Spurlock was responsible for the drainage design associated with 14 miles of four-lane highway (ditch sizing and lining, culvert design, storm sewer design), overseeing the hydraulic analyses of two mainline bridges, and performing scour analyses for two mainline bridges.
03/17-10/17	West Virginia Division of Highways, Wellsburg Bridge P3, Brooke County, WV - Work consisted of performing a HEC-RAS analysis of the Ohio River for the proposed bridge crossing which included the use of an existing HEC-2 model of the Ohio River. Mr. Spurlock also performed scour analysis for the proposed bridge and coordinated with the local floodplain manager to gain approval of the proposed bridge.
09/14-12/17	West Virginia Division of Highways, Jefferson Road Design Study, Kanawha County, WV - This study consisted of developing preliminary plans to widen existing Jefferson Road from two lanes to five lanes and replacing an offset intersection at Kanawha Turnpike. Multiple alignments were developed. Mr. Spurlock's responsibilities on this project included the performance of a HEC-RAS analysis of the waterway opening for the proposed bridge crossings and incorporating bicycle facilities along Jefferson Road.
01/14-02/15	West Virginia Department of Transportation - Division of Highways, Coalfields Expressway P3, Wyoming Counties, WV - Mr. Spurlock was responsible for the drainage design (ditch sizing and lining, culvert design, storm sewer design) and assisting with the Sediment and Erosion Control Plans (BMP layout, sizing sediment ponds, etc).
05/14-11/16	West Virginia Department of Transportation - Division of Highways, I-64 Widening Crooked Creek Interchange to Nitro Interchange, Putnam County, WV - This project consisted of preliminary engineering for widening Interstate 64 from four to six lanes between Scott Depot and Nitro. The 3.5-mile-long project will include two interchanges and multiple bridges, including a ¼-mile long bridge across the Kanawha River. Mr. Spurlock's responsibilities included geometric design that consisted of laying out the interstate widening, realignment of the Saint Albans interchange, and realigning the Bills Creek overpass; major drainage design; and hydraulic analysis of the proposed Kanawha River crossing.
07/09-02/14	West Virginia Division of Highways, Thomas Buford Pugh Bridge, Fayette County, WV - This project consisted of the study and design of both a replacement bridge structure and a rehabilitation of the existing bridge structure crossing the New River. The river in the project area is a category one stream which has endangered mussels. The study for this project consisted of various alternatives to avoid impacts to the river and the stream habitat. Mr. Spurlock was responsible for performing a HEC-RAS analysis of the waterway opening for the bridge replacement alternatives, in addition to analysis for the use of temporary construction platforms and causeways for the rehabilitation alternatives. Mr. Spurlock also performed a Shear Stress analysis for each alternative in order to evaluate the impacts of the alternatives on the habitat within the project area during and after the construction of each, and developed scour countermeasures on the stream banks
03/09-02/12	West Virginia Department of Transportation - Division of Highways, RHL Boulevard Extension, Kanawha County, WV - This project consisted of an urban roadway design along a new alignment, drainage design, temporary traffic control, lighting design, signing and marking plans, and right-of-way plans. Mr. Spurlock assisted with the right-of-way plan development for the 0.42-mile long project. He performed the roadway drainage calculations and assisted with the drainage design. He also assisted with the design of the maintenance of traffic sequencing for the project. A new bridge crossing of Davis Creek was also included as part of this project which was situated in an area that is sensitive to past flooding. Mr. Spurlock was responsible for the HEC-RAS analysis of the bridge waterway opening for the new proposed bridge crossing of Davis Creek. He developed both a draft and final hydraulic report for the project. He also assisted with development of the erosion and sediment plans for the project.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Staci Danna, P.E.		Years of relevant experience with this employer	8
Title	Area Manager		Years of relevant experience with other employer(s)	25
Degree(s) / Years / Specialization			M.S. / 2003 / Business Administration B.S. / 1999 / Environmental Engineering	
Active registration number / state / expiration date			#PE.0031561 / LA / 03-31-2027	
Year registered	2004	Discipline	Environmental Engineer	
Contract role(s) / brief description of responsibilities			Environmental Permitting Support	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).			
04/18-Present	Commonwealth LNG LLC, LNG Export Terminal, Federal Energy Regulatory Commission (FERC) National Environmental Policy Act (NEPA) Environmental Report (ER) and Federal/State/Local Permitting, Louisiana - Continuing to provide comprehensive environmental support of the authorization process for the 9.5 MTPA Commonwealth LNG liquefaction and export facility, located on the west bank of the Calcasieu Ship Channel. Provided support for preparation of FERC ER in support of NEPA analysis for the NGA Section 3 Application (Docket No. CP19-502), agency consultations, and preparation of applications for USACE §404/§10/§408 authorization, Louisiana Department of Energy and Natural Resources (LDENR) Coastal Use Permit (CUP) and other federal/state/local permits. TRC prepared a Dredged Material Management Plan (DMMP) for the 1.7 million cubic yards of dredging required to construct the Project’s marine berth, coordinated with Duplantis Design Group (DDG) on design of a DMMP Area for management of the sediment under LDENR’s Beneficial Use of Dredged Material (BUDM) requirements (LAC Title 43, Part I, Section 723.H), and developed a Mitigation Plan for a 25-acre Marsh Creation Area (MCA) to offset impacts on 11.9 acres of brackish marsh. TRC also worked closely with Delta Land Services to secure compensatory wetland mitigation credits sourced from four banks to address impacts on 155.3 acres of emergent and forested wetlands.			
08/19-Present	Trunkline LNG, Lake Charles LNG Export Terminal, FERC NEPA and Federal/State/Local Permitting, Louisiana - Currently supporting extensions and modifications of permits and agency approvals/authorizations and maintaining tracking documents as the Project moves toward Final Investment Decision (FID). Construction began in February 2023. TRC originally provided the environmental support for the Project’s FERC Order, federal / state / local permitting, and initial construction phase in early 2016. The Lake Charles Liquefaction Project includes construction of liquefaction trains and appurtenant facilities at a site immediately north of Lake Charles LNG’s existing LNG import terminal in Calcasieu Parish, Louisiana.			
01/18-Present	Marathon Petroleum Company, Section 10/404 Permitting, Coastal Use Permitting and Pontchartrain Levee District Permitting, Garyville, Louisiana - Project Manager for the performance of environmental permitting services for multiple heavy haul transports over the Mississippi River Flood Protection Levee at the Garyville Refinery. Activities included obtaining a CUP from the OCM, a Section 10/404 Permit from the New Orleans District USACE, Louisiana Department of Environmental Quality (LDEQ) Section 401 Water Quality Certification (WQC), Pontchartrain Levee District (PLD) Permit, and Section 408 Authorization for construction of a temporary modular bridge from the crown of the levee, over River Road, and into the Marathon property. Responsibilities included preparing and/or reviewing request Letters of No Objection and drawings; Joint Permit Application and associated drawings; draft permits; and WQC response. Also assisted the client in responding to agency comments and requests for additional information.			
08/21-Present	Pine Gate Renewables, Environmental Due Diligence & Permitting Support, Multiple Solar Projects, Various Parishes, Louisiana. Managing the environmental due diligence for multiple photovoltaic solar and battery energy storage system projects in Louisiana, Mississippi, Alabama and Georgia. Scopes of work included performing wetland and waterbody delineations; preparing wetland delineation reports and requests for jurisdictional determinations; preparing critical issues analyses; performing threatened & endangered species habitat assessments; performing cultural resource desktop			

	reviews and cultural surveys; coordination with U.S. Fish & Wildlife Service and State Departments of Wildlife & Fisheries; and conducting Phase I environmental site assessments. JDs were obtained from the USACE New Orleans, Vicksburg and Mobile Districts.
04/23-Present	NextEra Energy Resources, Environmental Services, Various Parishes, LA - Managing environmental services for multiple solar projects in Louisiana: 2,465-acre site in Morehouse Parish; 1,477-acre site in Lafayette Parish; 3,268-acre site in Sabine Parish; 1,939-acre site in Webster Parish and 2,173-acre site in Natchitoches Parish. Scope of work consisted of performing desktop wetland reviews, wetland delineation field surveys, and preparation of wetland delineation reports. Some projects included wetland delineations accompanied by a threatened and endangered species habitat assessment and report. Additional tasks include preparation of requests for jurisdictional determination, nationwide permit requests, desktop cultural resources reviews and memorandum, and permit matrices. Projects include coordination with multiple U.S. Army Corps of Engineers Districts, including New Orleans, Vicksburg, and Forth Worth.
08/22-2023	Kinder Morgan/Tennessee Gas Pipeline Company, L.L.C., 507K Supply Lateral Abandonment Project, Louisiana - TRC provided environmental support including biological (wetlands, protected-species habitat) and cultural resource field surveys, preparation of FERC NEPA Environmental Report (ER) for Section 7(b) Natural Gas Act (NGA) Application, agency consultations, and applications for federal/state permits for the abandonment-by-sale of approximately 33 miles of natural gas pipeline and modification of associated aboveground facilities, including within the Louisiana Coastal Zone. Ms. Danna is supporting the NEPA analysis and permitting.
06/19-10/21	Southern Natural Gas Company/Kinder Morgan, Evangeline Pass Expansion Project, FERC NEPA ER and Federal/State/Local Permitting, Mississippi/Louisiana - Supported preparation of FERC NEPA ER for §7(c) NGA Application, agency consultations, and applications for federal/state permits for a new compressor station (Rose Hill, MS) and modification of 17 aboveground facilities in Mississippi and Louisiana, including within the Louisiana coastal zone (Docket No. CP20-51-000).
02/20-02/21	Louis Dreyfus Company, LLC, Port Allen, LA - Project Manager for obtaining a U.S. Army Corps of Engineers Section 10/404 Permit and Atchafalaya Basin Levee District Permit, including Letters of No Objection from the Coastal Protection and Restoration Authority and the Completed Works Branch of the Army Corps of Engineers, for the installation of four (4) new guide piles in the Mississippi River for an existing barge unloading facility in Port Allen, Louisiana.
02/20-11/20	Atlantic Alumina LLC / Noranda Alumina LLC, Gramercy, LA - Project Manager for environmental permitting services to modify/repair the bumper/guide assembly for monopile #5 at Noranda's alumina loadout barge dock on the left descending bank of the Mississippi River near Gramercy, Louisiana. TRC obtained the U.S. Army Corps of Engineers Section 10/404 Permit and Louisiana Department of Natural Resources Office of Coastal Management Coastal Use Permit. TRC also prepared documents to obtain Letters of No Objection from the Coastal Protection and Restoration Authority and the Completed Works Branch of the US Army Corps of Engineers, as well as Pontchartrain Levee District approval.
02/18-Present	Levee Board Permitting for Subsurface Activities within 1,500 feet of the Centerline of the Mississippi River Levee – Louisiana. Managing the preparation of requests for letters of no objection to agencies; prepared permit drawings; and coordinated with the Levee District, the U.S. Army Corps of Engineers, and Coastal Protection and Restoration Authority on issuance of approvals for the following: • Blue Cube Operations LLC, Plaquemine, LA – Tank farm Excavations (multiple submittals) • Noranda Alumina, Gramercy, LA - Monitoring Well Installations & Light Pole Replacements • Louis Dreyfus Co. LLC, Port Allen, LA - Excavations for Routine Maintenance Work; Installation of Helical Piles for Belt Conveyor. • Confidential Client, Plaquemines Parish, LA - Plaquemines Parish Permit for Test Piles

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.	
Name	Jim LeBlanc	Years of relevant experience with this employer	6
Title	Senior Environmental Scientist	Years of relevant experience with other employer(s)	41
Degree(s) / Years / Specialization		B.S. / 1981 / Marine Biology	
Active registration number / state / expiration date		N/A	
Year registered		Discipline	Other Pertinent Training / Certifications Army Corps of Engineers Wetlands Delineation & Management Training Program-Richard Chin Environmental Training, January 2005 U.S. Fish & Wildlife -Wetlands Classification, 1984 U.S. Fish & Wildlife Service – Habitat Evaluation Procedures, 1984
Contract role(s) / brief description of responsibilities		Environmental/Permitting Support	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the time specified in the applicable MPR(s).		
02/17-04/19	Blue Cube Operations LLC/The Dow Chemical Company, Grand Bayou Operations, Belle Rose, Louisiana – Lead Scientist for development of the Joint Permit Application (JPA) needed to construct a new well pad and support infrastructure to install a new brine well at the Grand Bayou Operations facility. Providing coordination for a geologic review meeting; Section 106 coordination with the State Historic Preservation Officer; obtaining Louisiana Department of Environmental Quality 401 Water Quality Certification ; coordinating with approved mitigation banks to satisfy permit requirements for compensatory mitigation; and coordinating with U.S. Fish & Wildlife Service and the Louisiana Department of Wildlife & Fisheries on inactive bald eagle nest and colonial wading bird colonies in the general vicinity.		
10/18-03/19	Hilcorp Energy Company, Cartwright Prospect, Terrebonne Parish, LA - Permit Lead responsible for acquiring the Section 10/404 permit from the Corps of Engineers, a Coastal Use Permit from the Office of Coastal Management and approval from the Terrebonne Parish Consolidated Government for the construction of a new well pad needed to drill a new production well. Permitting activities include coordinating mitigation for unavoidable impacts, purchasing of mitigation credits from an approved mitigation bank, and acquisition of a 401 Water Quality Certification for LDEQ.		
06/19-06/20	Nucor Steel Louisiana, Convent, LA - Permit Lead for acquisition of the Section 10/404 permit from the Corps of Engineers, a Coastal Use Permit from the Office of Coastal Management, and approval from the Pontchartrain Levee District for maintenance dredging activities in the Mississippi River at their ship dock and barge loadout facility. Permitting activities included the acquisition of a 401 Water Quality Certification for LDEQ and Letters of No Objection (LONO) from the Completed Works Branch of the Corps and the Coastal Protection and Restoration Authority at the Louisiana Department of Natural Resources.		
05/22-Present	Marathon Oil Company, Garyville, LA - Permit Lead for the acquisition of approval from the Pontchartrain Levee District to transport numerous large process vessels over the Mississippi River Flood Protection Levee at an existing location used for previous heavy haul transports. He is providing coordination of the stability analysis using Method of Planes under preparation by a local geotechnical firm to receive Letters of No Objection from the Completed Works Branch of the Corps of Engineers and CPRA at the Louisiana Department of Natural Resources. Additionally, activities will require the preparation of a Joint Permit Application (JPA) for a Coastal Use Permit (CUP) and a Section 10/404 permit from the Corps of Engineers. Construction of a temporary modular bridge across the levee crown will also require a 408 review by the Corps.		

03/19-01/20	Noranda Alumina LLC, Gramercy LA - Permit Lead for the acquisition of a Section 10/404 permit from the Corps of Engineers and a Coastal Use Permit from the Office of Coastal Management for the repair of damage guide piles at the alumina dock and maintenance dredging behind both docks for removal of sediment accumulation creating loading problems on the dock piles. Permitting activities included approval from the Pontchartrain Levee District for all the activity within 1,500 feet of the Mississippi River Flood Protection Levee. Permitting activities included the acquisition of a 401 Water Quality Certification for LDEQ and Letters of No Objection (LONO) from the Completed Works Branch of the Corps and the Coastal Protection and Restoration Authority at the Louisiana Department of Natural Resources.
10/19- 10/20	Noranda Alumina LLC, Gramercy, LA – Permit lead for acquisition of the Section 10/404 permit from the New Orleans District of the Corps of Engineers, a Coastal Use Permit from the Office of Coastal Management, and approval from the Pontchartrain Levee District for construction of a new wetcake conveyor, along with the repair and rehabilitation of an existing liquid barge dock for bulk transfer operations at Noranda Alumina facility in Gramercy, Louisiana. Installation of new piles and dolphins in the river was to be authorized under a Nationwide Permit. Additionally, a 408 Authorization from the Corps of Engineers was required for construction activities within the Mississippi River Flood Protection Levee easement. Prior to submitted the Joint Permit Application (JPA), a wetlands delineation was performed on the river batture in order to identify the extent of jurisdictional wetland potentially impacted by construction activities. Before the permitting could be completed, the project was cancelled due to design delays and cost escalations.
07/18-09/18	Louis Dreyfus LLC, Atchafalaya Basin Levee District Permitting, Port Allen, LA - Levee Permit Lead for acquiring approval from the Atchafalaya Basin Levee District to perform temporary excavation maintenance work within 1,500 feet of the centerline of the Mississippi River Flood Protection Levee. Included the preparation of a request letter to accompany the vicinity map, plan view and cross-section drawing for the project, and responding to requests for additional information from the Corps of Engineers and CPRA.
06/20-06/21	Louis Dreyfus LLC, Port Allen, LA – Permit Lard for an Atchafalaya Basin Levee Board permit to install fur new guide piles at the existing barge unloading terminal needed to force barge tows from crashing into the outer bumper system in order to line up with the barge pulley system. Activities included coordination with the design engineer to provide lateral load calculation for the piles required by CPRA and the Corps for Letters of No Objection.
03/07-09/09	Marathon Oil Company, Garyville, LA - Permit lead for the acquisition of a Section 10/404 permit from the Corps of Engineers, Coastal Use Permit from the Office of Coastal Management and approval from the Pontchartrain Levee District for the construction of a new marine terminal (dock) in the Mississippi River as part of a \$3.2 billion expansion at the Garyville refinery.

16. Staff Experience:

Firm employed by		TRC Engineers, Inc.		
Name	Keith Suderman, PhD		Years of relevant experience with this employer	12
Title	Project Manager		Years of relevant experience with other employer(s)	13
Degree(s) / Years / Specialization			PhD / 2001 / Biological Oceanography M.S. / 1997 / Biological Oceanography B.A. / 1989 / Chemistry	
Active registration number / state / expiration date			N/A	
Year registered	N/A		Discipline	N/A
Contract role(s) / brief description of responsibilities			Permitting	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc.			
03/14 – present	Commonwealth LNG LLC, LNG Export Terminal, Federal Energy Regulatory Commission (FERC) National Environmental Policy Act (NEPA) Environmental Report (ER) and Federal/State/Local Permitting, Louisiana - Managed early support (e.g., fatal-flaw analysis, regulatory review), field survey (wetlands, protected-species habitat, cultural resources), agency consultation, preparation of FERC ER in support of Natural Gas Act (NGA) §3 Application and applications for U.S. Army Corps of Engineers (USACE) §404/§10/§408 permit, Louisiana Department of Natural Resources (LDNR) Coastal Use Permit (CUP), Louisiana Department of Environmental Quality (LDEQ) Water Quality Certification (WQC), National Marine Fisheries Service (NMFS) and U.S. Fish & Wildlife Service (USFWS) Section 7 clearances, and other federal/state/local permits for this LNG export terminal (Docket No. PF17-8, CP19-502).			
05/14 – 06/16, 01/19-Present	Trunkline LNG, Lake Charles LNG Export Terminal, FERC NEPA ER and Federal/State/Local Permitting, Louisiana. Managed post-submittal support of the FERC ER and §3/§7(c) Application and applications for USACE §404/§10/§408, LDNR CUP, LDEQ WQC, NMFS/USFWS Section 7 clearances, and other federal/state/local permits for this LNG export terminal (Docket Nos. CP14-119, CP14-120, and CP14-122). Completed implementation plan; received limited notice to proceed. Managed extension of federal/state/local permits and clearances. Louisiana Department of Wildlife and Fisheries (LDWF) Scenic River permit planned. Extensive wetlands in difficult environments (e.g., wetland mosaics) required close coordination with resource agencies.			
05/16 – 03/19	Driftwood LNG Project, FERC Third-Party NEPA Environmental Impact Statement (EIS), Louisiana. As Project Manager, provided third-party support of the FERC in the preparation of an EIS (Docket No. PF16-6, CP17-117, 118) for a proposed LNG liquefaction and export facility and natural gas pipeline project on the Calcasieu Ship Channel. The proposed project would consist of a 27.6-MTPA LNG liquefaction facility, berths for three LNG carriers, a material offloading facility, and an approximately 96-mile-long, 48-, 42-, and 36-inch-diameter pipeline to transport natural gas from existing pipeline systems to the LNG terminal facilities. Construction began in 2022.			
02/19-07/21	Southern Natural Gas Company/Kinder Morgan, Evangeline Pass Expansion Project, FERC NEPA ER and Federal/State/Local Permitting, Mississippi/Louisiana. Supported preparation of FERC NEPA ER for §7(c) NGA Application, agency consultations, and applications for federal/state permits for a new compressor station (Rose Hill, MS) and modification of 17 aboveground facilities in Mississippi and Louisiana, including within the Louisiana coastal zone (Docket No. CP20-51-000).			
02/21-present	Louisiana Department of Transportation and Development (LA DOTD), I-10 Lake Charles Calcasieu River Bridge Project, Public-Private Partnership Support – Calcasieu Parish, Louisiana. Provided environmental support through the development of Environmental, Socioeconomics, and Environmental Justice Technical Provisions (TPs) in support of the procurement of construction services for the replacement of the aging infrastructure of the existing bridge.			

01/07 – 10/11	Chevron Products Company, USACE/MDMR Wetlands Permitting, Pascagoula, Mississippi. Wetlands and dredging permitting discipline lead for Chevron's \$1.3B Pascagoula Base Oil Project. USACE §404 permit, Mississippi Department of Marine Resources (MDMR) CUP, and Mississippi Department of Environmental Quality (MDEQ)WQC were issued within 6 months. Prepared a Biological Assessment and received clearance for impacts to Gulf sturgeon critical habitat.
02/17 - present	Energy World USA, Fourchon LNG Export Terminal, FERC NEPA ER and Federal/State/Local Permitting, Louisiana. Managing FERC ER for project's NGA Section 3 Application. Supporting federal, state, and local permitting. Project is a unique, elevated platform design in Port Fourchon's industrial setting. Docket No. PF17-9-000.
02/14-07/16	Spectra Energy, Loudon Expansion Project, FERC NEPA ER and Federal/State/Local Permitting, Tennessee. Managed preparation of FERC ER for NGA §7(c) Application, agency consultations, and applications for Nationwide Permit No. 12 (NWP-12) and other federal/state/local permits for a 10-mile pipeline project (Docket No. CP15-91). Supported the preparation of an Environmental Assessment (EA) with the Tennessee Valley Authority (TVA) as a cooperating agency. Addressed protected bat species issues through agency consultation.
05/06-11/06	Gulfstream Pipeline Company, LLC, FERC NEPA ER and Federal/State/Local Permitting, Tampa Bay, Florida. Managed the preparation/submittal of a NEPA ER and applications for a Florida Department of Environmental Protection Environmental Resource Permit, Tampa Port Authority Standard Work Permit and Public Easement Permit, and Pinellas County permit, for an 18-mile offshore natural-gas pipeline in Tampa Bay, Florida.
02/06-03/09	Southern Natural Gas, NEPA and Permitting Support, Coastal Georgia. SNG's Cypress Pipeline Project is a 167-mile natural gas pipeline through pine flatwoods, herbaceous marsh, and estuarine environments of coastal Georgia. Assisted with wetland delineation and NEPA Environmental Report. Technical support of experimental design and analysis for post-construction wetland monitoring study that documented the efficacy of the natural-revegetation method (via topsoiling in wetlands vs. labor-intensive planting methods).
05/12-12/14	USACE, Third-Party EIS for the Glades Reservoir. Hall County, Georgia. Analysis of NEPA-required reasonable alternatives and USACE §404(b)(1) practicable alternatives for water-supply sources and reservoir sites. Coordination and organization of existing-conditions chapter of EIS, under direction of the USACE, Savannah District, to evaluate a pumped storage reservoir located near the Chattahoochee River and Lake Lanier. Scoping outreach included the States of Georgia, Alabama, and Florida.
01/04-05/05	Southern Natural Gas, NEPA and Permitting support, North Georgia. Prepared Resource Reports 2, Water Use and Quality; 3, Fish, Wildlife, and Vegetation; and 7, Soils, for FERC's NEPA Environmental Report. Conducted wetland and waterbody delineation and threatened-and-endangered species habitat surveys and prepared the Wetland/Waterbody Delineation Report for Southern Natural Gas' (SNG's) Triangle Pipeline-Looping Project in north Georgia.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.	
Name	Chace Hulon, P.E., ADCI	Years of relevant experience with this employer	11
Title	Program Manager	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization	B.S. / 2005 / Civil Engineering		
Active registration number / state / expiration date	#PE.0039701 / LA / 09-30-2027		
Year registered	2015	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities	Acoustic Imaging Lead Chace is the discipline lead for inspection and rehabilitation services at Moffatt & Nichol. He has 21 years of direct experience with bridge inspection and preservation. He has been intimately engaged with the evolution of the NBIS, including the various changes with the federal and state agencies. Additionally, he has worked closely with the LaDOTD staff and the FHWA Louisiana representatives to develop the first comprehensive LaDOTD Bridge Inspection Manual as the chief editor. He has a specialized expertise in assessing submerged elements as an engineer-diver to analyze rates of deterioration of all materials in the marine environments. He is also a professional rope access technician who routinely solves access issues safely and efficiently. He has performed non-destructive testing and partially destructive testing investigations to accurately analyze timber, steel, and concrete deterioration while assessing service life or remaining live load capacities.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
08/14-Present	LaDOTD Underwater Bridge Inspections, Statewide, LA - Project Manager, Dive Supervisor, and National Bridge Inspection Standards (NBIS) Team Leader for the fourth consecutive retainer contract. Contracted to perform 2,386 underwater bridge inspections throughout Louisiana and in the most challenging environments, including dive operations in the Lower Mississippi River under the U.S. Coast Guard (USCG) Waterways Management Division. Level I, II, and III inspections of submerged elements were performed in accordance with the Federal Highway Administration (FHWA), Bridge Inspector's Reference Manual (BIRM), American Association of State Highway and Transportation Officials (AASHTO) Manual for Bridge Evaluation (MBE), current NBIS requirements, LaDOTD Engineering and Maintenance Directives, and the LaDOTD Bridge Inspection Manual (BIM). Bridge types included movable swing span bridges with pivot piers, bascule bridges large chamber piers, long-span cantilever through truss bridges with caisson piers, timber trestle bridges with timber piles, cable-stayed bridges with drilled shafts, and multi-span bridges with drilled shafts up to 8 miles in length, and ferry terminals. Managed the QA/QC plan and performed QC reviews as the confirming engineer on NBIS inspection reports. The underwater bridge inspections in large waterways were conducted with commercial divers and augmented with multibeam high-resolution acoustic imaging technology to consistently monitor streambed changes and structural deficiencies over subsequent inspection cycles. Acoustic hydrographic surveying methods were performed using the HydroLite-TM, Kongsberg Mesotech MS 1000, R2Sonic, and the Norbit Winghead i77 units deployed from a vessel. QINSy, Qimera, Applanix POSPac, MMS systems, and MatLab were used for accurate and repeatable post-processing efforts. Scour evaluations are integrated into every underwater bridge inspection, however focused scour evaluations for the purpose of performing a scour analysis were performed that included a macroscopic view of the surrounding site conditions. Performed emergency underwater damage assessments while augmenting sonar technology and advising on corrective actions and repair alternatives. Performed more than 20 emergency response damage assessments, including the recent allision of the Grosse Tete Bridge (LA77) over the Port Allen Lock canal.		
09/24-03/25	ARDOT, A6476 Bridge Investigation, Siloam Springs, AR - Project Manager, Dive Supervisor, and Team Leader for the investigation of Bent 3A Pier. This reinforced concrete hammerhead pier shaft has a spread footing keyed into shale and is experience severe cracking in the shaft and the footing. Chace led the investigation team along with an HNTB representative to safely perform diving and rigging operations in a river with challenging access. Maintenance of traffic (MOT) devices were utilized for shoulder closures in accordance with Manual on Uniform Traffic Control Devices (MUTCD) and American Traffic Safety Services Association (ATSSA) safety standards. Rigging operations were performed in accordance with Society of Professional		

	Rope Access Technicians (SPRAT) safety standards for heavy equipment. Diving operations were performed in accordance with Association of Diving Contractors International (ADCI) safety standards. Material sampling was required to thoroughly assess the chemical composition of the concrete matrix. Chace supervised and performed the concrete core extraction operations above- and below-water with a hydraulic unit with core sizes of 4-in diameter by 36-in long. Concrete coring was performed to investigate the chemical composition of the concrete matrix and to explore the limits of cracking in the footing. Testing included compressive tests and petrographic analyses. Tests concluded that excessive amounts of secondary ettringite (DEF) are present along with minor traces of alkali-silica reaction (ASR). Repairs consisted of crack injections and a monitoring plan to assess the stage of chemical reaction and the rate of deterioration as the reaction may be near completion.
01/23-02/26	LaDOTD Indefinite Delivery/Indefinite Quantity (IDIQ) for Complex Bridge Inspection, Statewide, LA - Project Manager and Chief Editor for updates to 2020 bridge maintenance manuals to incorporate the 2022 NBIS Final Rule. Delivered On-System, Off-System, and Coding & Field Guides, published in Dec 2024 for full compliance by 2025 and FHWA audit readiness. Collaborated with LaDOTD, led monthly progress meetings, and streamlined inspection forms and guidance for usability. Performed inspections on complex movable, long-span, cable-stayed, and fracture-critical bridges using rope access, UAS, and nondestructive testing. Installed SHM systems, assessed NSTM deficiencies, and evaluated structural conditions. Managed QC review processes and applied traffic-minimizing inspection methods. Performed structural, mechanical, and electrical inspections of six movable bridges utilizing detailed, nondestructive, and laboratory testing methods with hand sketches. Installed a wireless SHM (system health monitoring) system on the Greater New Orleans bridge to monitor significant deficiencies in Nonredundant Steel Tension Members (NSTM) members due to poor design details and advised of repair alternatives. Utilized nondestructive examination (NDE) methods (laser and acoustic) to analyze the rotational movement of an unstable pivot pier. Performed the inspections of two cable-stayed bridges with rope access techniques to inspect 208 cables between the two bridges, their Gensui Dampers, and anchorage systems. Performed two inspections of the I-10 Horace Wilkinson Bridge and two inspections of the Greater New Orleans Bridges, which are cantilever truss bridges utilizing rope access techniques and rolling lane closures to minimize traffic impacts. Performed a fracture critical inspection of the Green Bridge, a steel tied arch in New Orleans, utilizing rope access and Unmanned Aircraft Systems (UAS) access techniques. Performed the inspection of the I-10 Bridge over the Calcasieu River in Lake Charles utilizing rope access on NSTM and UAS access techniques on columns. The Skydio X10 drone with DroneDeploy and 3D Scan was used to capture an orthomosaic projection of the structure for digital twin models. Hands-on management and implementation of the QC review plan are vital to the continued success of this project.
06/22-12/24	USACE Vicksburg District and ERDC, Bridge Inspection Services at USAG Fort Polk, Leesville, LA - Project Manager and Team Leader for the condition assessments reportable bridges in the Fort Polk inventory. M&N was tasked with three consecutive projects at Fort Polk from 2022-2024 to inspect a total of 156 roadway and railroad bridges. Structure types included multi-beam reinforced concrete bridges, reinforced concrete pipe and box culverts, and corrugated metal arch bridges and pipe culverts. Led and supervised the underwater inspection of four bridges with high water levels to assess undermining of spread footings and provided repair recommendations and ROM cost estimates for repair. Performed final quality assurance report reviews and coordinated the submittal packages.
11/23-06/25	MDOT 2023 IDIQ Underwater Bridge Inspections, Statewide, MS - Project Manager responsible for a three-year retainer contract for Level I, II, and III underwater inspections of 69 bridges in MDOT Districts 5 and 2 in accordance with FHWA BIRM, AASHTO MBE, current NBIS requirements and the MDOT PONTIS Inspection Manual for Bridges. Reviewed and evaluated critical structural conditions and communicated necessary actions of remedy. Responded within 24 hours to an emergency inspection request. Underwater acoustic imaging techniques were deployed to map out limits of scour and quantities required for a riprap repair.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Christopher Eschenbach, ADCI, NHI		Years of relevant experience with this employer	8
Title	NBIS Team Leader; ADCI Dive Supervisor		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			A.S. / 2015 / Welding	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A Other Pertinent Training / Certifications NHI #130053, Bridge Inspection Refresher Training NHI #130055, Safety Inspection of In-Service Bridges NHI #130091,Underwater Bridge Inspection AWS Certified Welding Inspector NHI #130078, NSTM Inspection Techniques for Steel Bridges ATSSA TCS Work Zone Safety Society of Professional Rope Access Technicians (SPRAT) ADCI Dive Supervisor	
Contract role(s) / brief description of responsibilities			NBIS Underwater Team Leader and Marine Mapping Specialist Chip will help provide direction, experience, and safe practices during field inspections. He now has 8 years as a bridge inspection team leader at M&N’s Baton Rouge, Louisiana office. His experience includes construction and inspection on various bridges, piers, and waterfront facilities throughout California, New York, New Jersey, Louisiana, Massachusetts, Mississippi, Texas, Colorado, Hawaii, Washington, and Ohio. His combined experience with welding, diving, and climbing has proven to be instrumental on bridge inspections of various sizes and complexities. Chip is a National Highway Institute (NHI)-certified bridge inspector, certified both in commercial diving and industrial rope access.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/21-Present	LADOTD, H.009730.5: Underwater Bridge Inspections, Statewide, LA - NBIS Team Leader, Dive Supervisor, and Survey a responsible for bridge inspection records and ratings, preparing dive safety plans and supervising high risk dive operations, and deploying the high resolution multibeam sonar system for data collection surveys. All bridge inspections over large waterways with high-risk environmental conditions were augmented with acoustic imaging technology. Hydrographic surveys were performed using the NORBIT WINGHEAD i77h (now the WINGHEAD X) multibeam sonar using a transducer array. Measurements are collected with integrated GNSS/INS systems and can be further processed with NOAA Continuously Operating Reference Stations (CORS) Network (NCN) to reduce measurement uncertainties. Two-and-three dimensional bathymetric maps can be produced to provide a georeferenced model of the riverbed near the structure. Provided quality control reviews of each visualization is through the QPS QINSy product, Qimera, and Applanix POSPac MMS systems. Provided report development and reviews for accuracy and standardization across teams.			
09/19-03/20	LADOTD, H.009730.5: Underwater Bridge Inspection of Large River Crossings, Statewide, Louisiana - NBIS Inspector for the five-year retainer contract to perform Level I, II, and III underwater bridge inspections in accordance with NBIS and AASHTO Manual for Bridge Element Inspection. Completed underwater inspection fieldwork, inspection reports, and quality control reviews. Underwater acoustic imaging techniques were used to locate structural deficiencies, identify potential undermining, observe the limits of scour, and document the limits of riprap installations.			

10/20-12/23	LADOTD, H.009730.5: In-Depth Inspections of Complex Bridges, Statewide, LA - NBIS Inspector for routine bridge inspections throughout Louisiana, including 100% visual inspections in accordance with NBIS requirements. Performed a routine bridge inspection of the cable-stayed Audubon Bridge above the deck utilizing rope access techniques in St. Francisville. Responsibilities included preparing SPRAT and climbing gear for inspection, coordinating with the other climbing teams, performing inspection on each cable for cable-stay bridge using rope access and performing inspection on the cable-stay towers, relaying defects and photographing defects found.
04/24-07/25	MDOT 2023 IDIQ Underwater Bridge Inspections, Statewide, MS - Engineering Technician Diver responsible for maintaining the diving and inspection equipment, planning and preparing all necessary tools and information, and providing field notes and observations. Maintaining the inspection equipment entails routine maintenance, proper record keeping, using the manufacturer's recommendations to maintain high standards for our inspections, and ensuring that the industry standards are met before anything is used. Planning and preparation have included the tools that are available for use and that all safety concerns are addressed. Providing field notes and observations using a diver or a non-diving inspection and taking photos or video.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Jeffrey Gazarek, ADCI, NHI		Years of relevant experience with this employer	11
Title	Safety Manager; NBIS Team Leader; ADCI Dive Supervisor		Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization			ADCI / 2005 / Divers Institute of Technology	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A	
			Other Pertinent Training / Certifications NHI #130053, Bridge Inspection Refresher Training NHI #130055, Safety Inspection of In-Service Bridges NHI #130091, Underwater Bridge Inspection AWS Certified Welding Inspector NHI #130078, NSTM Inspection Techniques for Steel Bridges ATSSA TCS Work Zone Safety Society of Professional Rope Access Technicians (SPRAT) Certified Occupational Safety Specialist and Manager OSHA MEWP Trainer ADCI Dive Supervisor	
Contract role(s) / brief description of responsibilities			NBIS Underwater Team Leader and Dive Safety Officer Jeffrey will help provide direction, experience, and safe practices during field inspections. He has over 20 years’ experience as a diver, dive supervisor, engineering technician, equipment manager, and fleet manager. He is a member of the American Society of Safety Professionals and represents M&N on the United States Gulf of America Diver Safety Work Group, where he previously served as Chairman of the Caviblaster Safety Committee. Jeffrey has led a diverse range of infrastructure projects nationwide, working alongside highly skilled teams to safely deliver complex and demanding work. He is actively engaged with his teams, focusing on problem prevention and solution development throughout project execution. He has extensive expertise in submerged structural inspections, both as a diver and dive supervisor, across a wide variety of infrastructure, including bridges, wharves, steel and concrete bulkheads, ocean piers, fender systems, and offshore structures. As a professional diver, he regularly participates in underwater investigations and has conducted comprehensive assessments of timber, steel, and concrete deterioration in marine environments. Additionally, in 2026, Jeffrey was named the new Chairman of the ADCI/Safety/Technical Committee.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/21-Present	LADOTD, H.009730.5: Underwater Bridge Inspections, Statewide, LA - Site Safety Specialist and Senior Dive Supervisor responsible for maintaining the diving and inspection equipment, planning and preparing all necessary tools and information, providing field notes and observations, and writing reports. Provides routine maintenance of the inspection equipment and proper record keeping, uses the manufacturer's recommendations to maintain high standards for our inspections, and ensures that the industry standards are met before anything is used. Identifies the inspection locations for planning and			

	preparation, reviews previous inspection data, identifies the proper lodging and safety accommodations, confirms tools are available for use, and confirms that safety concerns are addressed. Provides field notes and observations of the field data collection process, using a diver or non-diving inspector, and taking photos, video, or using acoustic imaging to collect data.
09/19-03/20	LADOTD, H.009730.5: Underwater Bridge Inspection of Large River Crossings, Statewide, Louisiana - NBIS Inspector for the five-year retainer contract to perform Level I, II, and III underwater bridge inspections in accordance with NBIS and AASHTO Manual for Bridge Element Inspection. Completed underwater inspection fieldwork, inspection reports, and quality control reviews. Underwater acoustic imaging techniques were used to locate structural deficiencies, identify potential undermining, observe the limits of scour, and document the limits of riprap installations.
10/20-12/23	LADOTD IDIQ Contract for In-Depth Bridge Inspections, Statewide, LA - NBIS Inspector for routine bridge inspections throughout Louisiana, including 100% visual inspections in accordance with NBIS requirements. Performed a routine bridge inspection of the cable-stayed Audubon Bridge above the deck utilizing rope access techniques in St. Francisville. Responsibilities included preparing SPRAT and climbing gear for inspection, coordinating with the other climbing teams, performing inspection on each cable for cable-stay bridge using rope access and performing inspection on the cable-stay towers, relaying defects and photographing defects found.
04/24-07/25	MDOT 2023 IDIQ Underwater Bridge Inspections, Statewide, MS - Safety Manager responsible for the review and approval of dive and field safety plans for specialty access projects, both above- and below-water. This included oversight of diving operations, rope access, fall protection, mobile elevated work platforms, and confined space safety.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Bryan Tyson, P.E., ADCI		Years of relevant experience with this employer	6
Title	Engineering Condition Assessment Lead; Structural Engineer; ADCI Diver		Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization			M.S. / 2010 / Civil Engineering B.S. / 2008 / Civil Engineering	
Active registration number / state / expiration date			#PE.0039701 / LA / 09-30-2027	
Year registered	2016	Discipline	Civil Engineer Other Pertinent Training / Certifications NHI #130053, Bridge Inspection Refresher Training NHI #130055, Safety Inspection of In-Service Bridges NHI #130091, Underwater Bridge Inspection FAA Remote Pilot NHI #130078, NSTM Inspection Techniques for Steel Bridges ATSSA TCS Work Zone Safety Society of Professional Rope Access Technicians (SPRAT) ADCI Air Diver	
Contract role(s) / brief description of responsibilities			Engineer-Diver Bryan will be responsible for planning, directing, and monitoring all aspects of underwater inspections, including serving as the Team Leader on-site. He has more than 15 years of structural bridge engineering experience working on multiple large-scale inspection projects, including new construction and repair projects. Projects include design of steel, concrete, and wood marine structural components, including relieving platforms, bent beams and caps, mooring and berthing dolphins, steel sheet pile bulkhead, combination wall bulkhead, tie rods, and vertical and batter piles. Bryan is a National Highway Institute (NHI)-certified bridge inspector, certified both in commercial diving and industrial rope access.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
04/24-Present	LADOTD, H.009730.5: In-Depth Inspections of Complex Bridges, Statewide, LA - Inspection Team Leader for in-depth inspection (fulfilling both routine and fracture critical inspections) of several large bridges within Louisiana. Provided site mob/demob and bridge inspections. Level III inspections were completed in accordance with FHWA, BIRM, AASHTO Manual for Bridge Evaluation, AASHTO BEIM, and the LaDOTD Bridge Inspection Manual. Bridges included Interstate 10 (John James Audubon) Bridge over Mississippi River, Ventress with in-depth inspection of structure’s towers and cable stays using rope access techniques.			
02/23-12/25	LADOTD, H.009730.5: In-Depth Inspections of Complex Bridges, Statewide, LA - Specifications for the National Bridge Inventory (SNBI) Program Development and Manual Publications - Structural Engineer for updating and further development of the Bridge Inspection Manual (including off-system directives), Bridge Load Rating Manual, and Coding & Field Guide. Updates resulted from recent NBIS changes in CFR and the implementation of SNBI. Manual will be fully compliant with the FHWA SNBI Program Metrics in accordance with published timeline. The manual is uniquely ordered			

	in a systemic fashion with appendix to store vital updated forms for Bridge Inspection Program. M&N has been retained for 5 years to provide critical updates following NBIS changes.
06/22-Present	LADOTD, H.009730.5: Underwater Bridge Inspections, Statewide, LA - Inspection Team Leader for two tasks (to date) under M&N's third, consecutive contract to provide UW NBIS bridge insp. statewide. When completed, a total of 699 bridges will be inspected under those two tasks. Includes in-depth UWI on signature bridges over large waterways with deep foundations and dynamic channel conditions. Inspections augmented NDE acoustic imaging technology to consistently monitor streambed changes and structural deficiencies between inspection cycles. Responded to several emergency requests for inspection within hours to days utilizing local personnel.
06/17-04/18	LADOTD, H.009730.5: Underwater Bridge Inspection of Large River Crossings, Statewide, Louisiana - Structural Engineer and Inspection Team Leader/Diver for two tasks under a five-year, open-end retainer contract to perform underwater bridge inspections throughout Louisiana. Provided Level I, II, and III inspections of submerged elements in accordance with FHWA, BIRM, AASHTO MBE, current NBIS requirements, and LaDOTD Engineering & Maintenance Directives. Bridge types included movable swing span, bascule, truss, timber stringer, cable-stayed, single & multi-span bridges up to 8 miles long. Assisted with preparation of NBIS inspection reports. During the two tasks, Bryan provided inspection of 41 major bridges over large waterways with deep foundation & dynamic channel conditions. Assisted preparation of NBIS inspection reports.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Isabella Mejdrech, P.E., S.E.		Years of relevant experience with this employer	6
Title	Structural Engineer		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			M.S. / 2020 / Civil Engineering B.S. / 2019 / Civil Engineering	
Active registration number / state / expiration date			#PE.0048259 / LA / 03-31-2028	
Year registered	2023	Discipline	Civil Engineer	
			Other Pertinent Training / Certifications NHI #130056, Safety Inspection of In-Service Bridges for Professional Engineers (expires 8/30/2029)	
Contract role(s) / brief description of responsibilities			Bridge Rehabilitation Design / Load Ratings (Satisfies MPR #4) Isabella will perform bridge load ratings, applying her experience in bridge design, inspection, and structural analysis to ensure safe and accurate evaluations.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/23-06/24	Mississippi Office of State Aid Road Construction (OSARC) WA2 Superstructure and Substructure Load Ratings, Statewide, MS - Structural Engineer who led the effort to load rate the superstructures and substructures of bridges in Mississippi OSARC’s inventory. Superstructure types rated include prestressed concrete single-tee beams, reinforced concrete channel beams, and prestressed concrete I shape beams. Substructure types rated included reinforced concrete bents with prestressed concrete piles, reinforced concrete bents with concrete encased steel H-piles, and solid reinforced concrete abutments. Analysis included incorporating findings from field work and inspection reports. In addition to the rating, a summary report was generated to provide findings and give recommendations for posting if necessary. Led the effort to load rate the superstructures and substructures of bridges in Mississippi OSARC’s inventory. Superstructure types rated include prestressed concrete single-tee beams, reinforced concrete channel beams, and prestressed concrete I shape beams. Substructure types rated included reinforced concrete bents with prestressed concrete piles, reinforced concrete bents with concrete encased steel H-piles, and solid reinforced concrete abutments. Analysis included incorporating findings from field work and inspection reports. In addition to the rating, a summary report was generated to provide findings and give recommendations for posting if necessary.			
03/21-06/21	Load Rating of Berkley Bridge, Norfolk, VA - Load rate the approach spans and double bascule spans of east bound lanes and west bound lanes of the Berkley Bridge. Consisted of the creation of the load rating model in AASHTO BrR, identifying bridge defects from inspection reports, developing load rating report, and giving bridge posting recommendations.			
03/22-12/22	Load Rating of 86 Structures, Virginia Beach, VA - Lead the coordination of load rating 86 structures within 8 months to meet Fixing America’s Surface Transportation (FAST) Act requirements. Load rate steel and concrete structures through the creation of AASHTO BrR file, identifying bridge defects from inspection reports, developing load rating report, and giving bridge posting recommendations.			
06/18-12/22	Load Rating of Bridges and Culverts, Suffolk, VA - Structural Engineer responsible for the load rating of existing and new timber, concrete, and steel bridges and culverts in the City of Suffolk’s portfolio across five task orders. Created the load rating model in AASHTO BrR, identifying bridge defects from inspection reports, developing load rating report, and giving bridge posting recommendations. Additionally, led the load rating of 51 structures within three months to meet FAST Act requirements, concurrent with other load ratings.			
07/20-07/21	Load Rating of Bridges and Culverts, Newport News, VA - Load rate existing and new timber, concrete, and steel bridges and culverts in the City of Newport News’s portfolio. Consisted of the creation of the load rating model in AASHTO BrR, identifying bridge defects from inspection reports, developing load rating report, and giving bridge posting recommendations.			

02/20-09/20	Load Rating of the James River Bridge, Newport News, VA - Load rated the approach spans of north bound lane and south bound lane of the James River Bridge. Consisted of the creation of the load rating model in AASHTO BrR, identifying bridge defects from inspection reports, developing load rating report, and giving bridge posting recommendations.
04/23-05/23	Load Rating of the Holland Road Culvert Widening, Suffolk, VA - Structural Engineer responsible for the load rating of widened and original segments of the reinforced concrete triple box culvert on Holland Road. Performed two different methods for load rating: created the load rating model in AASHTO BrR for the widened section based on as-built plans; used VDOT's Equivalent Capacity Coefficient appendix for the existing section with no existing plans; incorporated as-built changes and defects from the inspection report. Developed a load rating report with recommendations.
07/21-06/22	Five Bridge Rehabilitation, Norfolk, VA - Structural Engineer who assisted in the field investigation for rehabilitation of five bridges in Norfolk. Review Routine Inspection Report and underwater inspection report to determine elements to be repaired, method of repair, and limits of repair. Designed structural repairs and prepared construction drawings for the rehabilitation of five bridges. Prepared cost estimate for repairs based on the Annual Service Contractor's pricing and following the VDOT Cost Estimating Manual. Prepared MOT plan for rehabilitation of each bridge utilizing the Virginia Work Area Protection Manual. Prepared joint permit application for in-water repairs.
07/23-06/24	Northampton Boulevard Bridge Rehabilitation, Virginia Beach, VA - Structural Engineer who led the rehabilitation design of the twin bridges carrying Northampton Boulevard over Shore Drive, including diaphragm replacement, concrete repairs, joint replacement, and latex overlay based on the Routine Inspection Report review. Reviewed the deck evaluation results to select the appropriate deck rehabilitation method. Prepared the construction drawings and cost estimate using VDOT Cost Estimating Manual.
09/23-06/24	Virginia Beach Boulevard over Norfolk Southern (NS) Railroad Rehabilitation, Norfolk, VA - Structural Engineer who led the rehabilitation design of the bridge carrying Virginia Beach Boulevard over NS Railroad, including concrete repairs, substructure waterproofing, joint replacement, and epoxy overlay. Evaluated repairs based on inspection report and prepared the construction drawings and cost estimate using VDOT Cost Estimating Manual.
07/20-07/21	Annual Bridge Inspection Program, Newport News, VA - Structural Engineer assisting with NBIS inspection of municipal timber, concrete and steel bridges consisted of identifying bridge defects, developing inspection reports, and giving repair recommendation.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Herodotos Pentas, PhD, P.E.		Years of relevant experience with this employer	3
Title	Senior Bridge Engineer		Years of relevant experience with other employer(s)	32
Degree(s) / Years / Specialization		Ph.D. / 1990 / Civil Engineering M.S. / 1985 / Civil Engineering B.S. / 1984 / Civil Engineering		
Active registration number / state / expiration date		#PE-0024660 / LA / 09-30-2026		
Year registered	1992	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities		Rehabilitation/Load Rating/Scour Evaluation/Vessel Collision Analysis Herodotos will perform rehabilitation design, load ratings, scour evaluations, and vessel collision analysis as needed.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
02/23-Present	MDOT Office of State Aid Road Construction, Bridge Load Ratings, Statewide, MS - Lead and Structural Engineer supervising the load ratings on five bridges by creating models in AASHTOWare’s Bridge Rating (BrR) for the superstructures and LEAP for the substructures in accordance with load and factor resistance rating and load factor rating. Supervised the team that identified bridge defects from the inspection reports, developed a load rating report, and gave bridge posting recommendations.			
08/93-10/95	LaDOTD S.P. 700-30-0002, Complex Structures Load Rating of Bridges, Statewide, LA - Project Manager who provided load analysis and rating of 37 complex steel and concrete bridges using both working stress and load factor methods. Structure types included simple and multi-span steel curve plate girders, simple and multi-span normal and skewed box girders, and curved box girders.			
06/97-06/99	LaDOTD S.P. 737-99-0441 & 737-99-0158, Assessment of Bridge Damage by Watercraft Divisions 2, 3, and 7, Statewide, LA - Project Manager for the baseline inspections of fender systems/substructures of 134 bridges to determine damage caused by marine vessels. Provided damage assessment, repair plan preparation, cost estimates, repair procedure, and report. The project received national attention due to its effectiveness and execution.			
06/06-06/08	LaDOTD S.P. No. 700-26-0293, Off-System Bridge Replacement, Jefferson Parish, LA - Principal-in-Charge of the design of preliminary plans for two concrete bridges. Responsible for hydraulic and structural calculations and plans.			
01/95-05/97	LaDOTD S.P. 700-99-0118, Structural Load Rating of Bridges, Statewide, LA - Project Manager for load rating of 118 bridges throughout the state. A majority of the bridges were prestressed concrete and steel plate girder design.			

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Eric Vugteveen, P.E.		Years of relevant experience with this employer	27
Title	Senior Structural Engineer		Years of relevant experience with other employer(s)	8
Degree(s) / Years / Specialization			B.S. / 1990 / Civil Engineering B.S. / 1990 / Architectural Engineering	
Active registration number / state / expiration date			#PE.0038667 / LA / 09-30-2026	
Year registered	2014	Discipline	Civil Engineer Other Pertinent Training / Certifications NHI #130053, Bridge Inspection Refresher Training (expires 11/18/2027)	
Contract role(s) / brief description of responsibilities			Bridge Rehabilitation Design / Load Ratings Eric will perform rehabilitation design and load ratings as needed.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
10/20-12/23	VDOT U.S. 17 over the James River Bridge Beam Repairs, Isle of Wright, VA - Senior Structural Engineer for VDOT Statewide Limited Services Contract project, oversaw repairs to prestressed concrete beams to improve the load rating of the 4.4-mile bridge, which consists of 302 approach spans and a vertical lift span for each northbound and southbound direction. Carbon fiber reinforced polymer was used to target 29 beams with significant strand losses. Various anchoring methods to delay failure due to fiber debonding that could preempt the repair system’s full capacity were assessed. Other post-tensioning repair techniques, including GRABB-IT cable splice assemblies, were also evaluated. Avoiding lane closures on Route 17, maximizing the efficient use of available construction funds, and adopting ACI guidelines and recent research publications to manually calculate ratings outside of VDOT’s standard BrR software were crucial to design.			
08/21-12/23	VDOT Floor Beam Repairs, Berkley Bridge Westbound Lanes, Norfolk, VA - Senior Structural Engineer for this VDOT Statewide Limited Services Contract, provided Stage II inspection and repair design of floor beams in the 178-foot double-leaf bascule span to improve the bridge load rating. The as-designed load rating study was performed using AASHTOWare BrR. Restrictions by the U.S. Coast Guard and VDOT Hampton Roads District on permissible lane and channel closures, limited work hours at night, and the likelihood of unscheduled bridge openings during construction added complexity to the design. Careful consideration of construction sequencing and the design of temporary falsework, scaffolding, containment structures, and other attachments to the existing leaves were required. Stage III construction phase services for review and consultation were also provided.			
11/08-02/21	City of Colonial Heights Safety Inspection of Highway Structures and Engineering Services, Colonial Heights, VA - Project Manager, Lead Engineer, and Inspection Team Leader for seven cycles of biennial routine NBIS inspections for three steel girder bridges, a prestressed concrete girder bridge, reinforced concrete slab bridge, and two concrete box culverts for the City of Colonial Heights. Prepared detailed inspection reports for each structure, which included a structure description, condition assessment, repair recommendations, photos, and updated NBIS condition ratings. Performed emergency site visit to determine the extent of required deck repairs on the Temple Avenue Bridge. Inspections included two cycles of underwater inspections at Sherwood Drive over Swift Creek and oversaw a scour evaluation based on inspection findings and hydraulic analysis of the waterway.			
02/20-09/20	Route 106 over I-64 Beam Blocking and Bearing and Beam Repairs, New Kent, VA - Project Manager and Lead Structural Engineer providing initial inspection for blocking design and bridge load rating for this VDOT Statewide Limited Services Contract LOA17 project. Due to the bridge length and skew, bearing and beam repairs were implemented to restore the bridge’s load-carrying capacity following heavy deterioration of bearings.			
12/19-12/19	VDOT Load Rating and Additional Stage III Services, Route 644 over Meherrin River, Brunswick County, VA - Lead Structural Engineer for as-built load rating of emergency repairs that utilized a temporary bent for this VDOT Statewide Limited Services Contract project. Two major components			

	included bridge superstructure load rating using the AASHTOWare BrR program and temporary bent superstructure load rating using spreadsheet/hand calculations. The repaired structure load rating was completed in conformance with VDOT policies and the VDOT Structure & Bridge Division Instructional and Informational Memoranda for load rating.
06/19-09/19	VDOT NBIS Inspection of Five Bridges (NBIS-LOA7), Waynesboro, Augusta County, and Rockingham County, VA - Inspection Team Lead for the NBIS inspection of five bridges for VDOT Staunton District. Prepared detailed inspection reports for each structure that included a structure description, condition assessment, repair recommendations, photos, and updated NBIS condition ratings. Inspections included a four-span steel multi-girder bridge; two-span continuous steel beam bridge; two parallel structures consisting of a 179-foot-long, three-span multibeam bridge; and a five-span steel beam bridge.
12/18-08/19	VDOT NBIS Inspection of Nine Bridges (NBIS-LOA5), Augusta County and Rockbridge County, VA - Inspection Team Leader for NBIS inspection of nine bridges for VDOT Staunton District. Prepared detailed inspection reports for each structure, which included a structure description, condition assessment, repair recommendations, photos, and updated NBIS condition ratings. Inspections included five simple-span prestressed concrete I-girder bridges, two 3-span simple steel multi-girder bridges, one 2-span continuous steel multi-girder bridge, one 4-span steel multi-girder bridge, parallel 4-span continuous steel multi-girder bridges, and parallel 5-span prestressed concrete beam bridges.
04/09-08/09	Load Rating of Existing Structures, Arlington, Albemarle, Augusta, Fairfax, Fauquier, Fluvanna, Louisa, Prince William, Rockbridge, Shenandoah, Warren Counties, and Several Independent Cities, VA - As part of an engineering consulting team for this VDOT Region III Limited Services Term Contract for Load Rating of Existing Structures, served as Assistant Project Manager and Structural Engineer for task orders to evaluate inspection reports and load rate bridges. M&N provided load rating for 76 structures. Bridge types included steel, steel continuous, concrete, concrete continuous, and prestressed concrete. Spans ranged from two to eight spans. Used load resistance factor rating for 11 loads, as described in VDOT's "Load Rating and Posting of Structures" (2009) and AASHTO' VIRTIS computer program for analysis and load rating.
02/06-12/08	VDOT Bridge Load Ratings, Northern Virginia, Hampton Roads, and Culpeper Districts, VA - Structural Engineer for these four VDOT Term Contract for Inspection and New Bridge Design task assignments, evaluated inspection reports and load ratings of 63 bridges in Northern Virginia (41) and Culpeper (22) Districts. Completed or provided quality control review of load ratings for steel, concrete, and timber bridges ranging in complexity from short, simple spans to longer, multiple-span curved bridges, including concrete arches and prestressed and post-tensioned concrete bridges. Load rating used the AASHTO' VIRTIS computer program.

16. Staff Experience:

Firm employed by		Moffatt & Nichol, Inc.		
Name	Mike Russell, EIT, SPRAT 3		Years of relevant experience with this employer	4
Title	Civil Associate II		Years of relevant experience with other employer(s)	8
Degree(s) / Years / Specialization			BS / 2015 / Civil Engineering	
Active registration number / state / expiration date			E.I.T. 0035255 / TN / no expiration date	
Year registered	2021	Discipline	Engineer-in-Training – Civil Other Pertinent Training / Certifications NHI #130055, Safety Inspection of In-Service Bridges (expires 12/17/2026) SPRAT Level III (#150926, expires 2/4/2028) NHI #130078, Fracture Critical Inspection for Steel Bridges, 2022	
Contract role(s) / brief description of responsibilities			Bridge Inspection Team Leader / Rope Access Supervisor Mike will lead field teams in the documentation, rating, reporting of deficiencies, and perform QC reviews of reports. As a certified SPRAT Level III Technician, he provides rope access techniques when traditional methods do not accommodate. This enhances the quality, efficiency, and safety of inspections.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
04/20-04/24	LaDOTD IDIQ Complex Bridge Inspections, Statewide, LA - Project Manager, Team Leader, and Rope Access Supervisor for the inspection of in-service bridges throughout Louisiana in accordance with FHWA guidelines for LaDOTD. Bridges included the I-10 Calcasieu Bridge in Lake Charles, Audubon Bridge in Saint Francisville, Vicksburg Bridge, I-10 Baton Rouge (Horace Wilkinson), Greater New Orleans Bridges, Manchac Bridge, and the U.S. 190 Huey P. Long Bridge in Baton Rouge. Installed a wireless SHM system on the Greater New Orleans bridge to monitor significant deficiencies in NSTM members due to poor design details. Performed various nondestructive evaluations (NDE), including unmanned aerial vehicle flight operations, magnetic particle, and ultrasonic testing. Performed QA/QC reviews of inspections reports.			
06/24-04/25	LaDOTD Inventory and Inspection of Sign Trusses, Statewide, LA - Project Manager, Team Leader, and Rope Access Supervisor for the five-year retainer contract to perform over 1,500 overhead sign truss inspections and rehabilitation designs throughout Louisiana. Ancillary inspections included steel and aluminum welds, high-stress moment connections, and fracture critical elements in accordance with FHWA guidelines. Lead the team who performed Level III inspections with ultrasonic testing on bolted connections, mag particle testing on steel-welded connections, and dye penetrant testing on aluminum-welded connections. Performed QA/QC reviews of inspections reports.			
09/23-01/24	MDOT Routine Bridge Inspections, Statewide, MS - Team Leader, Rope Access Supervisor, and Pilot-In-Command for the routine inspections of four bridges in lower Mississippi in accordance with FHWA guidelines for the Mississippi Office of State Aid. Performed QA/QC reviews of inspections reports.			
10/23-02/24	Routine and Naval Ships' Technical Manual Bridge Inspections, McAlester, OK - Team Leader, Rope Access Supervisor, and Pilot-In-Command for the routine and fracture critical inspections of two bridges at McAlester Army Ammunition Plant in accordance with FHWA guidelines for the U.S. Army Corps of Engineers. The team utilized industrial rope access techniques and small unmanned aerial systems (drones) to complete the inspections. Prepared inspection reports for QA/QC reviews.			

16. Staff Experience:

Firm employed by		Consor North America, Inc.		
Name	Michael Dukes, P.E.		Years of relevant experience with this employer	17
Title	Vice President		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			B.S. / 2008 / Civil Engineering M.S. / 2009 / Civil Engineering M.S. / 2019 / Engineering Management	
Active registration number / state / expiration date			#PE.0040986 / LA / 03-31-2027	
Year registered	2016	Discipline	Civil Engineer Other Pertinent Training / Certifications NHI #130055, Safety Inspection of In-Service Bridges – 10/16/2015 NHI #130053, Bridge Inspection Refresher Training – 03/12/21 NHI #130091, Underwater Bridge Inspection – 01/30/2015 NHI #130078, Fracture Critical Inspection Techniques for Steel Bridges – 02/18/2022 NHI #135046, Stream Stability and Scour at Highway Bridges – 09/15/2022 NHI #135048, Countermeasure Design for Bridge Scour and Stream Instability – 05/11/2023 NHI #135085, POA for Scour Critical Bridges – 10/15/2020 NHI #420018, Instructor Development Training – 03/21/2014 Surface-supplied Air Diving Supervisor – ADCI #58165 FHWA-certified NHI Bridge Instructor (2015): NHI #130053, NHI #130078, NHI #130091 HYPACK Hydrographic Surveying Field to Finish Single Bean Training – 05/21/2018	
Contract role(s) / brief description of responsibilities			Underwater Bridge Inspection Team Leader / Acoustic Imaging Lead Michael is a professional engineer with experience managing and leading bridge safety inspection, structural design, and waterfront facility inspection projects nationwide. As our Underwater Acoustic Imaging Technical Expert, he has utilized 2D and 3D SONAR to image structures and document scour during emergency flood responses, as well as to enhance diver safety during routine underwater bridge inspections. His responsibilities include overall project management, coordinating logistics for inspection teams nationwide, serving as team leader for above and below water NBIS bridge inspections, load rating of steel and concrete structures, emergency responses, and quality control of element-level inspection data submittals in various bridge inspection databases. He has made presentations on underwater bridge inspections and acoustic imaging at numerous conferences, including the Louisiana Transportation Conference.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
09/24-Present	4400029206: Statewide Underwater Bridge Inspections, LADOTD –Deputy Project Manager/Acoustic Imaging Lead Michael has performed underwater bridge inspections and underwater imaging for four consecutive underwater bridge inspection contracts for LADOTD. In total, Consor has performed 2,161 underwater bridge inspections in LADOTD Districts statewide. Consor’s fourth consecutive contract’s first task order started in 2025. Inspections have included challenging aspects specifically related to wildlife, fast currents, difficult access, as well as culvert structures requiring penetration dives through extensive silt and debris buildup. This project has included Level I, II, and III inspections utilizing surface-supplied air and commercial SCUBA diving systems, for concrete, steel, and timber bridges from small one-span bridges to larger bridges over major waterways such as I-10 Eastbound/Westbound bridges and US 11 over Lake Pontchartrain, I-10 Eastbound/Westbound over the Bonnett Carre Spillway and multiple bridges over the Red River. Acoustic imaging, 2D and 3D, has also been performed on select bridges, including Mississippi River crossings. NBIS, element-level			

	condition ratings, and as of the start of 2023, SNBI ratings are reported in InspectX. CADD inspection drawings, streambed cross sections comparing previous to current soundings, repair recommendations and photo documentation are included as part of each inspection submittal.
08/22 - 08/24	4400019122: Statewide Underwater Bridge Inspections, LADOTD –Team Leader. Performed underwater bridge inspections and underwater imaging for three consecutive underwater bridge inspection contracts for LADOTD. In total, Consor has performed 1,467 underwater bridge inspections in LADOTD Districts statewide. Consor’s third consecutive contract’s first task order started in 2022. Inspections have included challenging aspects specifically related to wildlife, fast currents, difficult access, as well as culvert structures requiring penetration dives through extensive silt and debris buildup. This project has included Level I, II, and III inspections utilizing surface-supplied air and commercial SCUBA diving systems, for concrete, steel, and timber bridges from small one-span bridges to larger bridges over major waterways such as I-10 Eastbound/Westbound bridges and US 11 over Lake Pontchartrain, I-10 Eastbound/Westbound over the Bonnett Carre Spillway and multiple bridges over the Red River. Acoustic imaging, 2D and 3D, has also been performed on select bridges, including Mississippi River crossings. NBIS, element-level condition ratings, and as of the start of 2023, SNBI ratings are reported in LADOTD’s bridge management database, which switched from AssetWise to InspectX in 2023. CADD inspection drawings, streambed cross sections comparing previous to current soundings, repair recommendations and photo documentation are included as part of each inspection submittal.
05/22 - 02/25	NHI Manual Updates, Federal Highway Administration – Contributor. Contributor and author on the two key manuals that were published in February 2025. These manuals are utilized extensively in the underwater bridge inspection and repair industry. Drawing on the experience and knowledge of 60+ divers in the company, the FHWA Underwater Bridge Inspection Manual and the FHWA Underwater Bridge Repair, Rehabilitation and Countermeasures Manual received a complete overhaul. Consor worked closely with FHWA staff and state DOT representatives to ensure that the manuals present the latest practices and innovations in the underwater bridge arena. The underwater bridge inspection manual was also updated to the new NBIS standards and incorporating changes that are required by SNBI.
12/23 - Present	FHWA/NHI 130091, Underwater Bridge Inspection, Federal Highway Administration) – Instructor. NHI instructor currently teaching the FHWA's 4-day underwater inspection course, which provides an overview of diving operations that are useful to agency personnel responsible for managing underwater bridge inspections. Course topics that he teaches include: methods of underwater inspection, underwater material deterioration mechanisms and inspection techniques, scour inspection techniques, underwater element-level rating, and underwater bridge inspection training. Upon completion of the course, participants will be able to explain the need and benefits of inspecting the underwater portions of bridge structures; describe typical underwater defects and deterioration, and identify conditions contributing to rates of deterioration; identify the types of inspection equipment available, and the advantages and limitations of each; identify procedures for planning and performing thorough and safe underwater bridge inspections; and assign component and element-level condition ratings for underwater components in accordance with NBIS and agency requirements.
02/12 - 03/13	Contract H.005365.5: Underwater Acoustic Imaging for Bridge Inspection, Louisiana DOTD – Project Manager/Team Leader. Assisted in the performance of underwater acoustic imaging for the inspection of 100+ bridge piers throughout the state of Louisiana. Consor provided diver investigations of any anomalies that were found. The pier inspections included both sides of the piers and the upstream and downstream noses of the piers. The scans were performed to identify and locate any major damage or deterioration, such as corrosion, loss of section, or scour undermining. Equipment required for these scans included a multi axis, steered beam imaging and profiling remote sensing system. All surface-supplied air diving was performed by ADCI-certified divers. Detailed reports were generated and submitted to LADOTD.
02/24 - 12/24	Underwater Bridge Inspections, Mississippi Department of Transportation – Project Manager. Project manager for this fifth cycle of underwater inspections for Mississippi DOT. The team inspected 215+ bridges in accordance with the NBIS. Underwater acoustic imaging and hydrographic surveying was performed on multiple bridges. Diving conditions included fast flow with debris and limited visibility on the Mississippi River. Structural conditions were documented with underwater photography. Non-destructive testing was used to accurately determine remaining section of steel piles, and timber piles were inspected using a timber resistance drill. Soundings were taken upstream and downstream of the bridge while full contours were developed for each bridge site. Reports included NBIS component ratings and Element Level inspections.

16. Staff Experience:

Firm employed by		Conzor Engineers, LLC		
Name	Sebastien Templeton, PE		Years of relevant experience with this employer	8
Title	Senior Project Manager/Dive Supervisor		Years of relevant experience with other employer(s)	14
Degree(s) / Years / Specialization			B.S. / 2004 / Mechanical Engineering	
Active registration number / state / expiration date			#PE.0047632 / LA / 09-30-2027	
Year registered	2023	Discipline	Civil Engineer Other Pertinent Training / Certifications NHI #130055, Safety Inspection of In-Service Bridges – 04/19/2013 NHI #130053, Bridge Inspection Refresher Training – 03/21/2024 NHI #130091, Underwater Bridge Inspection – 07/22/2009 NHI #130078, Fracture Critical Inspection Techniques for Steel Bridges – 01/21/2022 Surface-supplied Air Diving Supervisor – ADCI #48653 SPRAT Level I Rope Access Engineer – #2200134	
Contract role(s) / brief description of responsibilities			Underwater Bridge Inspection Team Leader Sebastien has extensive experience managing and leading bridge and waterfront inspection and repair/rehabilitation design projects. Specific expertise includes structural condition assessment, corrosion assessment and mitigation, cathodic protection evaluation and design, and construction management. He routinely performs above-water and underwater condition assessments and repair design inspections. His expertise includes a variety of structures, including bridges, piers, wharves, relieving platforms, dry docks, quay walls, bulkheads, caissons, pipelines, and fender and mooring systems. Typical clients include the US Navy, US Coast Guard, major port authorities, oil and gas companies, and several other federal agencies, state DOTs, and municipal and private entities throughout the US and abroad.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/24-Present	4400029206: Statewide Underwater Bridge Inspections, LADOTD –Team Leader. Performed underwater bridge inspections and underwater imaging for three consecutive underwater bridge inspection contracts and one task order under a fourth contract for LADOTD. In total, the team has performed 1,707 underwater bridge inspections in LADOTD Districts statewide. Inspections have included challenging aspects specifically related to wildlife, fast currents, difficult access, as well as culvert structures requiring penetration dives through extensive silt and debris buildup. This project has included Level I, II, and III inspections utilizing surface-supplied air and commercial SCUBA diving systems, for concrete, steel, and timber bridges from small one-span bridges to larger bridges over major waterways such as I-10 Eastbound/Westbound bridges and US 11 over Lake Pontchartrain, I-10 Eastbound/Westbound over the Bonnett Carre Spillway, the Huey P. Long Bridge over the Mississippi River, and multiple bridges over the Red River. Acoustic imaging, 2D and 3D, has also been performed on select bridges, including Mississippi River crossings. NBIS, element-level condition ratings, and SNBI ratings are reported in LADOTD’s bridge management database. CADD inspection drawings, stream bed cross sections comparing previous to current soundings, repair recommendations, and photo documentation are included as part of each inspection submittal.			
08/21-Present	Underwater Inspection, Mississippi Office of State Aid Road Construction (OSARC) – Team Leader. As team leader, Sebastien is performing Level I, II, and III underwater inspections for OSARC. The inspections include 113 bridges throughout the state from the waterline to the mudline. Bridges ranged in size from small creek crossings to large movable bridges comprised of concrete, steel, prestressed concrete, and timber substructures. Each			

	inspection includes soundings and documentation of structural member deterioration and observed scour. A report was prepared for each bridge that includes inspection findings, recommendations for repairs, NBIS condition ratings, photographs, and CAD drawings. In 2025, Consor was selected for another contract with Mississippi OSARC.
10/22-Present	Statewide Bridge Inspection and Evaluation Engineering Services, South Carolina Department of Transportation – Team Leader. Sebastien has performed underwater inspections under multiple consecutive contracts dating back to 2017. In total, Consor has conducted 1,000+ NBIS element-level underwater bridge inspections statewide. Each inspection includes a report documenting structural deficiencies, scour conditions, and channel conditions, as well as making pertinent repair and maintenance recommendations to ensure the prolonged safe use of the structure by the traveling public. Bridges inspected under these contracts range in size and complexity from culverts and pile bents crossing ditches and creeks to post-tensioned segmental box girders and cable-stay bridges crossing navigable waterways in close proximity to a major port. In addition to diving inspections, we have also provided 2D and 3D acoustic imaging services to fully document scour conditions affecting coastal bridges; acoustic imaging of I-526 over the Wando River won the ACEC-SC Engineering Excellence Award. Emergency inspections, performed during and after flood events, have also been provided to assist in maintaining and reopening vital routes for emergency and commercial traffic.
06/19-03/20	IDIQ Contract for Ocean Engineering Services Nationwide: US Coast Guard IDIQ Contract for Ocean Engineering Services Nationwide, CEU Miami, FY19 and FY20 Major ATON Inspections, Various 7th and 8th Districts Offshore and Inland Sites (USVI, PR, FL, SC, TX, and LA) – Project Manager/Team Leader. As project manager, Sebastien performed above and underwater structural inspections of 35 major aid-to-navigation (ATON) structures located throughout the southeastern United States, Puerto Rico, and the U.S. Virgin Islands. The purpose of the inspection was to detect and report conditions requiring maintenance or repair before such conditions become safety, structural, or major maintenance problems for servicing Coast Guard personnel. They were performed to assess physical integrity and ensure each ATON meets their functional requirements; identify the need for corrective action before advanced deterioration necessitates major repairs; and initiate action for repair or replacement. Additionally, OSHA-compliance audits were performed to verify compliance with current federal regulations and identify the need for modifications regarding ladders, fall protection, and other safety features. Project deliverables include comprehensive condition assessment reports with repair recommendations, associated construction repair estimates, remaining service life estimates, CAD figures, and photographs.

16. Staff Experience:

Firm employed by		Conсор North America, Inc.		
Name	Andrew Young, P.E.		Years of relevant experience with this employer	22
Title	Senior Project Manager/Dive Supervisor		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			B.S. / 2004 / Civil Engineering	
Active registration number / state / expiration date			#078023 / PA / 09-30-2027	
Year registered	2010	Discipline	Civil Engineer	
			Other Pertinent Training / Certifications NHI #130055, Safety Inspection of In-Service Bridges – 01/14/2005 NHI #130056, Safety Inspection of In-Service Bridges for PEs – 06/10/2022 NHI #130053, Bridge Inspection Refresher Training – 03/27/2019 NHI #130091, Underwater Bridge Inspection – 06/15/2006 NHI #130078, Fracture Critical Inspection Techniques for Steel Bridges – 03/17/2023 NHI #135046, Stream Stability and Scour at Highway Bridges – 06/24/2010 Surface-supplied Air Diving Supervisor – ADCI #38105 FHWA-certified NHI Bridge Inspection Instructor (2008): NHI 130078, NHI 130091	
Contract role(s) / brief description of responsibilities			Underwater Bridge Inspection Team Leader Andrew is experienced in providing NBIS underwater, routine, and NSTM bridge inspections for local governments, state departments of transportation, and federal agencies. As an ADCI-certified SSA Diving Supervisor, he is experienced in performing underwater bridge inspections across the nation in a multitude of environments. Andrew was a contributing author to the FHWA’s Underwater Bridge Inspection Manual. He also serves as a lead instructor for NHI 130091, Underwater Bridge Inspection and NHI 130078, Bridge Inspection Techniques for Nonredundant Steel Tension Members and is an NHI Instructor of Excellence.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/17-08/22	Contract 4400009105: Statewide Underwater Bridge Inspections, Louisiana DOTD – Team Leader. Andrew performed underwater bridge inspections for seven task orders for two consecutive contracts. Consor performed 450+ underwater inspections of bridges in LADOTD districts statewide. The project included Level I, II, and III inspections utilizing surface-supplied air and commercial SCUBA diving systems, as well as acoustic imaging. Comprehensive engineering reports were prepared in electronic and hard copy formats.			
01/23-01/25	Underwater Bridge Inspections, Ohio DOT, District 5 and District 2 – Project Manager. Consor provided NBIS underwater inspections of 54 structures within District 5 and two under the same contract within District 2. The structures include the historic “Y-Bridge” in Zanesville and multiple span structures over the Muskingum and Maumee Rivers and Salt Fork Reservoir. Six structures are fully submerged long culverts, requiring penetration dives up to 550 ft. long. One structure is a submerged excavated rock tunnel beneath State Route 22, with unique access constraints. All inspections require a technical engineering report with updated soundings and sonar-developed channel topography images for the larger river structures. In his role as project manager, Andrew oversaw all aspects of the inspection project, from logistics and field operations to quality control and client coordination. His leadership ensured that the structures were assessed thoroughly, and deliverables supported the continued safety and reliability of ODOT’s inventory.			
08/23-Present	Statewide Underwater Bridge Inspection, Pennsylvania Department of Transportation – Deputy Project Manager. Andrew has performed and led underwaters inspections under this five-year contract with PennDOT for the fourth cycle of an open-end, work order-based agreement focused on			

	underwater inspections of various structures across the Commonwealth. This contract includes underwater inspections and specialty assessments of long, confined space culverts that require extensive coordination and confined space training. Our expertise in these specialty inspections has positioned the firm as a trusted partner for local PennDOT districts and the Central Office. For the current cycle, we have inspected 129 structures under 15 active work orders across five districts in western Pennsylvania. These inspections involve various access methods, ranging from large boats to channel bank access, all facilitated by Consor's in-house equipment. This self-sufficiency allows flexibility in scheduling and rapid response to emergency inspections, such as those needed after flooding or newly identified scour issues. The scope of work includes SSA, penetration, scuba, and wading operations, with diving depths ranging from as shallow as four ft. to more than 100 ft., requiring extensive pre-planning and coordination. Work orders are assigned as needed throughout the year, with site conditions varying significantly depending on location, season, and weather—from large reservoirs to fast-moving rivers and streams. Additionally, inspections must be completed within specific months, as each district directs. Many structures undergoing underwater assessments also receive routine inspections simultaneously, ensuring an efficient, multi-faceted approach to meeting FHWA inspection requirements. The contract further necessitates close coordination with multiple firms and bridge owners to align schedules and adhere to agency-specific requirements, preventing conflicts and ensuring timely reporting.
01/24-Present	Statewide Underwater Inspection, Ohio Department of Transportation – Project Manager. As project manager, Andrew performs and leads underwater inspections as part of an on-call contract for Ohio DOT Central Office for various structures across the state. The completed work orders include 22 bridges and culverts in District 10 and nine culverts in District 3 with an ongoing work order in D3 for 16 bridges. The structures comprise various construction types crossing a wide variety of waterways, including unnamed streams, reservoirs, and large rivers. Three culverts are fully submerged long culverts, requiring penetration dives up to 315 ft. long. Deliverables include a technical engineering report with multiple sounding profiles taken along centerline and fascias and compared visually to historical sounding measurements to document and track channel and scour changes. Soundings were obtained around the perimeter of each substructure at 5-ft. intervals to a minimum distance of 50 ft. to effectively document scour holes and the surrounding channel bottom. Channel depths were also used to develop bathymetric models of the channel bottom through the bridge crossing. An element table of structures and defects was provided for all elements inspected in the water. Reports were uploaded to the Assetwise database, and SNBI codings were verified and updated as needed for channel protection, scour, underwater inspection condition, and scour vulnerability. The required underwater dive inspection procedure checklist was updated per the most recent inspection and appended to each inspection report.

16. Staff Experience:

Firm employed by Consor North America, Inc.			
Name	Dustin Noel P.E., SPRAT 3		Years of relevant experience with this employer
Title	Vice President/Operation Manager		Years of relevant experience with other employer(s)
Degree(s) / Years / Specialization	B.S. / 2003 / Civil Engineering		
Active registration number / state / expiration date	#079989 / PA / 09-30-2027		
Year registered	2012	Discipline	Civil Engineer
			Other Pertinent Training / Certifications SPRAT Rope Access Technician Level 3 - #110222 PennDOT, Basic Course on Bridge Safety Inspection Training (NHI 130055 equivalent) – 02/19/2004 NHI #130056, Safety Inspection of In-Service Bridges for PEs – 03/01/2024 NHI #130053, Bridge Inspection Refresher Training – 03/27/2019 NHI #130091, Underwater Bridge Inspection – 01/25/2019 NHI #130078, Fracture Critical Inspection Techniques for Steel Bridges – 12/13/2019 Surface-supplied Air Diving Supervisor – ADCI #58346 FHWA-certified NHI Bridge Inspection Instructor (2019): NHI 130078, NHI 130091
Contract role(s) / brief description of responsibilities			Bridge Inspection Team Leader (Rope Access) Dustin serves as a project manager, CBSI inspection team leader, NTIS and NSTM team leader, dive supervisor, and NHI lead instructor with experience performing NBIS routine, special, NSTM, element level, and underwater bridge inspections across the country. Dustin has prepared detailed inspection reports that include AASHTO element condition states, NBI component ratings, scour evaluation, and prioritized maintenance recommendations. In addition, he serves as an instructor for NHI courses 130078 and 130091 and has been named an Instructor of Excellence. He has successfully managed underwater and NSTM bridge inspection projects for DOTs nationwide, ensuring accurate AASHTO element condition states, NBI conditions ratings, bridge database data entry, scope compliance, schedule, and budgetary compliance.
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
09/23-Present	Area Wide State Bridge Inspection (Interstate and Non-Interstate), Florida DOT District 2 – Team Leader/Climber. Dustin provided rope access inspections for these complex and NSTM inspections in the Jacksonville region. Key structures include the Isaiah David Hart Bridge, a 1,620-ft continuous arch with a 1,088-ft main span, and the 2,586-ft John E. Mathews cantilever truss with an 810-ft main span. Rope access limits traffic impacts, with aerial lifts supporting NDT of pin and hanger components. The 365-ft Main Street vertical-lift bridge is inspected using rope techniques and a bucket-lift boat, along with mechanical, electrical, and NDT evaluations. Additional complex work includes the I-95 over Myrtle Avenue tied arch and the Dames Point Cable Stay Bridge, where heights and widths call for approved drones with high-resolution imaging and impact-avoidance AI. Off-interstate work includes bascule bridges such as the 1,545-ft historic Bridge of Lions. Underwater services for 103 bridges involve Level II/III dives, multibeam surveys, ROVs, and BrM reporting.		
01/19-Present	Term Bridge and Tunnel Inspections, Alaska DOT & Public Facilities – Project Manager/ Team Leader/Climber/Diver. Consor has been selected for five 3-year term agreement contracts since 2006 for the routine, in-depth, NSTM, and underwater inspections of bridges statewide. Dustin has been PM for the past two cycles. Routine inspection services include collecting measurements and photos and notating the physical and functional condition of the		

	bridge to identify changes from initial or previously recorded conditions. In-depth inspections consist of close-up and/or hands-on evaluations of one or more members above or below water level to identify any deficiencies not readily detectable using routine inspection procedures. Fracture critical inspections require hands-on evaluation of the members and their components. Special attention is applied to fatigue-prone stringer-floorbeam connections, welds, coped corners, cross bracing, the interior and exterior of steel box girder sections, main span bearings, and primary truss gusset plates. Non-destructive testing is also utilized during fracture critical inspections. Underwater inspection services involve the detection of damaged structure elements, section loss, timber decay or attack by marine borers, scour, and undermining of footings or concrete walls. A detailed engineering report is prepared for each structure including an executive summary, inspection findings, descriptions of special conditions including access methods, traffic control, non-destructive testing methods, and hydrological data (if applicable); sketches; color photographs; and a summary table of logistics required to complete the inspection.
07/23-03/25	NSTM Bridge and Tunnel Inspections, Texas DOT – Team Leader/Climber. Dustin provided rope access inspections for these complex and NSTM inspections of on and off-system bridges throughout the state and NTIS inspection of tunnels for this three-year contract. Signature structure inspections included during this contract are the Klyde Warren Tunnel and the Queen Isabella Causeway. Access to the designated fracture members (superstructure and substructure components) were coordinated based on the bridge type, route carried or over, or over a railroad; our robust specialized access expertise allowed us to utilize the most optimal method including mechanical access, industrial rope access and structure climbing techniques, and ladders. Inspections included NDT and were conducted in compliance with the state, NBIS, AASHTO, and FHWA regulations. Each NSTM inspection included an NSTM report narrative detailing the condition of the NSTM with element-level assessment including representative photographs and a separate fatigue details document which are submitted through AssetWise.
07/22-01/22	NBIS In-Depth & Routine Bridge Inspection of US 20 & Iowa 926, Iowa DOT – Project Manager/Team Leader/Climber. As project manager, Dustin performed the hands-on inspection of NSTM (fracture critical) members and in-depth inspection of remaining above water portions of two bridges. The US 20 (Julien Dubuque) Bridge over the Mississippi River in Dubuque, constructed in 1943, is a 5,760-ft. steel tied arch bridge with an 845-ft. main span. The Iowa 926 Bridge over the Des Moines River in Fort Dodge was constructed in 1935 and is a 562-ft. deck truss bridge with a 136-ft. main span. The inspection of the Iowa 926 Bridge was performed entirely with the use of specialized access techniques; no mechanical access or traffic control was needed. The Julien Dubuque inspection utilized specialized access and mechanical access vehicles both on land and from a barge; this combination of techniques permitted the inspection of every primary structural member in every span without any lane closures or disruption to traffic on the bridge, as requested by Iowa Department of Transportation. Each inspection required a comprehensive engineering report of findings including an executive summary, detailed summary of findings, repair recommendations, and photographs. We were reselected for this inspection contract in spring of 2023.

16. Staff Experience:

Firm employed by		Consor North America, Inc.		
Name	Zach Williams, P.E., SPRAT 3, CWI		Years of relevant experience with this employer	3
Title	Vice President/Operation Manager		Years of relevant experience with other employer(s)	13
Degree(s) / Years / Specialization			M.E. / 2017 / Civil Engineering B.S. / 2012 / Civil Engineering	
Active registration number / state / expiration date			#139740 / TX / 09-30-2026	
Year registered	2020	Discipline	Civil Engineer Other Pertinent Training / Certifications SPRAT Rope Access Technician Level III - #151142 NHI #130055, Safety Inspection of In-Service Bridges – 02/13/2015 NHI #130053, Bridge Inspection Refresher Training – 09/19/2024 NHI #130078, Fracture Critical Inspection Techniques for Steel Bridges – 12/8/2016 NHI #130087, Inspection and Maintenance of Ancillary Highway Structures – 04/06/2016 Limited Level II Ultrasonic Testing – 6/21/22 Magnetic Particle Testing – 06/06/2013 Certified Welding Inspector - #13040023	
Contract role(s) / brief description of responsibilities			Bridge Inspection Team Leader (Rope Access) Zach is a bridge inspection team leader with experience in construction and structural engineering by performing initial, routine, NSTM, in-depth, and emergency inspections on a variety of structures including bridges, culverts, dams, and ancillary structures for multiple Departments of Transportations, federal agencies, and private entities throughout the country. Zach’s inspection capabilities are supplemented by being a certified member of the Society of Professional Rope Access Technician (SPRAT) Level III, a Certified Welding Inspector (CWI), and a Limited Level II UT and MT Specialist in accordance with the standards of ASNT SNT-TC-1A.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
06/23-Present	Area Wide State Bridge Inspection (Interstate and Non-Interstate), Florida DOT District 2 – Team Leader/Climber. Zach provided rope access inspections for these complex and NSTM inspections in the Jacksonville region. Key structures include the Isaiah David Hart Bridge, a 1,620-ft continuous arch with a 1,088-ft main span, and the 2,586-ft John E. Mathews cantilever truss with an 810-ft main span. Rope access limits traffic impacts, with aerial lifts supporting NDT of pin and hanger components. The 365-ft Main Street vertical-lift bridge is inspected using rope techniques and a bucket-lift boat, along with mechanical, electrical, and NDT evaluations. Additional complex work includes the I-95 over Myrtle Avenue tied arch and the Dames Point Cable Stay Bridge, where heights and widths call for approved drones with high-resolution imaging and impact-avoidance AI. Off-interstate work includes bascule bridges such as the 1,545-ft historic Bridge of Lions. Underwater services for 103 bridges involve Level II/III dives, multibeam surveys, ROVs, and BrM reporting.			
09/24-Present	Bundled Bridge Inspections Term Contracts, Montana DOT – Team Leader/Climber. Under a fourth task order-based contract, Consor is performing NBIS bridge inspections, including routine, NSTM, in-depth timber inspections, and underwater inspections for on-system structures. Each inspection includes SI&A updates, element level condition state data with accompanying defect language, photographs, and repair and maintenance recommendations reported in the MDT BrM system. Some inspections include a comprehensive engineering report, including inventory measurements for load rating. Timber inspections also include evaluating timber piles, caps, and girders using a resistance drill (resistograph). MDT has also assigned Consor with specialized			

	access inspections utilizing industrial rope access inspections and/or under bridge inspection vehicles to aid with in-depth steel inspections on both NSTM and non-NSTM steel structures. The findings are compiled into BrM with diagrams created using MicroStation, AutoCAD, and Bluebeam.
02/23-03/25	NSTM Bridge and Tunnel Inspections, Texas DOT – Team Leader/Climber. Dustin provided rope access inspections for these complex and NSTM inspections of on and off-system bridges throughout the state and NTIS inspection of tunnels for this three-year contract. Signature structure inspections included during this contract are the Klyde Warren Tunnel and the Queen Isabella Causeway. Access to the designated fracture members (superstructure and substructure components) were coordinated based on the bridge type, route carried or over, or over a railroad; our robust specialized access expertise allowed us to utilize the most optimal method including mechanical access, industrial rope access and structure climbing techniques, and ladders. Inspections included NDT and were conducted in compliance with the state, NBIS, AASHTO, and FHWA regulations. Each NSTM inspection included an NSTM report narrative detailing the condition of the NSTMs with element-level assessment including representative photographs and a separate fatigue details document which are submitted through AssetWise.
09/23-12/23	NBIS In-Depth & Routine Bridge Inspection of I-129 over the Missouri River and US 30 (Blair) over the Missouri River, Iowa DOT – Team Leader/Climber. As Team Leader, Zach performed in-depth, hands-on fracture critical inspections for two Missouri River bridges under this contract. Both structures had several details and fatigue issues requiring verification and updating. Both inspections were completed by combining technical rope access techniques and mechanical access equipment. The interior bays of the deeper girder spans were inspected almost entirely without lane closures. A thorough hands-on inspection of the face of each main span girder, ensuring inspection of all fatigue-prone details and documenting all areas of concern, was completed. We utilized NDE in suspected areas of concern and documented the lengths and extent of any existing and/or new cracks or deterioration. Both of these inspections required working within the confines of traffic control and limitations of Iowa DOT to minimize the overall disruption to the traveling public.

16. Staff Experience:

Firm employed by		Wiss, Janney, Elstner Associates, Inc.	
Name	John Williams, P.E.	Years of relevant experience with this employer	7
Title	Principal	Years of relevant experience with other employer(s)	24
Degree(s) / Years / Specialization	B.S. /1996 / Engineering Science		
Active registration number / state / expiration date	#PE.0044300 / LA / 09-30-2026		
Year registered	2020	Discipline	Mechanical Engineering
Contract role(s) / brief description of responsibilities	Lead Mechanical Engineer (Satisfies MPR #5) John Robert will serve as Lead Mechanical Engineer responsible for task orders involving movable bridges.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
07/19-03/24	Danziger Lift Span Bridge, US 90, over the Industrial Canal, New Orleans, LA - Senior Mechanical Engineer for the inspection of portions of the lift span contributing to reported operational issues, an in-depth inspection of the lift bridge machinery systems, and development of repairs to restore the bridge’s long-term functionality and reliability. Assisted with the development of a unique monitoring and sensor installation plan, the installation of instrumentation and monitoring equipment, and the creation of a web-accessible reporting platform to evaluate the bridge’s operations over an extended period. Lead the development of plans and specifications to address emergency failed pinion bearing repairs. Performed strain gage testing to measure span balance, implemented weight changes and air buffer repairs to improve seating of the span, and determined through testing that the span drive differentials on both towers were not functioning properly, requiring work with the manufacturer to properly adjust the associated clutches.		
07/20-1/20	St. Claude Avenue Bridge Construction Engineering Services, New Orleans, LA - Project Manager and Senior Mechanical Engineer for construction engineering services on an expedited basis to assist with the replacement of the second link pins which connect the counterweight truss to the balance link. Services included balance testing, design of the counterweight support system, development of a sequence of work for supporting the structure, unloading and removing the pins, completing the repairs and restoring the bridge to service within a marine navigation closure that was controlled by repairs to the adjacent lock. Mechanical engineering services were provided on an expedited basis due to the short time-period between the award of the project and the start of the marine navigation closure.		
06/20-04/25	Lynn-Saugus Bridge Replacement, Lynn, MA - Movable Bridge Project Coordinator for the construction of a new overhead counterweight bascule span bridge. Services encompassed mechanical and electrical construction work for the construction of this new Dutch-Style bascule span that is not commonly seen in the United States.		
03/22-12/24	Ports of Toronto, Ship Channel Bridge Rehabilitation, Toronto, ON, Canada - <u>Mechanical Engineer of Record</u> for the rehabilitation of a historic Strauss bascule span. The scope of work included a scope inspection, rehabilitation design of complex span drive machinery, emergency response to a failure resulting in a bent shaft, design for temporary repairs including a temporary winch operating system used to implement repairs without undue impact to marine navigation.		
07/19-01/24	MBTA Bridge No. G-05-028, Gloucester Line over Annisquam River, Gloucester, MA - Movable Bridge Project Coordinator who provided construction support services to the contractor throughout construction for work associated with the erection of the bascule leaves, balance calculations and testing and for the installation and alignment of all machinery. Project involved construction of a twin-single leaf railroad bascule. The first leaf was installed and raised within a four-day marine outage.		
7/19-12/24	Liberty Bridge Rehabilitation, Bay City, MI - Lead mechanical engineer and <u>Mechanical Engineer of Record</u> for the rehabilitation of all machinery associated with movable span for double leaf trunnion bascule highway bridge.		
09/16-06/19	Brighton Road Swing Bridge Replacement, Ontario, Canada - Project Manager and <u>Mechanical Engineer of Record</u> for the mechanical and hydraulic machinery of a new hydraulically operated center bearing swing bridge. Design responsibilities included finite element analysis of complex weldments and castings for the span drive cylinder brackets as part of the span drive machinery along with the center bearing, eccentric roller end lift machinery,		

	balance wheel system and centering lock. Managed a team of engineers providing comprehensive construction services including shop drawing review, review of installation procedures, shop inspection, site inspection and witnessing and acceptance of commissioning.
10/14-07/19	St. Peters Canal Swing Bridge Replacement, Cape Breton, NS, Canada - Project Manager and <u>Mechanical Engineer of Record</u> for overseeing the mechanical and hydraulic machinery design for this new hydraulically operated center bearing swing bridge. Responsibilities included design and backchecking of design calculations, plans preparation and detailing, and preparation of contract specifications and construction cost estimates during design. Responsibilities during construction included coordination of a team of mechanical and electrical engineers and inspectors to review and approve construction submittals and provide complete shop and field inspection of all mechanical/electrical aspects of the rehabilitation project.
07/14-02/18	Burlington Canal Lift Bridge, Hamilton, ON, Canada - Movable Bridge Construction Specialist and Heavy Machinery Specialist for the contractor as part of a major electrical and minor mechanical rehabilitation of this critical vertical lift bridge. The electrical scope of work included complete replacement of the electrical power and control systems for the bridge including an aerial cable installation and skew control of the lift span. The mechanical scope of work included replacement of the high-speed end of the span drive machinery (brakes, speed reducer, shaft, and couplings). The scope of work required the contractor's engineer to sign and seal all submittals including shop drawings.
03/10-11/17	Sir Ambrose Shea Lift Bridge Replacement, Placentia, NL, Canada - Project Manager and <u>Mechanical Engineer of Record</u> responsible for the design of span drive machinery, span lock machinery and span support machinery for a new tower drive lift bridge. Duties included preparation and review of all relevant calculations (sized motor, gear tooth strength calculations, sized brakes, shaft calculations for moment and torsion, sized couplings, designed machinery base plates, sized span lock bars, sized span lock and lockbar actuator, performed fatigue analysis of trunnion shaft, and sized trunnion bearings), and preparation of design drawings, specifications, and cost estimates as part of design. During construction, responsibilities included review of contractor's shop drawings and procedures for conformance to contract requirements, disposition of non-conformance reports, and responding to requests for information or changes.
04/03-06/17	FDOT District 4 and District 5, Asset Management Bridge Inspections - Project Manager and Senior Mechanical Engineer for mechanical inspections of 37 movable bridges in District 4 and 12 movable bridges in District 5 as part of the asset management program. Mechanical inspections of the movable spans are done annually and include a thorough visual inspection, measurements and calculation of gear wear and remaining tooth thickness, bearing clearance and alignment measurements, span lock clearance and alignment measurements, condition rating of all mechanical machinery and Pontis-style reporting. The firm is also on call for emergency inspections, post rehabilitation inspections, post repair inspections and miscellaneous design services.

16. Staff Experience:

Firm employed by		Wiss, Janney, Elstner Associates, Inc.	
Name	Robert Tosolt, P.E.	Years of relevant experience with this employer	7
Title	Principal	Years of relevant experience with other employer(s)	27
Degree(s) / Years / Specialization		B.S. / 1992 / Mechanical Engineering	
Active registration number / state / expiration date		#PE.0035750 / LA / 03/31/2027	
Year registered	2010	Discipline	Mechanical Engineer
Contract role(s) / brief description of responsibilities		Lead Mechanical Engineer (Satisfies MPR #5) Robert will serve as Mechanical Engineer responsible for task orders involving movable bridges.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
08/21-Present	Bridge S-32 Replacement on Rumson Road, Monmouth County, NJ - Movable Bridge Project Coordinator for the construction of this new double leaf trunnion bascule bridge. Responsible for review, coordination and integration of the mechanical, electrical, and structural systems, review of all shop drawings for fit-up and constructability; shop inspection of critical components; field oversight during construction for critical assemblies; verification of final alignment of machinery; commissioning of the installed operating systems; strain gage operational testing to confirm satisfactory performance of the newly installed systems; and development of the Operations and Maintenance Manual.		
01/12-Present	Norfolk Southern Systemwide Movable Bridge On-Call Engineering Services - Project Manager and team leader for assessment of mechanical and electrical operating systems on twenty-eight movable bridges over a four year period; field investigation of existing conditions, coordination with field personnel regarding maintenance practices, specialized testing including strain gage testing and/or hydraulic transducer operating load testing and electrical load testing, documentation of findings in detailed reports, prioritization of recommendations and repairs. Subsequently provided engineering for a wide range of projects including trunnion replacements on 2 vertical lift bridges, counterweight rope replacements on 4 vertical lift bridges, span drive machinery repairs on 2 vertical lift bridges, span drive machinery replacement on 2 bascule bridges, machinery repairs on 2 rolling lift bridges, center bearing replacement on a swing span, and numerous emergency repair callout services to resolve bridge operational problems.		
06/18-11/2024	Ohio Street Vertical Lift Bridge, Buffalo, NY- Project Manager and <u>Mechanical Engineer-of-Record</u> (EOR) for the rehabilitation of this tower drive vertical lift bridge. Scope of work encompassed replacement of the counterweight ropes, removal of obsolete and abandoned machinery components, replacement of deteriorated span drive brakes, and repair of damaged Sawyer type barrier gates. Performed initial scoping study of mechanical systems on bridge to determine the status in terms of safety, reliability, and longevity of the mechanical systems. Prepared PS&E for rehabilitation work. Performed full construction support services including review of shop drawings and mechanical installation submittals, shop inspection, field inspection and oversight of field start-up and commissioning of the new systems.		
10/15-08/22	Barter’s Island Swing Span, Boothbay, ME - Project Manager and <u>Mechanical Engineer-of-Record</u> for this new bob-tail swing span. Scope of work encompassed provision of new span operating machinery, center support machinery and end support machinery. Responsible for design calculations and backchecking, selection and layout of new machinery, preparation of PS&E, and coordination with electrical and structural disciplines. Performed full construction support services including review of shop drawings and mechanical installation submittals, shop inspection, field inspection and oversight of field start-up and commissioning of the new systems.		
03/16-12/21	Vertical Lift Rehabilitations at Fairport and Spencerport, Fairport and Spencerport, NY - <u>Mechanical Engineer-of-Record</u> for the replacement of all operating and support mechanical machinery on this pair of vertical lift bridges over the Erie Canal. Responsible for all design calculations, selection and layout of new and/or rehabilitated machinery, preparation of separate PS&E for each bridge and coordination with electrical and structural disciplines. Machinery was designed to comply with the AASHTO LRFD Movable Bridge Design Specifications within the limitations of the existing site constraints.		

	Provided full construction support services including shop drawing review, response to contractor RFIs and NCRs, confirmation of field installation alignment of machinery, and oversight of commissioning testing.
03/16-09/21	MCON Construct ASA Munitions Railhead, Livorno, Italy - Project Manager and <u>Mechanical Engineer-of-Record</u> for the design of all mechanical operating and support machinery on new bobtail center bearing swing bridge designed to carry munitions into the secured storage area at this military base via rail. Responsibilities included design and backchecking of design calculations and preparation of PS&E, and coordination with electrical and structural disciplines.
03/18-02/20	Charles Berry (Erie Ave) - Lorain 6 Bascule Bridge Rehabilitation, Lorain, OH - Movable Bridge Project Coordinator for the rehabilitation of the operating and support systems for this historic double leaf deck truss bascule bridge including complete replacement of the drive machinery and electrical power and controls control systems. Also served as responsible design engineer for a temporary hydraulic operating system. Services included review, coordination and integration of the mechanical, electrical, and structural systems, review of all shop drawings for fit-up and constructability; shop inspection of critical components; field oversight during construction for critical assemblies; verification of final alignment of machinery; shop and field acceptance testing of the electrical system installation, commissioning of the installed operating systems, strain gage operational testing and power recordings to confirm satisfactory performance of the newly installed systems, and development of the Operations and Maintenance Manual.
11/19	West Larose Vertical Lift Bridge, Lafourche Parish, LA - Professional engineer responsible for balance calculations and strain gage balance testing to document the final balance condition of the lift span at the completion of state project H.009479
04/10-04/14	Columbus Road Vertical Lift Bridge, Cleveland, OH - Project Manager and <u>Mechanical Engineer-of-Record</u> for complete replacement of all mechanical operating, support and lock machinery on this span drive vertical lift bridge. Responsibilities included design and selection of machinery, preparation and backchecking of calculations, and preparation of PS&E. Responsibilities during construction included shop drawing review, procedure review, response to RFIs & NCRs, shop and field inspection of all mechanical machinery fabricated and installed for the project, and commissioning of the mechanical systems.
12/06-04/13	Court Street Swing Span, Hackensack, NJ - Project Manager and <u>Mechanical Engineer-of-Record</u> for complete replacement of all mechanical operating and support machinery on this center bearing swing span. Responsibilities included design and selection of machinery, preparation and backchecking of calculations, and preparation of PS&E. Responsibilities during construction included shop drawing review, procedure review, response to RFIs & NCRs, shop and field inspection of all mechanical machinery fabricated and installed for the project, and commissioning of the mechanical systems.

16. Staff Experience:

Firm employed by	Wiss, Janney, Elstner Associates, Inc.		
Name	Gareth Rees, P.E.	Years of relevant experience with this employer	7
Title	Principal	Years of relevant experience with other employer(s)	52
Degree(s) / Years / Specialization	College Associateship Electrical Engineering (BSc electrical equivalent) / 1968		
Active registration number / state / expiration date	#PE.0040754 / LA / 09-30-2026		
Year registered	2016	Discipline	Electrical and Computer Engineering
Contract role(s) / brief description of responsibilities	Lead Electrical Engineer (Satisfies MPR #6) Gareth will serve as Lead Electrical Engineer responsible for task orders involving movable bridges.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
07/19-03/24	Danziger Lift Bridge, New Orleans, LA - Lead Electrical Engineer for the inspection of relevant portions of the main lift span contributing to reported operational issues, an in-depth inspection of the lift bridge machinery and electrical systems, and development of repairs to restore the long-term functionality and reliability of the bridge. Prepared a new lift span skew control system design after the existing Selsyn components were removed from the bridge. Developed electrical controls for transverse skew elimination clutches with the span drive differentials, and provided recommendations for rehabilitation of the bridge including development of a cost estimate.		
03/20-12/20	Skew Detection System Study for Vertical Lift Bridges, LA - Principal Investigator to review alternatives for skew control, monitoring, and indication for tower drive vertical lift bridges based on effective management of skew and minimizing advanced electronic equipment. The study included a literature review, interviews with current owners and maintainers of vertical lift bridges, and interviews with industry control specialists experienced in skew control systems. As a result of the study, a preferred system of skew control that combines the use of direct skew measurement with an inclinometer and lasers for skew monitoring and trip indication, and indirect measurement of skew using encoders for controlling skew during operation was recommended. To minimize maintenance, mean-time-to-repair, and to limit dependency on PLC systems, it was recommended that control integration be achieved using SMART relays (that contain self-diagnostics) and that may easily be replaced in the event of an issue. WJE was later tasked to design and manage the implementation of the new skew control technology and deployed it at one of DOTD bridges for evaluation for implementation statewide.		
04/20-12/24	Independence and Liberty Bascule Bridges, Bay City, MI - <u>Electrical Engineer of Record</u> for the design and construction services associated with the rehabilitation and upgrades to two double leaf bascule bridges as part of a P3 project and conversion for toll operation.		
03/18-02/20	Charles Berry (Erie Ave), Lorain 6 Bascule Bridge Rehabilitation, Lorain, OH - Movable Bridge Project Coordinator for a rehabilitation of the operating and support systems for this historic double leaf deck truss bascule bridge including complete replacement of the drive machinery and electrical power and controls control systems. Services included review, coordination and integration of the mechanical, electrical, and structural systems, review of all shop drawings for fit-up and constructability; shop inspection of critical components; field oversight during construction for critical assemblies; verification of final alignment of machinery; shop and field acceptance testing of the electrical system installation, commissioning of the installed operating systems, strain gage operational testing and power recordings to confirm satisfactory performance of the newly installed systems, and development of the Operations and Maintenance Manual.		
04/13–10/19	Fort Madison Toll Bridge, Fort Madison, IA - <u>Electrical Engineer of Record</u> and Project Manager for the rehabilitation of this double decker swing span bridge. The first phase was the design of a new aerial and submarine power cable installation, the new installation to be configured as redundant power sources. The design of the submarine cable installation included surveying of the existing submarine cable, routing of the new cable, and designing and specifying the cable. The work also included excavation requirements and developing an approved trenching system. The design and contract documents were developed based on staged construction to satisfy marine, railroad, and highway operations as well as Coast Guard and emergency services with respect to bridge operating outages. Construction services were also performed.		

03/10–11/17	Sir Ambrose Shea Lift Bridge, Placentia, NL, Canada - <u>Electrical Engineer of Record</u> for the design of a replacement tower drive vertical lift bridge with two duty motors and brakes in each tower and two sets of span locks. The bridge operator's control house is located at roadway level and remote from the bridge with CCTV surveillance and fiber optic communications to the towers. The PCL-based control system was designed with Hot standby redundant PLC's, a human machine interface (HMI), and control console and a redundant fiber optic communications transmission backbone. The electric services are distributed to state-of-the-art intelligent MCC's in each of the bridge towers and have internal communications capabilities and interface directly with the bridge control system PLC for bridge operation, drive monitoring, and data acquisition.
06/14–06/16	East Roundbunch Road over Cow Bayou, Orange County, TX - Lead Electrical Engineer responsible for designing new drives, controls, and field devices for the span drive machinery and the end wedge machinery as part of a rehabilitation of this historic structure to provide long-term reliable service. Span drive machinery was comprised of components with a proven history of utilization on movable bridges and was powered by an electric motor. Design and integration of new traffic control features, bridge and maintenance lighting, and a CCTV system were also included.
12/14-1/18	Burlington Lift Bridge, St. Catherines, Ontario, Canada - Lead Electrical Engineer providing construction support services to the contractor for the replacement of all power systems control systems and an aerial cable replacement for this critical vertical lift bridge. Work included review of all shop drawings, coordination of design issues, and start up and commissioning of the bridge.
06/18-06/19	BNSF Slough River Bridge 8.8 - Portland, OR - <u>Electrical Engineer of Record</u> for design, construction and commissioning of the electrical operating systems and integration into the existing railroad operating network. Work consisted of replacement and upgrade of aging electrical systems to provide reliable electrical operating systems. Design additions to the electric service include construction of a new electric service compound containing a standby generator and automatic transfer switch, a new submarine cable installation and a new power slip ring arrangement at the center bearing to transition power between the pivot pier and the moving structure. The bridge drive and control system design replaced the existing main drive motors with variable frequency drives and squirrel cage induction motors. This combination has the capability of operating the bridge at infinitely variable speeds with torque control and dynamic braking. The existing relay logic and operator's control console replacement consists of a modern programmable logic controller with built-in SCADA and diagnostic functionality, and a streamlined operator's control station with an HMI providing status, alarm, and control functionality. The work included staged construction and relocation of the bridge interlocking signal and dispatcher control board as test as comprehensive testing of the bridge control system and signal interfaces.

16. Staff Experience:

Firm employed by		Wiss, Janney, Elstner Associates, Inc.	
Name	Yang Fang Zheng, P.E.	Years of relevant experience with this employer	6
Title	Principal	Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization		M.S. / 2009 / Electrical Engineering B.S. / 2006 / Physics; Electrical and Computer Engineering	
Active registration number / state / expiration date		#PE.0050841 / LA / 09-30-2027	
Year registered	2020	Discipline	Electrical Engineer
Contract role(s) / brief description of responsibilities		Lead Electrical Engineer (Satisfies MPR #6) Yang Fang will serve as an Electrical Engineer responsible for task orders involving movable bridges.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
12/25-Present	Aerial Power and Communications Cable Rerouting – Center Street Bridge, Cleveland, Ohio: WJE is responsible for evaluating the feasibility of replacing all control and communications cables from the west to the east side of the Cuyahoga River. Mr. Zheng is the <u>Electrical Engineer of Record</u> in responsible charge of electrical design for the replacement of the control and communication cabling for the Center Street Bridge.		
02/24-Present	Walk Bridge Replacement, Norwalk, CT - WJE is serving as the movable bridge project coordinator and Mr. Zheng is assisting the electrical project coordinator. His responsibilities in that role include assisting with coordinating with the Contractor, Electrical Contractor and suppliers in developing their submittals and designs. He is reviewing submittals as well as evaluating requests for information for the power system, control system, and communications system. He will assist in coordinating the preconstruction (submittal) phase, construction phase and the testing and commissioning phase as the project progresses.		
12/21- Present	Jefferson St. Bascule Bridge Rehabilitation, Joliet, IL -- Mr. Zheng is the <u>Electrical Engineer of Record</u> in responsible charge for electrical design for the electrical system rehabilitation of this rolling Scherzer lift bridge over the Des Plaines River.		
01/19-Present	New York State Movable Bridge Inspections; Statewide, NY - Senior Electrical Engineer for multi-year inspection contract with NY State. The project includes the in-depth electrical and mechanical inspection of 35 movable bridges in New York State. Bridge types include bascule, vertical lift (including towerless vertical lift), and swing. Electrical work includes visual inspection, recording of electrical operating parameters, interlock testing, and preparation of comprehensive reports. Mr. Zheng has led the electrical efforts and has also performed troubleshooting and resolution of electrical issues found during the inspections.		
07/19-03/24	Danziger Lift Bridge, New Orleans, LA - Served as <u>Electrical Engineer of Record</u> in responsible charge for electrical design following inspection of relevant portions of the main lift span contributing to reported operational issues, an in-depth inspection of the lift bridge machinery and electrical systems, and development of repairs to restore the long-term functionality and reliability of the bridge. Prepared a new lift span skew control system design after the existing Selsyn components were removed from the bridge. Developed electrical controls for transverse skew elimination clutches with the span drive differentials and provided recommendations for rehabilitation of the bridge including development of a cost estimate.		
06/18-06/19	Slough River Bridge 8.8 Electrical Rehabilitation and Upgrades, Portland, OR - Electrical Engineer for the replacement and upgrade of the aging electrical systems to provide reliable electrical operating systems for at least 30 years with minimal maintenance. Design changes and additions to the electric service include construction of a new electric service compound containing a standby generator and automatic transfer switch, a new submarine cable installation and a new power slip ring arrangement at the center bearing to transition power between the pivot pier and the moving structure. The bridge drive and control system design replaces existing main drive motors with variable frequency drives and squirrel cage induction motors. This combination has the capability of operating the bridge at infinitely variable speeds with torque control and dynamic braking. The existing relay logic and		

	operator's control console replacement consists of a modern programmable logic controller with built-in SCADA and diagnostic functionality, and a streamlined operator's control station with an HMI providing status, alarm, and control functionality.
2015 - 2019	LaSalle Causeway Bascule Bridge, Kingston, Ontario, Canada - Electrical Engineer/Team Leader for the 2015, 2016, and 2018 annual Comprehensive Detailed Inspection (CDI) of the 1917 single leaf Strauss heel trunnion bascule bridge's machinery systems, the bridge utility service, and the power and control systems. Work included detailed visual inspection of the incoming electric utility service, bridge power and control systems, field feedback devices, navigation lighting as well as traffic control equipment and bridge operation. As an integrated part of the inspections, electrical testing included insulation resistance testing and taking and analyzing bridge electrical operating parameter recordings to determine performance and life expectancy of the bridge.
12/14-01/18	Burlington Lift Bridge, St. Catherines, Ontario, Canada - Lead Electrical Engineer providing construction support services to the contractor for the replacement of all power systems control systems and an aerial cable replacement for this critical vertical lift bridge. Work included review of all shop drawings, coordination of design issues, and start up and commissioning of the bridge.
03/10-11/17	Sir Ambrose Shea Lift Bridge, Placentia, NL, Canada - Electrical engineering design services for electrical power and control systems associated with new tower drive-lift bridge. The design also included pedestrian, vehicular and marine traffic control. All traffic control equipment was designed to ensure reliable operation of the bridge and minimize the down time in the event of failure. All traffic control equipment was designed in accordance with MUTCDC, AASHTO, Coast Guard requirements, and Safety codes.
02/13-12/16	Haystack Landing Bridge, Sonoma-Marin Area Rapid Transit (SMART), Petaluma, CA - Mr. Zheng's role was Lead Electrical Engineer for the relocation, rehabilitation and installation of a vintage 1903 bascule type bridge. SMART is part of the airport railway line project linking San Rafael with the Sonoma Airport. Mr. Zheng was responsible for the evaluation of the structure and development of new power service and distribution system, control system (including train control interlocks), networking communications systems and lighting. Mr. Zheng developed coordinated design documents presenting a staged construction sequence to support the fast-paced construction schedule.
12/25-Present	Aerial Power and Communications Cable Rerouting, Center Street Bridge, Cleveland, OH - WJE is responsible for evaluating the feasibility of replacing all control and communications cables from the west to the east side of the Cuyahoga River. Mr. Zheng is the Electrical Engineer of Record in responsible charge of electrical design for the replacement of the control and communication cabling for the Center Street Bridge.
02/24-Present	Walk Bridge Replacement, Norwalk, CT - WJE is serving as the movable bridge project coordinator and Mr. Zheng is assisting the electrical project coordinator. His responsibilities in that role include assisting with coordinating with the Contractor, Electrical Contractor and suppliers in developing their submittals and designs. He is reviewing submittals as well as evaluating requests for information for the power system, control system, and communications system. He will assist in coordinating the preconstruction (submittal) phase, construction phase and the testing and commissioning phase as the project progresses.

16. Staff Experience:

Firm employed by		Wiss, Janney, Elstner Associates, Inc.		
Name	Jonathan C. McGormley, P.E.		Years of relevant experience with this employer	32
Title	Principal		Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization		B.S. / 1992 / Civil Engineering M.S. / 1994 / Civil Engineering		
Active registration number / state / expiration date		#PE.0043912 / LA / 03-31-2028		
Year registered	2019	Discipline	Civil Engineering Other Pertinent Training / Certifications NHI #130078 - Fracture Critical Inspection Techniques of Steel Bridges NHI #130055 - Safety Inspection of In-Service Bridges NHI #130053 - Safety Inspection of In-Service Bridges-Refresher	
Contract role(s) / brief description of responsibilities		Movable Bridge Design (Satisfies MPR #7) Jonathan will fulfill a lead for the movable bridge structural repair design. Additionally, he will serve as an instrumentation lead, and oversee nondestructive testing and bridge inspections as needed.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
11/24–Present	UT of Bridge Pins and Hangers, Nine Structures, LA - Project Manager for visual and ultrasonic inspection of bridge pins and hangers, characterizing and documenting conditions of section loss, cracking, or other forms of distress.			
08/24–01/25	Strauss Trunnion Bascule Railroad Bridge, Ontario, CAN - Project Advisor and Lead Structural Investigator into cause of collapse.			
12/22–08/25	T-1 Steel Weld Assessment, LA - Project Manager for the inspection and assessment of T-1 steel butt welds. Work included identifying inspection locations, developing access plans for each structure, and preparing a work plan. Subsequent tasks involved coating removal; UT inspections of welds; QC/QA by a qualified ASNT Level III or Level II inspector; and removal of rejectable indications by grinding or coring. Structures included LA 47, IWGO (New Orleans); I-20 at Mississippi River (Vicksburg); and US 90 at Atchafalaya River (Morgan City).			
12/21–Present	Jefferson St. Bascule Bridge Rehabilitation, Joliet, IL - Project Manager and Structural Engineer of Record overseeing the rehabilitation of structural, mechanical, and electrical components of this rolling Scherzer lift bridge over the DesPlaines River.			
09/21–02/22	I-10/310 Bonnet Carré Fire Damage Repair, St. Charles Parish, LA - Project Manager overseeing the emergency inspection and load rating of the PPC girders, substructures, and bridge deck damaged by fire. Developed repair scope of work and estimated probable construction costs.			
03/21–12/23	Luling Bridge Deck Overlay Repair Consultation, St. Charles Parish, LA - Project Manager responsible for revising the project specifications and providing quality control assistance for the repair of an orthotropic deck overlay system comprising an epoxy underlayment with a SFRC overlay on the cable-stayed spans. Installed a long-term monitoring system to evaluate deck performance.			
01/21–05/25	Rehabilitation of I-80/94, Indiana Toll Road, Structure 1A-1, Hammond, IN - Project Manager for the investigation, field and laboratory testing, service life modeling, and rehabilitation of the steel, multi-girder superstructure comprised of 21 spans. The bridge rehabilitation included the removal of 17 bridge deck expansion joints and installation of link slabs to eliminate future maintenance issues below leaking bridge deck joints. To accommodate the new bridge deck continuity, disc bearings were installed at the base of 18 bent columns. Other repairs were designed to address structural steel deterioration with the structure to receive a new multi-coat paint system.			
07/19–07/22	Danziger Lift Span Bridge, US 90, over the Industrial Canal, New Orleans, LA - Project Manager and Structural Engineer of Record overseeing the resolution of reported operational issues with the lift span. This work included an in-depth inspection of the lift span structural elements, lift bridge machinery, and electrical systems; and development of repairs to restore the bridge’s long-term functionality and reliability. Oversaw the development of a monitoring plan and installation of a sensors that included the four trunnion bearings, and the creation of a web-accessible reporting platform to evaluate			

	the bridge's operations. Assisted with development of plans and specifications to address emergency repairs including the installation of a polyester polymer concrete overlay on the orthotropic deck lift span, replacement of failed pinion bearings, elimination of lift span-to-approach span contact issues, and the improvement of the lift span seating by counterweight movements and air buffer repairs. Developed cost estimates for rehabilitation.
05/19-08/19; 08/20-Present	I-255 Jefferson Barracks Bridge over the Mississippi River, Emergency Repairs, Mehlville, MO - Project Manager responsible for emergency repairs and subsequent rehabilitation repair design. Following the discovery of a six-foot-long crack in the steel tie girder during a fracture critical inspection, performed an in-depth inspection of similar details, obtained material samples for laboratory testing, coordinated emergency repairs, oversaw repair installation, and prepared investigation report. Completed bridge rehabilitation plans for the twin, tied-arch structures and provided construction period services.
02/19-Present	US 90 over Bayou Ramos, St. Mary Parish, LA - Project Manager leading the investigation of delayed end cracking of precast, prestressed concrete (PPC) girders. The project includes the evaluation of previously collected monitoring data, development of a detailed finite element model to examine crack initiation and repair options, inspection of existing retrofits, laboratory fatigue testing of CFRP repairs, and recommendations to address the documented cracking.
02/19-07/19	Lake Shore Drive Bridge over the Chicago River, Girder Fracture Investigation, Chicago, IL - Project Manager leading the investigation, stabilization, and repair installation after the bridge experienced two girder fractures related to corrosion.
10/18-01/19	Sunshine Bridge over the Mississippi River, St. James Parish, LA - Project Manager responsible for the development and implementation of a monitoring plan to provide information regarding redistribution of loads during the installation of repairs to the truss bottom compression chord damaged by impact. Structural Engineer of Record responsible for the design of the jacking system, review of member repair design, site observations, preparation of shop and jacking procedure drawings, and field technical assistance.
10/17-12/17	Materials Testing for LADOTD Bridges, Metairie, Port Allen, and Baton Rouge, LA - Project Manager for materials testing projects including the removal of steel samples to determine material strength properties and chemical composition from the Causeway Boulevard Bridge over Earhart Expressway in Metairie and the removal of forty-five concrete cores from various bridge substructures from I-10 in Baton Rouge for testing and petrographic evaluation.
03/14-12/14	S. Halsted Street over the Little Calumet River, Chicago, IL - Project advisor performing QA/QC for load ratings and gusset plate rehabilitation design to address live load rating concerns for this steel truss bridge.
09/13-09/13	Grand Avenue Bascule Bridge, Chicago, IL - Project Engineer for gusset plate condition assessment, load ratings, and preliminary retrofit development for members of this double leaf bascule bridge with inadequate live load capacity due to section loss.
02/11-06/11	Lift-Span Railway Bridge over the Mississippi River, Midwest, U.S. - Project Manager and Structural Engineer of Record assisting railroad client in determining the extent of damage and needed repairs to the lift span truss, track, and machinery after the structure was subjected to blast forces from adjacent construction. Requested to evaluate how the damage affected the structure's short- and long-term performance. The structural, mechanical and electrical site investigation included hand-on, arms-length, and visual inspections. Structural, mechanical, and electrical recommendations were then made to restore the lift span to its pre-blast condition.
04/10-04/11	Hylebos Bridge, Tacoma, WA - Project Engineer for visual inspection of the double-leaf bascule bridge in preparation for rehabilitation.
03/08-06/09	I-5 Columbia River Bridge, Portland, OR - Project Engineer overseeing span balance and counterweight adjustments of lift span bridge. Documented number and location of concrete blocks, cored counterweights to determine voids, oversaw instrumentation of operating rope turnbuckles and pinion shafts, and inspected bearings and guide rollers.

16. Staff Experience:

Firm employed by		Wiss, Janney, Elstner Associates, Inc.	
Name	Curtis Schroeder, PhD, S.E., P.E., CWI	Years of relevant experience with this employer	7
Title	Supervisor-Other	Years of relevant experience with other employer(s)	8
Degree(s) / Years / Specialization		Ph.D. / 2018 / Civil Engineering M.S. / 2011 / Civil Engineering B.S. / 2009 / Civil Engineering	
Active registration number / state / expiration date		PE #44013 / WI / 07-31-2026 SE #081.008638 / IL / 11-30-2026	
Year registered	2015 (WI) 2021 (IL)	Discipline	Professional Engineer Structural Engineer Other Pertinent Training / Certifications NHI #130078 - Fracture Critical Inspection Techniques of Steel Bridges NHI #130055 - Safety Inspection of In-Service Bridges (& Refresher 130053) AWS Certified Welding Inspector NDT Ultrasonic Technician - Level II NDT Magnetic Particle Testing - Level II
Contract role(s) / brief description of responsibilities		Sampling and Nondestructive Testing Dr. Schroeder will perform structural engineering including steel superstructure assessments, bridge inspections; nondestructive testing, focused on ultrasonic testing (UT), phased array UT (PAUT), and magnetic particle testing (MT); sampling; load rating; and welding procedure evaluations.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
11/24-Present	UT of Bridge Pins and Hangers, Nine Structures, LA - Project Engineer for visual and ultrasonic inspection of bridge pins and hangers, along with characterizing and documenting conditions of section loss, cracking, or other forms of distress.		
10/24-06/26	Chicago Skyway, Stony Island Anchor Bolt Inspection and Analysis, Chicago, IL - Project Manager and Team Leader for the project, which included a load rating inspection, anchor bolt inspection, load rating of the steel superstructures and steel substructures, and structural analysis of the anchor bolts at the Chicago Skyway Stony Island Avenue Ramp structures. Repair work resulting from the findings is ongoing. The structures consist of multiple units to carry two ramps over various local streets, the Norfolk Southern Railroad, and, for one of the ramps, the mainline of the Chicago Skyway. Led the visual inspection of all steel members and components and performed ultrasonic testing and field hardness testing on the anchor bolts. Section loss documentation was performed using physical measurement and/or ultrasonic testing.		
10/23-01/24	Fall 2023 Pin Inspections, IN - Project Manager for ultrasonic testing (UT) project to evaluate the fitness for service of the steel pins and associated hanger components or pinned connections on six bridges.		
03/23- 11/25	T-1 Steel Weld Inspections on Four Bridges, MO - Training, testing, and Quality Assurance (QA) for UT of T-1 steel welds on four bridges. Calibration of paint effects on UT scans; repairs of rejectable welds.		
01/23-06/24	I-57 over Mississippi River, Cairo, IL - Project Manager for UT inspection of weld splices in nonredundant steel tension truss members fabricated with ASTM A517 (T-1) steel; located welds by eddy current testing; developed alternative UT procedures to inspect welds within the bolted gusset plate connections; and performed UT inspection.		

12/22-08/25	T-1 Steel Weld Assessment, LA - Training, testing, and QA for UT of T-1 steel welds on three bridges; reviewed phased array ultrasonic testing (PAUT) scan results for characterization of rejectable welds; calibration of paint effects on UT scans; repairs of rejectable welds.
11/21-Present	Susquehanna River Railroad Bridge, Havre de Grace, MD - Project Engineer assisted with UT and PAUT inspection of 45 pinned connections of deck truss railroad bridge with known defect indications. In 2024, assisted with limited, in-depth UT surveys on 70 transfer pins. In 2025, another 63 pin connectors were examined for which the analysis and reporting are ongoing.
09/21-12/21	Water Street Bridge, Pittston, PA - Project Engineer for the UT of ten transfer pins in steel through-truss bridge.
08/21-10/21	Black Hawk Bridge, Lansing, IA - Project Engineer responsible for UT and PAUT of 21 pinned connections in a steel through truss and suspended spans. Assisted with fracture critical inspection of steel through-truss spans.
07/21-08/21	Hernando de Soto Bridge, Memphis, TN - Project Engineer for the fracture investigation of a tie girder fabricated using T-1 steel in one of two tied arches. Performed UT, PAUT, and wet fluorescent magnetic particle testing (MT) of removed fracture specimen and steel cores. Performed QA verification of PAUT inspection procedure.
05/21-01/22	SR 66 over I-64, Carefree, IN - Team leader for Special Inspection of bridge containing 18 pinned hinge connections, including visual inspection, ultrasonic testing, and magnetic particle testing. Assisted with development and implementation of repairs for cracked pin plate fillet welds.
04/21-Present	Hawthorne Bridge, Portland, OR - Project Engineer assisting with UT and wet fluorescent MT inspection of vertical lift bridge trunnions, including through-bore examinations. In 2024, performed follow-up MT on observed cracking, which WJE repaired in 2025.
01/21-05/21	US 136 over Wabash River, Covington, IN - Team Leader for Special Inspection of a post-tensioned, concrete trapezoidal box girder bridge that included visual inspection of epoxy-injected cracks in the web wall, ground penetrating radar (GPR) inspection to locate vertical shear reinforcement, and concrete core removal for testing of concrete strength.
01/21-04/21	Franklin Street Bridge, Michigan City, IN - Project Engineer assisting with the development of tread casting crack repairs and performing visual and MT inspection of field-welded repairs.
10/20-11/20	Eagle's Nest Bridge, Hebron, ND - Project Manager for repair of cracked pin plates at bridge pinned hinges. Developed weld repair solution and performed MT and CWI inspection of welded repairs.
09/20-01/21	North Dakota DOT Pin and Link Inspections, ND - Project Manager for PAUT of 344 bridge pins on 17 bridges with both pin and hanger and pinned hinge connections.
08/20-11/20	Charles Berry Bridge, Lorain, OH - Project Engineer assisting with UT inspection of bascule bridge trunnions, including through-bore examinations.
04/20-06/20	US 6 over SR 331, Bremen, IN - Team Leader for special inspection of bridge containing 14 pinned hinge connections, including visual inspection, UT, and MT. Assisted with development of repair recommendations for cracked pin plate fillet welds.
05/21-08/21; 09/19-11/19	Burlington-Bristol Bridge Sheave Inspections, Burlington, NJ - Project Engineer performing PAUT of surface indications on thrust face of vertical lift bridge cast sheave and wet fluorescent MT inspection of cast sheaves. Assisted with development of repair recommendations.
06/19-09/22	Cole-Parker Pedestrian Bridge, Fort Wayne, IN - Project Engineer assisted with UT and PAUT inspection of complete joint penetration welds, review of repair design calculations, load rating, and visual, MT, and UT inspection of repairs for cable stay bridge.
03/21-08/21; 05/19-09/19	Jefferson Barracks Bridge, St. Louis, MO - Project Engineer for the fracture critical inspection of the twin tied-arch bridges over the Mississippi River. Performed PAUT and MT inspection of tie girder welds during emergency repair work to estimate extent and size of cracking. Performed inspection of welded repairs as a certified welding inspector (CWI), assisted with follow-up MT inspection of tie girder welds, and reviewed weld repair design for rehabilitation project.
05/19-08/19; 01/17-03/17	Delaware River Bridge, Bristol, PA - Project Engineer to develop PAUT inspection plan to locate weld-filled holes in truss members within a gusset plate connection. Assisted with PAUT technician performance testing. In 2017, Project Engineer to develop UT inspection plan to locate weld-filled holes in truss members. Assisted with investigation of bridge member fracture.

16. Staff Experience:

Firm employed by NTB Associates, Inc.			
Name	Mike King, PLS	Years of relevant experience with this employer	19.5
Title	Vice President	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization	B.S. / 2012 / Construction Management, Louisiana State University		
Active registration number / state / expiration date	#PLS.0005127 / LA / 09-30-2027		
Year registered	2015	Discipline	Professional Surveyor
Contract role(s) / brief description of responsibilities	Project Manager for Topographic Surveying (satisfies MPR# 10) Mike will serve as NTBA's Survey Project Manager for topographic surveying and hydrographic surveying services during this contract. He will manage field crews, file processing, drafting, and submittals. Mike has over 20 years of surveying experience.		
Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
09/24-06/26	LaDOTD IDIQ Contract for Professional Boundary Surveying Services, LA (4400027918) - Quality Control Surveyor assisting in staffing, coordination, and team meetings for topographic surveys and property surveys in support of title take-offs, description preparations, preliminary and final right-of-way mapping in support of roadway design improvements.		
08/25-06/26	LaDOTD I-20: Sam R. Fert Dr. to Red River Bridge, Caddo Parish, LA (H.016413.5) - Survey Project Manager for Static GPS Control surveys, topographic surveys utilizing HDS 3D Terrestrial Laser Scanning methods of data collection, and surveys in support of QL C & D subsurface utility services for interstate rehabilitation along I-20, between a point southeasterly of the I-20 & I-49 interchange and the Caddo/Bossier Parish Line.		
09/20-06/24	LaDOTD IDIQ Contract for Hydrographic Surveying Services, Statewide, LA (4400019715) - Assistant Project Manager assisting with management of field crews, file processing, drafting, and submittal preparation for single beam and multibeam hydrographic surveying services for multiple bridges at scheduled intervals upstream and downstream for 289 sites to date throughout southern districts.		
01/23-06/26	LaDOTD Jimmie Davis Bridge (LA 511) Design-Build, Bossier & Caddo Parishes, LA (H.001779) - Assistant Project Manager assisting in the management of field crews and technicians for Static GPS Control surveys, topographic surveys, property surveys, title take-offs, description preparations, preliminary and final right-of-way mapping, QL A, B, C, & D utility designating/locating, and utility coordination services for the design-build project to replace the Jimmy Davis Bridge across the Red River.		
08/21-06/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 05, 08, & 58 (4400019337) - Assistant Project Manager assisting in the management of field crews and technicians for Static GPS Control surveys, topographic surveys, property surveys, title take-offs, description preparations, preliminary and final right-of-way mapping, and QL C & D subsurface utility services for 34 bridge and culvert replacements as a sub to BKI.		
04/21-06/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 02, 03, 07, 61, & 62 (4400019338) - Assistant Project Manager assisting in the management of field crews and technicians for Static GPS Control surveys, topographic surveys, property surveys, title take-offs, description preparations, preliminary and final right-of-way mapping, and QL C & D subsurface utility services for 21 bridge and culvert replacements as a sub to Waggoner.		
08/22-06/26	Delta Utilities/ CenterPoint Energy, Surveying & SUE Services, Various Parishes, LA (Various Agency Proj. Nos.) - Quality Control Surveyor assisting in staffing, coordination, and QA/QC for topographic surveys, property surveys, surveys in support of SUE, title takeoffs, boundary and right-of-way calculations, CADD drawings, and plats for maintenance and construction projects. To date, NTBA has worked on over 100 separate projects stretching from Lake Charles to Lafayette to Shreveport, and along the Northshore of Lake Pontchartrain.		
12/24-05/25	LaDOTD Contract for Topographic Surveys, Box Culvert Replacements, Tasks Orders 1-4, Evangeline, St. Landry, & Bienville Parishes (4400021975) - Project Manager directing field crews, file processing, drafting, and submittals for Static GPS Control surveys, topographic surveys, and surveys in support of QL D subsurface utility record research for preliminary designs of box culvert initiative projects.		

12/17-11/24	LaDOTD I-10: LA 415 to Essen Lane on I-10 and I-12, West & East Baton Rouge Parishes, LA (44-12323, 44-17713, 44-14660 - Multiple TOs) - Assistant Project Manager assisted in the management of field crews and technicians for topographic surveys, QL B, C, and D subsurface utility designating, and surveys in support of QL B, C, and D subsurface utility designating for approximately 13 miles of roadway.
04/22-04/23	LaDOTD I-20 Monkhouse to I-49, Caddo Parish, LA (4400017713) - Assistant Project Manager assisted in the management of field crews and technicians for Static GPS Control, topographic surveys, QL C & D subsurface utility services, drainage map preparation, and Mobile Laser Scanning for interstate rehabilitation.
03/21-03/22	City-Parish Ward Creek at Siegen Lane, East Baton Rouge Parish, LA (22-DR-US-0013) - Quality Control Surveyor reviewed and processed data for control, topographic, and property surveys along with surveys in support of QL B, C, and D subsurface utility designating services.
12/20 – 03/22	LaDOTD LA 47 IWGO Bridge Rehabilitation, Historic Bridge Improvement (HBI), Orleans Parish, LA (4400017713) - Assistant Project Manager assisted in the management of field crews and technicians for topographic surveys and surveys in support of QL C & D subsurface utility designating for bridge repair/ rehabilitation.
05/15 – 12/20	City of Bossier, Walter O. Bigby Carriageway (N. Pkwy Ext.) Bossier Parish, LA (City Proj. No. 8-15) - Quality Control Surveyor reviewed data and drafting for Static GPS Control surveys, topographic, property, and hydrographic surveying services, and QL A, B, C, and D subsurface utility designation/locating for a parkway facility design featuring new roads, additional lanes, roundabouts, and a bridge.
07/16 – 03/17	LaDOTD Bayou Fountain, Route LA 327 Spur (Gardere Lane) East Baton Rouge Parish, LA (4400006527 & H.002337.5) - Assistant Project Manager assisted in the management of survey crews and technicians for topographic surveys, surveys in support of QL B, C, and D subsurface utility designating, and drainage map preparation for roadway rehabilitation.
04/15 – 02/16	LaDOTD I-20 (Airline Drive to I-220) Bossier Parish, LA (4400005532 & H.011319.5) - Quality Control Surveyor reviewed data and drafting for topographic surveys for interstate rehabilitation.
05/13 – 10/15	Bossier Parish Police Jury, Kingston Road Improvements and Development, Bossier Parish, LA (Proj. No. Unknown) - Sr. Party Chief/ Technician ran a field crew and downloaded data for topographic surveys, property surveys, final right-of-way mapping, and drainage map preparation for the use in engineering plan and specifications.
04/15 – 09/15	LaDOTD LA 3094: Hearne Ave. Bridge Rehab, Route LA 3094, Caddo Parish, LA (4400001798 & H.011094.5) - Quality Control Surveyor reviewed data and drafting for topographic surveys, drainage map preparation, and surveys in support of QL B subsurface utility designating for bridge rehabilitation.
02/14 – 03/15	LaDOTD Earhart Expressway Extension to US 61, Route LA 3139, Jefferson Parish, LA (H.004367.5) - Sr. Survey Party Chief/Tech. ran a field crew and processed data for topographic surveying services for an overpass connection, relocation of existing lanes, and construction of additional lanes as a sub to AECOM
07/12 – 01/14	LaDOTD I-10 Loyola Ave. to Williams Blvd., Jefferson Parish, LA (H.003074.5 & H.009087.5) - Sr. Survey Party Chief/Tech. managed a survey crew and processed data for topographic surveys for interstate rehabilitation as a sub to GEC, Inc.
07/12 – 06/13	LaDOTD I-10 Williams Blvd. to Veterans Blvd., Jefferson Parish, LA (H.003074.5 & H.009087.5) - Sr. Survey Party Chief/Tech. ran a field crew and processed data for topographic surveys, QL B, C, and D subsurface utility designating, and surveys in support of QL A, B, C, and D subsurface utility designating/ locating for interstate rehabilitation as a sub to GEC, Inc.
07/10 – 10/12	LaDOTD LA 42 Widening and Improvements, District 61, Ascension Parish, LA (700-03-0125 & 701-65-1538) - Survey Party Chief/ Technician ran a field crew and processed data for topographic and property surveys in support of base and final right-of-way mapping, and title work.
02/11 – 08/11	LaDOTD I-20 Rehabilitation Westerfield Avenue to Industrial Drive, District 04, Bossier Parish, LA (H.003860.5 & 700-99-0525) - Survey Party Chief/Tech. managed a survey crew and processed data for topographic surveys for interstate rehabilitation.

16. Staff Experience:

Firm employed by NTB Associates, Inc.			
Name	Bryan Bunch, PLS	Years of relevant experience with this employer	17
Title	Executive Vice President	Years of relevant experience with other employer(s)	15
Degree(s) / Years / Specialization	B.S. / 1988 / Survey and Land Information Systems, University of Arkansas		
Active registration number / state / expiration date	#PLS.0005014 / LA / 03-31-2028		
Year registered	2009	Discipline	Professional Surveyor
Contract role(s) / brief description of responsibilities	Assistant Survey Project Manager (Satisfies MPR #10) Bryan will serve as NTBA Assistant Survey Project Manager assisting in staff management, processing, and preparation of deliverables for topographic surveying services.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
09/24 – 06/26	LaDOTD IDIQ Contract for Professional Boundary Surveying Services, LA (4400027918) - Assistant Survey Project Manager assisting in staffing, coordination, and QA/QC for topographic surveys and property surveys in support of title take-offs, description preparations, preliminary and final right-of-way mapping in support of roadway design improvements.		
08/25 – 06/26	LaDOTD I-20: Sam R. Fert Dr. to Red River Bridge, Caddo Parish, LA (H.016413.5) - Assistant Survey Project Manager assisting in staffing, coordination, and QA/QC for Static GPS Control surveys, topographic surveys utilizing HDS 3D Terrestrial Laser Scanning methods of data collection, and surveys in support of QL C & D subsurface utility services for interstate rehabilitation along I-20, between a point southeasterly of the I-20 & I-49 interchange and the Caddo/Bossier Parish Line.		
01/23-06/26	LaDOTD Jimmie Davis Bridge (LA 511) Design-Build, Bossier & Caddo Parishes, LA (H.001779) - Survey Project Manager directing field crews, file processing, drafting, and submittals for Static GPS Control surveys, topographic surveys, property surveys, title take-offs, description preparations, preliminary and final right-of-way mapping, QL A, B, C, & D utility designating/locating, and utility coordination services for the design-build project to replace the Jimmy Davis Bridge across the Red River.		
02/24-06/26	IDIQ Contract for Professional Hydrographic Surveying Services, Statewide, LA (4400027686) - QC Surveyor assisting with project oversight and strategic coordination for single beam and multibeam hydrographic surveying services for multiple bridges at scheduled intervals upstream and downstream for 185 sites to date throughout southern districts.		
09/24-04/26	LaDOTD IDIQ Contract for Professional Boundary Surveying Services, LA (4400027918) - Assistant Survey Project Manager assisting in staffing, coordination, and QA/QC for topographic surveys and property surveys in support of title take-offs, description preparations, preliminary and final right-of-way mapping in support of roadway design improvements.		
09/20-04/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 02, 03, 07, 61, & 62 (4400019338) - Survey Project Manager directing field crews, file processing, drafting, and submittals for Static GPS Control surveys, topographic surveys, property surveys, title take-offs, description preparations, preliminary and final right-of-way mapping, and QL C & D subsurface utility services for 21 bridge and culvert replacements as a sub to Waggoner.		
08/22-04/26	Delta Utilities/ CenterPoint Energy, Surveying & SUE Services, Various Parishes, LA (Various Agency Proj. Nos.) - Quality Control Surveyor assisting in staffing, coordination, and QA/QC for topographic surveys, property surveys, surveys in support of SUE, title takeoffs, boundary and right-of-way calculations, CADD drawings, and plats for maintenance and construction projects. To date, NTBA has worked on over 100 separate projects stretching from Lake Charles to Lafayette to Shreveport, and along the Northshore of Lake Pontchartrain.		
07/23-04/26	LaDOTD IJA Off-System Bridge Program, District 62 (4400025041) - Quality Control Surveyor assisted in staffing, coordination, and QA/QC for Static GPS control surveys, topographic surveys, property surveys, title take-offs, legal description preparation, and preliminary and final right-of-way mapping in support of bridge replacements.		

12/24-05/25	LaDOTD Contract for Topographic Surveys, Box Culvert Replacements, Tasks Orders 1-4, Evangeline, St. Landry, & Bienville Parishes (4400021975) - Assisted in the supervision and review of survey data and processing for Static GPS Control surveys, topographic surveys, and surveys in support of QL D subsurface utility record research for preliminary designs of box culvert initiative projects.
12/17-11/24	LaDOTD I-10: LA 415 to Essen Lane on I-10 and I-12, West & East Baton Rouge Parishes, LA (44-12323, 44-17713, 44-14660 - Multiple TOs) - Survey Project Manager directed field crews, file processing, drafting, and submittals for Static GPS Control surveys, topographic surveys, QL B, C, and D subsurface utility designating, and surveys in support of QL B, C, and D subsurface utility designating for approximately 13 miles of roadway.
04/22-04/23	LaDOTD I-20 Monkhouse to I-49, Caddo Parish, LA (4400017713) - Survey Project Manager directed field crews, file processing, drafting, and submittals for Static GPS Control, topographic surveys, QL C & D subsurface utility services, drainage map preparation, and Mobile Laser Scanning for interstate rehabilitation.
03/21 – 03/22	City-Parish Ward Creek at Siegen Lane, East Baton Rouge Parish, LA (22-DR-US-0013) - Survey Project Manager managed field crews and technicians for control, topographic, and property surveys along with QL B, C, and D subsurface utility designating services for approximately 1,500 feet of Ward Creek.
12/20 – 03/21	LaDOTD LA 6: Youngs Bayou Bridge Rehab, Natchitoches Parish, LA (4400017713 & H.013821.5) - Assistant Project Manager assisted in the supervision and review of survey data and processing for topographic surveying services.
05/15 – 12/20	City of Bossier, Walter O. Bigby Carriageway (N. Pkwy Ext.) Bossier Parish, LA (City Proj. No. 8-15) - Quality Control Surveyor supervised south LA field crews and technicians for Static GPS Control surveys, topographic, property, and hydrographic surveying services, and QL A, B, C, and D subsurface utility designation/locating for a parkway facility design featuring new roads, additional lanes, roundabouts, and a bridge.
05/16 – 06/18	LaDOTD LA 675 & LA 87 Improvements in New Iberia, Iberia Parish, LA (4400002562 & 4400006814) - Project Manager directed field crews, file processing, drafting, and submittals for topographic surveying services as a sub to Stanley Consultants, Inc.
11/15 – 05/17	Bossier Parish Police Jury, Winfield Road Extension, East/West (LA 3 to Airline Highway) Bossier Parish, LA (DEC 15-11-03) - Quality Control Surveyor assisted in staffing, coordination, and QA/QC for control surveys, topographic surveys, property surveys, right-of-way mapping, QL D subsurface utility services, and drainage map preparation as a sub to Denmon (Volkert).
07/16 – 03/17	LaDOTD Bayou Fountain, Route LA 327 Spur (Gardere Lane) East Baton Rouge Parish, LA (4400006527 & H.002337.5) - Survey Project Manager directed field crews, file processing, drafting, and submittals for topographic surveys, surveys in support of QL B, C, and D subsurface utility designating, and drainage map preparation for roadway rehabilitation.
10/15 – 07/16	LaDOTD MacArthur Interchange Completion (Phase II) Route US 90-Z, Jefferson Parish, LA (4400005142 & H.011309.5) - Project Manager directed field crews, file processing, drafting, and submittals for topographic surveying services as a sub to SDR Engineering.
04/15 – 02/16	LaDOTD I-20 (Airline Drive to I-220) Route I-20, Bossier Parish, LA (4400005532 & H.011319.5) - Assistant Project Manager supervised south LA crew members and technicians for topographic surveying services.
05/13 – 10/15	Bossier Parish Police Jury, Kingston Road Improvements and Development, Bossier Parish, LA (Agency Proj. No. Unknown) - Quality Control Surveyor assisted in staffing, coordination, and QA/QC for topographic surveys, property surveys, final right-of-way mapping, and drainage map preparation for the use in engineering plan and specifications.
04/15 – 09/15	LaDOTD LA 3094: Hearne Ave. Bridge Rehab, Route LA 3094, Caddo Parish, LA (4400001798 & H.011094.5) - Quality Control Surveyor assisted in staffing, coordination, and QA/QC for topographic surveys, drainage map preparation, and surveys in support of QL B subsurface utility designating for bridge rehabilitation.
02/14 – 03/15	LaDOTD Earhart Expressway Extension to US 61, Route LA 3139, Jefferson Parish, LA (H.004367.5) - Project Manager directed survey crews, file processing, drafting, and submittals for topographic surveys for an overpass connection, relocation of existing lanes, and construction of additional lanes as a sub to AECOM.
07/12 – 01/14	LaDOTD I-10 Loyola Ave. to Williams Blvd., Jefferson Parish, LA (H.003074.5 & H.009087.5) - Project Manager directed survey crews, file processing, drafting, and submittals for topographic surveys for interstate rehabilitation as a sub to GEC, Inc.

16. Staff Experience:

Firm employed by NTB Associates, Inc.			
Name	Patrick C. Staiano, PLS	Years of relevant experience with this employer	6.5
Title	Staff Surveyor	Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization	B.S. / 2008 / Construction Management, Louisiana State University / ATSSA TCS		
Active registration number / state / expiration date	#PLS.0005130 / LA / 09-30-2027		
Year registered	2015	Discipline	Professional Surveyor
Contract role(s) / brief description of responsibilities	Survey Project Manager Patrick will serve as NTBA's Survey Project Manager for property surveys and right-of-way mapping. Patrick will manage field crews, technicians, data processing, drafting, review and certification of maps and surveys, and submittals. He has over 16 years of surveying experience.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
09/24-06/26	LaDOTD IDIQ Contract for Professional Boundary Surveying Services, LA (4400027918) - Project Manager directing field crews, file processing, drafting, and submittals for topographic surveys and property surveys in support of title take-offs, description preparations, preliminary and final right-of-way mapping in support of roadway design improvements.		
01/23-06/26	LaDOTD Jimmie Davis Bridge (LA 511) Design-Build, Bossier & Caddo Parishes, LA (H.001779) - Assistant Project Manager assisting in the management of field crews, file processing, drafting, and submittals for Static GPS control surveys, topographic surveys, property surveys, surveys in support of QL B, C, and D subsurface utility designating, title take-offs, legal description preparation, and preliminary and final right-of-way mapping for the design-build project to replace the Jimmy Davis Bridge across the Red River as a sub-consultant to James Construction.		
09/22-04/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 05, 08, & 58 (4400019337) - Assistant Project Manager assisting in the management of field crews, file processing, drafting, and submittals for Static GPS control surveys, topographic surveys, property surveys, title take-offs, legal description preparations, and preliminary and final right-of-way mapping for 34 bridge and culvert replacements including surveying all sub-surface drainage structures as a sub-consultant to BKL.		
09/22-06/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 02, 03, 07, 61, & 62 (4400019338) - Assistant Project Manager assisting in the management of field crews, file processing, drafting, and submittals for Static GPS control surveys, topographic surveys, property surveys, title take-offs, legal description preparations, and preliminary and final right-of-way mapping for 21 bridge and culvert replacements including surveying all sub-surface drainage structures as a sub-consultant to Waggoner.		
09/24-10/24	LaDOTD I-10: LA 415 to Essen Lane on I-10 and I-12, West & East Baton Rouge Parishes, LA (44-17713 – Various Contract Nos & Multiple TOs) - Quality Control Surveyor assisted in field and office quality control management for Static GPS Control surveys, topographic surveys utilizing HDS 3D Terrestrial Laser Scanning methods of data collection, QL B, C, and D subsurface utility designating, and surveys in support of QL B, C, and D subsurface utility designating for approximately 13 miles of roadway.		
09/22-09/25; 03/18-02/21	Apache Corporation, Infrastructure Improvements, Permian Basin, Reeves Counties, TX (Agency Proj. Nos. Unknown) - Project Manager managing property surveying services and right-of-way acquisition mapping for approximately 84 miles of infrastructure improvements. Patrick has prepared approximately 131 property acquisition plats for this project.		
09/22-09/25; 03/18-02/21	Targa Pipeline, Natural Gas Gathering System, Howard and Martin Counties, TX (Agency Proj. Nos. Unknown) - Quality Control Surveyor reviewing drafting and property acquisition plats as well as assisting with management of property surveying services. Patrick has prepared approximately 250 property acquisition plats for this project.		

07/23 – 05/25	LaDOTD IIJA Off-System Bridge Program, District 62 (4400025041) - Project Manager directing field crews, file processing, drafting, and submittals for Static GPS control surveys, topographic surveys, property surveys, title take-offs, legal description preparation, and preliminary and final right-of-way mapping in support of bridge replacements.
03/21 – 08/22	MOVEBR Jefferson Hwy. at Bluebonnet Intersection Improvements, LA (City Parish No. 20-CP-HC-0046) - Project Manager managed field crews and technicians for topographic surveys, property surveys, and right-of-way mapping.
03/20 – 02/21	UPRR Big Sandy Siding Survey, Upshur and Wood Counties, TX (29543/90502) - Assistant Project Manager performed property surveying services for 15 parcels along railroad consisting of approximately 3.24 miles of track to establish the existing railroad right-of-way. Prepared 8 ALTA Surveys along with the privately owned parcels for acquisition, 0.25-acre acquisition parcel in the right-of-way, and an overall right-of-way strip map.
09/19 – 02/20	DCP Midstream, MaBee Ranch Line Locates, Martin and Andrews Counties, TX (19-056-001) - Project Manager managed property surveying services in support of property acquisition services for 32 individual pipelines totaling approximately 22 miles.
03/18 – 10/18	Rogillio Resubdivision, East Baton Rouge & East Feliciana Parishes, LA (Agency Proj. No. Unknown) - Assistant Project Manager performed title take-offs, boundary, and right-of-way calculations, and reviewing CADD drawings and plats for resubdivision services for 93 acres.
04/17 – 03/18	LaDOTD LA 653 Bayou Dumar Bridge Replacement, Lafourche Parish, LA (H.008118) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.5-mile project.
01/17 – 03/18	LaDOTD LA 450 Stoney Point Bridge Replacement, Washington Parish, LA (Proj. No. Unknown) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys and prepared title work info and right-of-way maps for a +/-0.25-mile project.
09/17 – 01/18	LaDOTD LA 1026: Roundabout at Buddy Ellis Rd., Livingston Parish, LA (H.011824) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.3-mile project.
10/17 – 12/17	LaDOTD US 190B Jefferson Ave. Roundabout Covington, St. Tammany Parish, LA (H.011260) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.1-mile project.
06/17 – 10/17	LaDOTD LA 22: Near I-10 Geometric Improvements, Ascension Parish, LA (H.011314) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.75-mile project.
05/17 – 09/17	LaDOTD LA 59: Roundabout @ Lonesome Rd., Tangipahoa Parish, LA (H.011030) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.5-mile project.
03/16 – 08/17	LaDOTD LA 59: Curve Realign and Tunnel at Trace, St. Tammany Parish, LA (H.010184) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.75-mile project.
03/17 – 07/17	LaDOTD LA 1042: Bridges Near Greensburg, St. Helena Parish, LA (H.008312) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/- 2-mile project.
03/16 – 02/17	LaDOTD LA 22 Roundabout @ Dunson Rd., Tangipahoa Parish, LA (Proj. No. Unknown) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.25-mile project.
03/16 – 01/17	LaDOTD LA 1024 Near Friendship, Livingston Parish, LA (Proj. No. Unknown) - Under the supervision of Robert H. Brooks, III, PLS and Max O. Usrey, III, PLS, Patrick performed property surveys, prepared title work info, and right-of-way maps for a +/-0.5-mile project.

16. Staff Experience:

Firm employed by		NTB Associates, Inc.		
Name	Amy K. Schulze, PE, CFM		Years of relevant experience with this employer	8
Title	Sr. Project Engineer		Years of relevant experience with other employer(s)	20
Degree(s) / Years / Specialization			B.S. / 1998 / Civil Engineering	
Active registration number / state / expiration date			#PE.0030295 / LA / 03-31-2027	
Year registered	2002	Discipline	Civil Engineer	
			Other Pertinent Training / Certifications CFM National Certification: US-16-08839 Electro-Magnetic Locating Instruments Certified/Certificate of Locating Competency #WA2028 (Staking University)	
Contract role(s) / brief description of responsibilities			SUE Project Engineer/ Manager Amy will serve as the SUE Project Engineer/ Manager during this contract. She will supervise and manage any required subsurface utility designating/ locating services. Amy has nearly 30 years of SUE experience.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
12/25-06/26	LaDOTD/BPPJ Cong Relief Winfield Road (2025-118/H.003855.5) - SUE Project Manager for QL B, C, and D subsurface utility investigations including record reviews, surface feature surveys, underground utility designating, utility base-map development, and utility-owner coordination in support of roadway design.			
06/25-06/26	City of Baton Rouge/ East Baton Rouge Parish, Upper Ward Creek Clearing & Snagging Project, East Baton Rouge Parish, LA (25-DR-US-0013) - SUE Project Manager for QL C, B, and D surface utility designating, utility coordination services, and surveys in support of SUE for flood reduction and associated channel-improvement work.			
11/25-06/26	LaDOTD Kings Hwy: Healthcare & Development Corridor, Caddo Parish, LA (H.015724) - SUE Project Manager for surveys in support of SUE, QL B, C, & D utility designating, and utility coordination services in support of rehabilitation and design for roadway reconstruction.			
01/22-06/26	LaDOTD Jimmie Davis Bridge (LA 511) Design-Build, Bossier & Caddo Parishes, LA (H.001779) - SUE Project Manager for surveys in support of SUE, QL A, B, C, & D utility designating/ locating, and utility coordination services for the design-build project to replace the Jimmy Davis Bridge across the Red River.			
04/21-06/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 02, 03, 07, 61, & 62 (4400019338) - SUE Project Manager for QL C & D subsurface utility services and surveys in support of SUE for 21 bridge and culvert replacements as a sub to Sigma/ Waggoner.			
08/21-06/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 05, 08, & 58 (4400019337) - SUE Project Manager for QL C & D subsurface utility services and surveys in support of SUE for 34 bridge and culvert replacements as a sub to BKL.			
08/22-06/26	Delta Utilities/ CenterPoint Energy Survey & SUE Services, LA (Various Proj. Nos.) - SUE Project Manager for QL B, C, & D subsurface utility designating services and surveys in support of SUE in various parishes throughout Louisiana to assist with utility relocation activities. To date, NTBA has worked on over 100 separate projects stretching from Lake Charles to Lafayette to Shreveport, and along the Northshore of Lake Pontchartrain.			
01/25-02/25	LaDOTD Contract for Topographic Surveys, Box Culvert Replacements, Tasks Orders 1-4, Evangeline, St. Landry, & Bienville Parishes (4400021975) - SUE Project Manager for QL D subsurface utility record research services and surveys in support of SUE for preliminary designs of box culvert initiative projects.			

04/18-11/24	LaDOTD I-10: LA 415 to Essen Lane, West & East Baton Rouge Parishes, LA (H.004100.5) - SUE Project Manager for QL B, C, and D subsurface utility designating as well as for surveys in support of SUE for approximately 13 miles of roadway.
06/24-08/24	St. Tammany Parish Government Carroll Road Survey & SUE, St. Tammany Parish, LA (42200856) - SUE Project Manager for QL B, C, and D utility designating services and surveys in support of SUE throughout the approximately 1.5 miles of the project corridor of Carroll Road including all surface streets, drainage ways, and 2 major intersections within and surrounding the project corridor.
06/24-08/24	Ascension Parish Government LA 73 to LA 30 Roundabout, Ascension Parish, LA (MA-23-08) - SUE Project Manager for QL B, C, and D subsurface utility designating and surveys in support of SUE for the intersection improvements for the design of a new roundabout as a subconsultant to GEC, Inc.
02/20-07/24	City of Baton Rouge/ East Baton Rouge Parish, MOVEBR Bluebonnet Blvd. (Perkins – Picardy) East Baton Rouge Parish, LA (19-CP-HC-0034) - SUE Project Manager for QL A, B, C, and D subsurface utility designating/ locating and surveys in support of SUE throughout the approximately 1.5 miles of the project corridor.
02/21-02/24	LaDOTD IDIQ Contract for SUE Services, I-10, Task Orders 1, 2, 4, & 5, East Baton Rouge Parish, LA (4400014660) - SUE Project Manager directed QL B, C, D subsurface utility designating services and surveys in support of SUE for four task orders for several additional areas around the I-10 corridor in conjunction with the on-going design-build contract.
06/22-04/23	LaDOTD I-20 Monkhouse to I-49, Caddo Parish, LA (4400017713) - SUE Project Manager for QL C & D subsurface utility services and surveys in support of SUE for interstate rehabilitation.
08/21-08/21	LaDOTD LA 47 IWGO Bridge Rehabilitation, Historic Bridge Improvement (HBI), Orleans Parish, LA (4400017713) - SUE Project Manager for QL C & D subsurface utility services and surveys in support of SUE for bridge repair/ rehabilitation.
12/20-03/21	LaDOTD LA 6: Youngs Bayou Bridge Rehab, Natchitoches Parish, LA (4400017713 & H.013821.5) - SUE Project Manager assisted in the review of survey and utility data for topographic surveying services for bridge rehabilitation.
04/18-12/20	City of Bossier, Walter O. Bigby Carriageway (N. Pkwy Ext.) Bossier Parish, LA (City Proj. No. 8-15) - SUE Project Manager for QL A, B, C, and D subsurface utility designating/locating services in support of surveys and right-of-way mapping for a parkway facility design featuring new roads, additional lanes, roundabouts, and a bridge.
07/19-02/20	LaDOTD I-10: Loyola Interchange, Kenner, Jefferson Parish, LA (H.011670) - SUE Project Manager for QL B, C, and D subsurface utility designating services and surveys in support of SUE for approximately 5 miles.
12/18-01/20	LaDOTD LA 951: Roadway Washout Repairs, East Feliciana Parish, LA (H.013643) - SUE Project Manager for QL A, B, C, and D subsurface utility designating/locating and surveys in support of SUE for approximately 2,600 feet of roadway.
12/18-03/19	City of New Orleans, West End Subdivision, Phase B125, New Orleans, LA (Agency Proj. No. Unknown) - SUE Project Manager for QL B, C, and D subsurface utility designating along with surveys in support of SUE for preliminary and final design services for FEMA-eligible street repairs.
06/18-10/18	LaDOTD I-10: Williams Blvd. to Veterans Blvd., Jefferson Parish, LA (H.003074.5 & H.009087.5) - SUE Project Manager for QL B, C, and D subsurface utility designating and surveys in support of SUE for approximately 2 miles for interstate rehabilitation as a sub to GEC, Inc.

16. Staff Experience:

Firm employed by		NTB Associates, Inc.		
Name	Captayn Chapman		Years of relevant experience with this employer	12
Title	Party Chief		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			High School Diploma, 2006	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A	
			Other Pertinent Training / Certifications U.T.A. Certified Professional Utility Locator ATSSA Traffic Control Supervisor, 2/8/2023 – 2/8/2027	
Contract role(s) / brief description of responsibilities			Survey/SUE Party Chief Captayn will serve as an NTBA Survey/SUE Party Chief during this contract. He will lead a field crew and download data for topographic survey and SUE services.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/25-06/26	LaDOTD I-20: Sam R. Fert Dr. to Red River Bridge, Caddo Parish, LA (H.016413.5) - Survey/ SUE Party Chief running a field crew and downloading data for Static GPS Control surveys, topographic surveys utilizing HDS 3D Terrestrial Laser Scanning methods of data collection, and surveys in support of QL C & D subsurface utility services for interstate rehabilitation along I-20, between a point southeasterly of the I-20 & I-49 interchange and the Caddo/Bossier Parish Line.			
01/23-06/26	LaDOTD Jimmie Davis Bridge (LA 511) Design-Build, Bossier & Caddo Parishes, LA (H.001779) - Survey/ SUE Party Chief running a field crew and downloading data for Static GPS Control surveys, topographic surveys, and property surveys in support of title take-offs, title research, preliminary and final right-of-way mapping, and QL A, B, C, & D utility designating/ locating for the design-build project to replace the Jimmy Davis Bridge across the Red River.			
09/24-06/26	LaDOTD IDIQ Contract for Professional Boundary Surveying Services, LA (4400027918) Survey Party Chief running a field crew and downloading data for topographic surveys and property surveys in support of title take-offs, description preparations, preliminary and final right-of-way mapping for roadway design improvements.			
04/21-06/26	LaDOTD Rural Bridge Replacement Initiative Phase II, Districts 02, 03, 07, 61, & 62 (4400019338) - Survey/ SUE Party Chief running a field crew and downloading data for Static GPS Control surveys, topographic surveys, and property surveys in support of title take-offs, legal description preparation, preliminary and final right-of-way mapping, and QL C & D subsurface utility services for 21 bridge and culvert replacements as a sub to Waggoner.			
07/23-06/26	LaDOTD IJA Off-System Bridge Program, District 62 (4400025041) - Survey Party Chief running a field crew and downloading data for Static GPS control surveys, topographic surveys, property surveys, title take-offs, legal description preparation, and preliminary and final right-of-way mapping in support of bridge replacements.			
12/17-11/24	LaDOTD I-10: LA 415 to Essen Lane on I-10 and I-12, West & East Baton Rouge Parishes, LA (H.004100.5) - Survey/ SUE Party Chief ran a field crew for topographic surveys and surveys in support of QL B, C, and D subsurface utility designating for approximately 13 miles.			
08/21-02/22	LaDOTD LA 47 IWGO Bridge Rehabilitation, Historic Bridge Improvement (HBI), Orleans Parish, LA (4400017713) - Survey/ SUE Party Chief ran a field crew and downloaded data for topographic surveys and surveys in support of QL C & D subsurface utility services for bridge repair/ rehabilitation.			

12/20-01/21	LaDOTD LA 6: Youngs Bayou Bridge Rehab, Natchitoches Parish, LA (4400017713 & H.013821.5) - Instrument Man performed on a field crew for topographic surveys for bridge rehabilitation.
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16. Staff Experience:

Firm employed by		NTB Associates, Inc.		
Name	Belton Davis		Years of relevant experience with this employer	7.5
Title	Party Chief		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			High School Diploma	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A	
			Other Pertinent Training / Certifications ATSSA Traffic Control Technician, 2/7/2023 – 2/7/2027 U.T.A. Certified Professional Utility Locator	
Contract role(s) / brief description of responsibilities			Survey/SUE Party Chief Belton will serve as an NTBA Survey/SUE Party Chief during this contract. He will lead a field crew and download data for survey and SUE services.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
09/24-06/26	LaDOTD IDIQ Contract for Professional Boundary Surveying Services, LA (4400027918) - Survey Party Chief running a field crew and downloading data for topographic surveys and property surveys in support of title take-offs, description preparations, preliminary and final right-of-way mapping for roadway design improvements.			
01/23-06/26	LaDOTD Jimmie Davis Bridge (LA 511) Design-Build, Bossier & Caddo Parishes, LA (H.001779) - Survey/ SUE Party Chief running a field crew and downloading data for Static GPS Control surveys, topographic surveys, and property surveys in support of title take-offs, title research, preliminary and final right-of-way mapping, and QL A, B, C, & D utility designating/ locating for the design-build project to replace the Jimmy Davis Bridge across the Red River.			
07/23-06/26	LaDOTD IJJA Off-System Bridge Program, District 62 (4400025041) - Survey/ SUE Party Chief running a field crew and downloading data for Static GPS control surveys, topographic surveys, property surveys, title take-offs, legal description preparation, and preliminary and final right-of-way mapping in support of bridge replacements.			
09/22-06/26	Delta Utilities/ CenterPoint Energy, Surveying & SUE Services, Various Parishes, LA (Various Agency Proj. Nos.) - Survey/ SUE Party Chief running a field crew and downloading data for topographic surveys , property surveying services, surveys in support of SUE, title research, title take-offs, boundary and right-of-way calculations, and reviews of CADD drawings and plats for maintenance and construction projects.			
12/24-01/25	LaDOTD Contract for Topographic Surveys, Box Culvert Replacements, Tasks Orders 1-4, Evangeline, St. Landry, & Bienville Parishes (4400021975) - Survey/ SUE Party Chief ran a field crew and downloaded data for Static GPS Control surveys, topographic surveys, and surveys in support of QL D subsurface utility record research for preliminary designs of box culvert initiative projects.			
06/18-10/24	LaDOTD I-10: LA 415 to Essen Lane on I-10 and I-12, West & East Baton Rouge Parishes, LA (H.004100.5) - Survey/ SUE Party Chief ran a field crew and downloaded data for topographic surveys, QL B, C, and D subsurface utility designating, and surveys in support of QL B, C, and D subsurface utility designating for approximately 13 miles of roadway.			
04/22-04/23	LaDOTD Monkhouse to I-49, Caddo Parish, LA (4400017713) - Survey Party Chief ran a field crew and downloaded data for topographic surveys and surveys in support of QL C & D subsurface utility services and drainage map preparation for interstate rehabilitation.			
02/21-04/21	LaDOTD LA 3125 @ LA 3274 Roundabout, St. James Parish, LA (H.014416.5) - Rodman performing on a field crew for topographic surveys and surveys in support of QL B, C, & D subsurface utility designating.			

07/19-02/20	LaDOTD I-10: Loyola Interchange, Kenner, Jefferson Parish, LA (H.011670) - Rodman performing on a field crew for QL B, C, and D subsurface utility designating, topographic surveys, surveys in support of QL A, B, C, and D subsurface utility designating/ locating for approximately 5 miles.
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16. Staff Experience:

Firm employed by		GeoEngineers, Inc.	
Name	Larry Sant, P.E.	Years of relevant experience with this employer	25
Title	Associate Geotechnical Engineer	Years of relevant experience with other employer(s)	3
Degree(s) / Years / Specialization		M.S. / 2001 / Civil Engineering B.S. / 2001 / Civil Engineering	
Active registration number / state / expiration date		#PE.0035625 / LA / 09-30-2026	
Year registered	2010	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities		Geotechnical Task Leader (Satisfies MPR #9) Larry is a professional geotechnical engineer with more than 25 years of experience managing geotechnical engineering projects and has been GeoEngineers’ project manager for most of their transportation projects in the last two decades working with agencies like the East Baton Rouge Parish, The City of Baton Rouge, LA DOTD, and many other local entities. He has managed the geotechnical design tasks for 12 design-build/P3 projects either as Lead Geotechnical Engineer of Record or as the owner’s representative. His experience includes project planning and technical direction during exploration, laboratory testing, engineering design analyses, report preparation and construction monitoring. Larry has been involved in hundreds of projects including roadways ranging from highways to private access drives, airports, bridges, dams, university and K-12 schools, wastewater treatment plants, drainage facilities, utility projects, and other structures ranging from private residences to large public and private facilities.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
04/24-Present	LADOTD, P3 I-10 Calcasieu River Bridge Geotechnical Engineering Services; Lake Charles, LA - Lead geotechnical engineer for this historic public-private partnership (P3) that will redesign and renovate a six-mile stretch of I-10 running through Lake Charles—including the Calcasieu River Bridge itself, which has been outdated for decades. The finished project aims to improve traffic capacity with three through lanes in each direction, and renovate interchanges, shoulders, and bridges through the I-10 corridor to meet modern engineering standards and transportation needs. GeoEngineers’ scope includes several hundred borings including deep borings in the Calcasieu River, geotechnical design for bridge foundations, embankment slopes and retaining walls, lab testing, drilling, construction monitoring, and environmental support to deal with explorations within a known contamination plume.		
10/21-06/22	LADOTD, Jimmie Davis Bridge Prelim Explorations; Caddo and Bossier Parishes, LA - GeoEngineers completed the fast-tracked preliminary geotechnical exploration and testing including deep borings in the Red River for this high-profile design-build project that is in preparation for the replacement of the Jimmie Davis Bridge over the Red River, along LA 511 in Bossier City, Louisiana.		
1/19-11/24	LADOTD, I-10/Loyola Interchange Design Build, Kenner, LA - GeoEngineers completed the geotechnical exploration, testing, engineering, modeling driving in the wave equation analyses (WEAP) and conducting PDA (Pile Driving Analyzer)/CAPWAP (Case Pile Wave Analysis Program) testing monitoring/evaluations for this high-profile project in Kenner that will ultimately improve the Loyola Drive interchange to increase operational efficiency and traffic capacity. Larry served as the lead geotechnical engineer.		
05/18-04/19	LADOTD, I-20/I-220 (Barksdale AFB) Design Build, OV/QA, Bossier Parish, LA - Project manager for GeoEngineers’ OV/QA role in this design-build project which involved interchange improvements (piles, shafts, embankments and PDA / CAPWAP) that will increase access to the Barksdale Air Force Base in Bossier Parish.		
08/17-11/20	LADOTD, I-10 Widening (Highland to LA-73) Design Build, OV/QA, Baton Rouge, LA - Project manager for GeoEngineers’ OV/QA role in this highly-anticipated I-10 project that involved PDA / CAPWAP monitoring /evaluations for widening a 6.5-mile segment of I-10 from four lanes to six lanes between Highland Road and LA-73.		

04/15-11/17	LADOTD, US-90/LA-318 Interchange Design Build, St. Mary Parish, LA - Project manager during this design-build project in support of the proposed Interchange on US90 at LA318. He led the geotechnical design including drilling, log review, test assignments, pile design, settlement analysis, embankment monitoring, and embankment design. We also conducted extensive settlement modeling to demonstrate that the aggressive schedule for this project can be met along with modeling driving in the WEAP. During construction we conducted PDA/ CAPWAP testing to keep the schedule progressing.
02/13-04/13	LADOTD, I-49/US90 Widening over LA182 and BNSF Railroad, Lafayette, LA - This was a LA DOTD widening project in preparation for upgrading US90 to I-49 from Albertson Road to Ambassador Caffery where Larry was the project manager in conducting bridge and roadway borings, and laboratory tests in support of design of this design build widening project located just south of Lafayette. GeoEngineers completed 119 borings for the project on a fast-track schedule utilizing multiple drill rigs to meet the deadline.
08/12-07/15	LADOTD, I-210 at Cove Lane Interchange, Lake Charles, LA - Project manager during this fast-track design and construction project in support of the proposed Interchange on I-210 at Cove Lane. GeoEngineers coordinated a field investigation including multiple simultaneous drilling and CPT rigs, with lane closures and traffic control and completed engineering analyses and provided recommendations for design and construction of about 8,000 driven pile foundations including modeling driving in the WEAP, mechanically stabilized earth (MSE) walls, and wick-drain/surcharge design to reduce post-construction embankment settlement, in accordance with AASHTO LRFD specifications for highway bridges. In addition, the GeoEngineers' team monitored MSE wall construction, provided PDA/CAPWAP evaluation of the piles during installation, and installed liquid settlement sensors to monitor embankment settlement.
01/10-12/12	LADOTD, I-12 Widening (Amite River to Juban Road) Design Build, Denham Springs, LA - Project manager during this design build project. GeoEngineers completed engineering analyses and provided recommendations for design and construction of driven pile foundations for four bridge structures in accordance with AASHTO LRFD specifications for highway bridges, which included PDA/CAPWAP monitoring/evaluations.
09/09-07/11	LADOTD, US90 at LA85 Interchange Design Build, Iberia Parish, LA - Project manager during a design build project in support of the proposed Interchange on US90 at LA85. GeoEngineers' completed engineering analyses and provided recommendations for design and construction of driven pile foundations in accordance with AASHTO LRFD specifications for highway bridges and PDA/CAPWAP monitoring/evaluations. In addition, the GeoEngineers' team analyzed embankment settlement and provided design recommendations for wick drains and surcharge loading to reduce post construction settlement and prevent downdrag loads on the proposed adjacent bridge foundations.

16. Staff Experience:

Firm employed by		GeoEngineers, Inc.		
Name	James Aronstein, Jr., P.E., PLS		Years of relevant experience with this employer	56
Title	Senior Geotechnical Advisor		Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization			B.S. / 1965 / Civil Engineering	
Active registration number / state / expiration date			#PE.0011794 / LA / 03-31-2027 #PLS.0000458 / LA / 03-31-2027	
Year registered	1969 (PE); 1970 (PLS)	Discipline	Civil Engineer Professional Surveyor	
Contract role(s) / brief description of responsibilities			Geotechnical Quality Assurance/Quality Control (Satisfies MPR #9) Jim has provided geotechnical services on private, industrial, and public facilities since 1969, with extensive, significant expertise in the transportation industry. He has been the engineer of record for the majority of GeoEngineers' Louisiana road and bridge projects over the past 30 years, including LA DOTD statewide retainer contracts for geotechnical investigations and project-specific programs. His projects include the I-210 at Cove Lane Interchange; I-49/US90 Widening over LA182 and BNSF Railroad Design-Build; 37-mile extension of I-49 North through Louisiana, I-220 to the Arkansas state line; Rigolets Pass Bridge project on US 90; numerous off-system bridge sites for LA DOTD through local consultants; and work on the East Baton Rouge Parish Green Light roads and streets improvements plan. Jim's role has involved managing and executing engineering analyses and reports, field exploration, site access, drilling technology evaluation, exploration conduct, laboratory test assignments, and quality control of the generated work product	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
10/21-06/22	LADOTD, Jimmie Davis Bridge Prelim Explorations; Caddo and Bossier Parishes, LA - GeoEngineers completed the fast-tracked preliminary geotechnical exploration and testing for this high-profile design-build project that is in preparation for the replacement of the Jimmie Davis Bridge over the Red River, along LA 511 in Bossier City, Louisiana.			
01/19-11/24	LADOTD, I-10/Loyola Interchange Design Build; Kenner, LA - GeoEngineers completed the geotechnical exploration, testing, engineering and modeling driving in the WEAP and conducting PDA/ CAPWAP testing monitoring/evaluations for this high-profile project in Kenner that will ultimately improve the Loyola Drive interchange to increase operational efficiency and traffic capacity. Jim served as principal-in-charge.			
05/18-04/19	LADOTD, I-20/I-220 (Barksdale AFB) Design Build, OV/QA; Bossier Parish, LA - Principal-in-charge for GeoEngineers' OV/QA role in this design-build project which involves interchange improvements (piles, shafts, embankments and PDA / CAPWAP) that will increase access to the Barksdale Air Force Base in Bossier Parish.			
08/17-11/20	LADOTD, I-10 Widening (Highland to LA-73) Design Build, OV/QA; Baton Rouge, LA - Jim was the principal-in-charge for GeoEngineers' OV/QA role in this highly-anticipated I-10 project that involved PDA / CAPWAP monitoring/ evaluations for widening a 6.5-mile segment of I-10 from four lanes to six lanes between Highland Road and LA-73.			
04/15-11/17	LADOTD, US-90/LA-318 Interchange Design Build; St. Mary Parish, LA - Principal-in-charge during this design-build project in support of the proposed Interchange on US90 at LA318. GeoEngineers performed the geotechnical design including drilling, log review, test assignments, pile design, settlement analysis, embankment monitoring, and embankment design. We also conducted extensive settlement modeling to demonstrate that the aggressive schedule for this project can be met along with modeling driving in the WEAP. During construction, we conducted PDA/CAPWAP testing to keep the schedule progressing.			

02/13-04/13	LADOTD, I-49/US90 Widening over LA182 and BNSF Railroad; Lafayette, LA - This was a LA DOTD widening project in preparation for upgrading US90 to I-49 from Albertson Road to Ambassador Caffery where Jim was the principal-in-charge in conducting bridge and roadway borings, and laboratory tests in support of design of this bridge and roadway widening project located just south of Lafayette. GeoEngineers completed 119 borings for the project on a fast-track schedule utilizing multiple drill rigs to meet the deadline.
08/12-04/15	LADOTD, I-210 at Cove Lane Interchange; Lake Charles, LA - Principal-in-charge during this fast-track design and construction project in support of the proposed Interchange on I-210 at Cove Lane. GeoEngineers coordinated a field investigation including multiple simultaneous drilling and CPT rigs, with lane closures and traffic control and completed engineering analyses while providing recommendations for design and construction of about 8,000 driven pile foundations, MSE walls, and wick-drain/surcharge design to reduce post-construction embankment settlement, in accordance with AASHTO LRFD specifications for highway bridges. In addition, the GeoEngineers' team monitored MSE wall construction, provided PDA/CAPWAP evaluation of the piles during installation, and installed liquid settlement sensors to monitor embankment settlement.
01/10-12/12	LADOTD, I-12 Widening (Amite River to Juban Road) Design Build, Denham Springs, LA - Principal-in charge during this design build project. GeoEngineers completed engineering analyses and provided recommendations for design and construction of driven pile foundations for four bridge structures in accordance with AASHTO LRFD specifications for highway bridges, which included PDA/CAPWAP monitoring.
09/09-07/11	LADOTD, US90 at LA85 Interchange Design Build; Iberia Parish, LA - Principal-in-charge during this design-build project in support of the proposed Interchange on US90 at LA85. GeoEngineers' completed engineering analyses and provided recommendations for design and construction of driven pile foundations in accordance with AASHTO LRFD specifications for highway bridges and PDA/CAPWAP monitoring. In addition, the GeoEngineers' team analyzed embankment settlement and provided design recommendations for wick drains and surcharge loading to reduce post construction settlement and prevent downdrag loads on the proposed adjacent bridge foundations.
04/07-04/09	LADOTD, I-49 North; Caddo Parish, LA - This was a LA DOTD Priority 1 Mega Project where Jim led the GeoEngineers' team in conducting bridge and roadway borings and laboratory tests before bridges were constructed and pavement was laid on then 36-mile northward extension in Louisiana. GeoEngineers completed 166 borings for the project. At some sites, the team had to overcome the challenge of drilling exploratory borings at the same time LA DOTD cleared the area for construction, disturbing the site where samples are taken.

16. Staff Experience:

Firm employed by		GeoEngineers, Inc.		
Name	Brenda Novoa, P.E.		Years of relevant experience with this employer	3
Title	Senior Geotechnical Engineer		Years of relevant experience with other employer(s)	22
Degree(s) / Years / Specialization			M.S. / 2003 / Civil Engineering B.S. / 1999 / Civil Engineering	
Active registration number / state / expiration date			#PE.0033665 / LA / 03-31-2028	
Year registered	2008	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Geotechnical Project Manager (Satisfies MPR #9) Brenda is a geotechnical engineer with 26 years of experience in geotechnical field work and engineering in Louisiana and Puerto Rico. Her daily responsibilities include the management of projects from the proposal stage to report distribution. Brenda is directly involved with the field exploration crews, constantly in direct contact with clients to gather project data and solve any challenging issues that arise in their projects, and conducts onsite soil observations and analyzes field and lab data to develop engineering recommendations for commercial, industrial, municipal, state, and federal projects. Her geotechnical experience includes data evaluation and engineering analysis including slope stability analysis, shallow and deep foundation recommendations per LRFD design requirements for LA DOTD projects, and settlement analysis, among others.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
11/24-06/25	LADOTD, Bonne Idee Rd Bridge Geotechnical Explorations & Lab; Bonita, LA - Project engineer for this project. The project consisted of geotechnical field and laboratory testing services to determine the soil conditions at the bridge’s site and the preparation of final boring logs in LADOTD format.			
11/24-05/25	LADOTD, Spring Bayou Road over Spring Bayou; Goudeau, LA - Project engineer for this project. The project consisted of geotechnical field and laboratory testing services to determine the soil conditions at the bridge’s site and the preparation of final boring logs in LADOTD format.			
04/24-Present	LADOTD, P3 I-10 Calcasieu River Bridge Geotechnical Engineering Services; Lake Charles, LA - Senior project engineer for this historic public-private partnership (P3) that will redesign and renovate a six-mile stretch of I-10 running through Lake Charles—including the Calcasieu River Bridge itself, which has been outdated for decades. The finished project aims to improve traffic capacity with three through lanes in each direction, and renovate interchanges, shoulders, and bridges through the I-10 corridor to meet modern engineering standards and transportation needs. GeoEngineers’ scope includes geotechnical design for bridge foundations, embankment slopes and retaining walls, lab testing, drilling, construction monitoring, and environmental support to deal with explorations within a known contamination plume. Brenda is helping with the coordination of the field and laboratory testing activities and with the evaluation of the data obtained for the geotechnical designs.			
06/20-04/22	MOVEBR, Hennessy Boulevard to Perkins Road Connector; Baton Rouge, LA - Project manager for this project. The project consisted of design and construction of a new 2,600 feet long connector roadway and railroad underpass bridge. The project included depressing the new roadway under the existing KCS railroad track to provide grade separation from the railroad. The project also included a new drainage pump station. Retaining structures, sheet piles or otherwise, were required for temporary support of one track of the R/R while the other is constructed to maintain operations of the R/R. The proposed new connector roadway was designed to be constructed to connect Hennessy Boulevard and Perkins Road in Baton Rouge, Louisiana. The scope of work consisted of performing soil borings along the proposed roadway and the required laboratory testing to evaluate the existing subsurface soils conditions to			

	provide recommendations for: an effective pavement section, deep foundations to support the railroad bridge and proposed retaining walls, and retaining wall design parameters.
02/20-04/22	MOVEBR, Jones Creek Road Extension: Jefferson Highway to Airline Highway; Baton Rouge, LA - Project manager for this project. The project consisted of design and construction of a new, approximately 0.70-mile long, four-lane roadway extension to connect Jefferson Highway to Airline Highway, near Jones Creek Boulevard in Baton Rouge, Louisiana. The scope of work consisted of performing soil borings along the proposed roadway and the required laboratory testing to evaluate the existing subsurface soils conditions to provide recommendations for an effective pavement section.
01/17-09/19	LADOTD, Bayou Terrebonne; Terrebonne Parish, LA - Project engineer for the geotechnical exploration phase of this project. The project consisted of geotechnical field and laboratory testing services to determine the soil conditions at the bridge's site and the preparation of final boring logs in LA DOTD format.
01/17-09/19	LADOTD, US-80 Overpass at KCS RR; Lincoln Parish, LA - Project engineer for the geotechnical exploration phase of this project. The project consisted of geotechnical field and laboratory testing services to determine the soil conditions at the bridge's site and the preparation of final boring logs in LA DOTD format.
01/17-09/19	LADOTD, Nelson Road Extension and Bridges; Calcasieu Parish, LA - Project engineer for this project. The project consisted of geotechnical field and laboratory testing services to determine the soil conditions at the bridge's site and the preparation of final boring logs in LADOTD format and providing pile foundations recommendations for the proposed bridges.
01/17-09/19	LADOTD, Bayou Chevreuil Bridge Widening; St. James Parish, LA - Project engineer for the geotechnical exploration phase of this project. The project consisted of geotechnical field and laboratory testing services to determine the soil conditions at the bridge's site and the preparation of final boring logs in LA DOTD format.
01/10-12/11	LADOTD, Bridge Scour Projects; Statewide, LA - Project engineer for the Bridge Scour project for over 100 bridge locations across the state of Louisiana. The project consisted of the determination of soil parameters and calculation of pile capacities of existing bridge foundations.

16. Staff Experience:

Firm employed by	GeoEngineers, Inc.		
Name	Anthony (Chien-An) Ju, P.E.	Years of relevant experience with this employer	5
Title	Staff Geotechnical Engineer	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization	M.S. / 2020 / Civil Engineering B.S. / 2018 / Civil Engineering		
Active registration number / state / expiration date	#PE.00050514 / LA / 03-31-2028		
Year registered	2025	Discipline	Civil Engineer Other Pertinent Training / Certifications Traffic Control Technician (The American Traffic Safety Services Association)
Contract role(s) / brief description of responsibilities	Geotechnical Engineer Anthony is a staff engineer who is actively involved in many of GeoEngineers' geotechnical explorations and evaluations since joining the firm in 2021. Anthony has been involved in many GeoEngineers projects, including LADOTD and CPRA projects listed below, performing field investigations using land-based, water-based, and amphibious drilling equipment.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
04/24-Present	LADOTD, P3 I-10 Calcasieu River Bridge Geotechnical Engineering Services; Lake Charles, LA - Project manager for this historic public-private partnership (P3) that will redesign and renovate a six-mile stretch of I-10 running through Lake Charles, including the Calcasieu River Bridge itself, which has been outdated for decades. The finished project aims to improve traffic capacity with three through lanes in each direction, and renovate interchanges, shoulders, and bridges through the I-10 corridor to meet modern engineering standards and transportation needs. GeoEngineers' scope includes geotechnical design for bridge foundations, embankment slopes and retaining walls, lab testing, drilling, construction monitoring, and environmental support to deal with explorations within a known contamination plume. Anthony coordinates laboratory assignments and assists with the preparation of the bridge design report.		
01/19-11/24	LADOTD, I-10/Loyola Interchange Design Build; Kenner, LA: Anthony provided field monitoring of driven piles, including PDA and CAPWAP analysis for capacity. GeoEngineers completed the geotechnical exploration, testing and engineering for this high-profile project in Kenner that will ultimately improve the Loyola Drive interchange to increase operational efficiency and traffic capacity.		
10/21-Present	CPRA, East Orleans Landbridge Restoration (PO-191); Orleans Parish, LA - Served as a staff geotechnical engineer supporting the engineering analyses by reviewing field and laboratory data and selection of design soil parameters. This project will create approximately 1,563 acres of marsh which will be created and nourished by hydraulically dredging material from two potential locations – Lake Pontchartrain and Lake St. Catherine. The fill areas will be formed by constructing earthen containment dikes around the boundaries of each marsh creation area (MCA). GeoEngineers has performed field investigations and geotechnical analyses along with laboratory testing and reporting.		
02/21-11/21	CPRA, Phoenix Marsh Creation Project – East Increment (BS-0042) and West Increment (BS-0044); Plaquemines Parish, LA - Staff geotechnical engineer providing support with engineering analyses. The objective of the East Increment is to create and nourish approximately 392 acres of marsh and the objective of the West Increment is to create and nourish approximately 411 acres of marsh. His role included organizing and managing the field exploration efforts for the marsh creation areas and the borrow area in the Mississippi River. In addition, Anthony was instrumental in the engineering analyses for the marsh creation areas including stability of earthen containment dikes and marsh settlement.		
07/20-12/22	CPRA, Cameron Meadows Marsh Creation and Terracing (CS-66); Cameron Parish, LA - Served as a staff geotechnical engineer supporting the construction monitoring collecting sediment samples of the placed marsh fill for further analysis for this multi-faceted project that included marsh creation, terraces, a water control culvert structure, and an underground highway crossing for a hydraulic fill pump line.		

16. Staff Experience:

Firm employed by	GeoEngineers, Inc.		
Name	Kyle Kilfian, WWC	Years of relevant experience with this employer	12
Title	Drilling Manager	Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization	B.S. / 2007 / Mechanical Engineering		
Active registration number / state / expiration date	Water Well License: #724 LA 06-30-2026		
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities	Drilling Manager Kyle has been with GeoEngineers since 2014 and has excelled on a variety of projects involving geotechnical soil borings, environmental soil borings, construction monitoring, and cone penetration test (CPT) soundings. All field work has required coordination with clients, contractors, project engineers, landowners, and pipeline representatives. Kyle provides detailed daily field reports, including site photographs generated to document field activities. He also oversees the fabrication and modification of equipment depending upon project requirements and client specifications. Kyle has conducted geotechnical explorations that involved multiple CPT soundings and soil borings for several LA DOTD projects, including Caddo Lake Bridge, LA 485 Bridges, and the Tangipahoa River Bridge Replacement.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
02/24-Present	LADOTD, LA 835 Boeuf River Bridge; Near Concord, Richland Parish, LA - GeoEngineers is conducting geotechnical explorations and laboratory testing results for Phase 2 of the LA 561 Boeuf River Bridge Replacement project located near Hebert in Caldwell and Richland Parishes, LA. Kyle performed CPT soundings and soil borings for this project. The scope includes drilling eight soil borings, including five over water to depths of 110 feet below ground surface, evaluating soil properties in our laboratory, and consolidating data and findings into a report.		
01/19-11/24	LADOTD, Loyola Dr. I-10 Interchange to New Airport Terminal, Jefferson Parish, LA - GeoEngineers completed the geotechnical exploration, testing and engineering for this high-profile project in Kenner that will ultimately improve the Loyola Drive interchange to increase operational efficiency and traffic capacity. Kyle performed CPT soundings and soil borings for this project.		
08/12-07/15	LADOTD, I-210 Interchange at Cove Lane, Lake Charles, LA - Kyle performed CPT soundings and soil borings during this fast-track design and construction project in support of the proposed Interchange on I-210 at Cove Lane with a field investigation including multiple simultaneous drilling and CPT rigs, with lane closures and traffic control. GeoEngineers’ completed engineering analyses and provided recommendations for design and construction of about 8,000 driven pile foundations.		

16. Staff Experience:

Firm employed by		GeoEngineers, Inc.		
Name	Dustin Blanchard		Years of relevant experience with this employer	2
Title	Laboratory Manager		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			B.S. / 2005 / Business Marketing	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A	
			Other Pertinent Training / Certifications ACI Aggregate Base Testing Technician Certification (#02215574, expires 2/11/2030)	
Contract role(s) / brief description of responsibilities			Laboratory Manager Dustin manages GeoEngineers’ Baton Rouge geotechnical laboratory and the four staff that assist with running the lab. He maintains strict records for all calibrations, test forms, and other documentation that are required to keep the lab in good standing. The lab currently holds an AASHTO accreditation, DEQ accreditation, and an USACE Laboratory validation. He is also assigned to manage the soil testing database and associated upgrades and changes.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/24-6/24	Lafayette Consolidated Government, Verot School Rd Bridge Repair Project, Lafayette, LA - Dustin oversaw all laboratory testing and reporting during this project which involved a soil nail design and road embankment slope analysis. He managed the project from field exploration to lab testing, through technical analysis and report development.			
04/22-Present	LADOTD, I-10 Calcasieu River Bridge P3, Lake Charles, LA - Dustin has overseen the laboratory testing and reporting for this historic public-private partnership (P3) that is redesigning and renovating a six-mile stretch of I-10 running through Lake Charles, including the Calcasieu River Bridge itself, which has been outdated for decades. The finished project aims to improve traffic capacity with three through lanes in each direction, and renovate interchanges, shoulders, and bridges through the I-10 corridor to meet modern engineering standards and transportation needs. GeoEngineers’ scope includes geotechnical design for the bridge foundations, embankment slopes and retaining walls; lab testing; drilling; construction monitoring; and environmental support to deal with explorations within a known contamination plume.			
10/21-Present	LA CPRA, East Orleans Landbridge Restoration (PO-191), Orleans Parish, LA - GeoEngineers is conducting engineering analyses by review of field and laboratory data, and the selection of design soil parameters. This project will create approximately 1,563 acres of marsh which will be created and nourished by hydraulically dredging material from two potential locations – Lake Pontchartrain and Lake St. Catherine. The fill areas will be formed by constructing earthen containment dikes around the boundaries of each marsh creation area (MCA). Dustin is conducting the laboratory and testing for this project.			

16. Staff Experience:

Firm employed by				KTA-Tator, Inc.			
Name		Robert Lanterman		Years of relevant experience with this employer		24	
Title		Supervisor-Other (Senior Coatings Consultant)		Years of relevant experience with other employer(s)		6	
Degree(s) / Years / Specialization			B.E. / 1999 / Chemical Engineering				
Active registration number / state / expiration date			N/A				
Year registered		N/A		Discipline		N/A	
						Other Pertinent Training / Certifications	
						AMPP Senior Certified Coatings Inspector (#13505; expiration 5/23/2028)	
						AMPP Certified Protective Coatings Specialist (#2015-820-136; expiration 12/31/2027)	
						AMPP Senior Certified Coatings Inspector w/Marine Specialty (#13505; expiration 5/23/2028)	
Contract role(s) / brief description of responsibilities				Senior Coatings Consultant			
Experience dates (mm/yy–mm/yy)		Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).					
06/25-Present		Pennsylvania Department of Transportation, Harrisburg, PA - Mr. Lanterman is providing sampling services and supervising laboratory heavy metals testing services for a rehabilitation of the coating system on the Fort Duquesne Bridge in Pittsburgh, PA. KTA is a subconsultant to another engineering firm.					
03/24-04/24		Louisiana Department of Transportation and Development, Baton Rouge, LA - Mr. Lanterman performed document review and coating condition assessment services for the US 190 Krotz Springs Bridges (eastbound and westbound) in St. Landry Parish. He prepared a report detailing the findings of the assessment and provided recommendations for the maintenance of the coating system on this bridge. KTA was a subconsultant to another engineering firm.					
03/22-03/22		South East Philadelphia Transportation Authority (SEPTA), Philadelphia, PA - Mr. Lanterman evaluated the existing coating condition (visual examination, coating thickness and adhesion measurements, substrate examination, and coating sample procurement) on the eastern end of the Market Street Frankford Elevated Viaduct and provided recommendations on appropriate maintenance strategies, opinions of probable construction cost, and modification of the existing SEPTA surface preparation and coating application specifications for use in bidding the work to prospective contractors. KTA was a subconsultant to another engineering firm.					
09/21-12/21		Louisiana Department of Transportation and Development, Baton Rouge, LA - Mr. Lanterman performed a coating condition assessment and assisted with the development of surface preparation, coating application, and environmental/worker protection and containment specifications/drawing notes for a rehabilitation of the IWGO Bridge in Baton Rouge. KTA was a subconsultant to another engineering firm.					
07/20-08/20		Cuyahoga County (OH) Department of Public Works, Cleveland, OH - Mr. Lanterman provided coating condition assessment supervision for coatings laboratory testing, development of a maintenance painting strategy and recommendations, and development of an opinion of probable costs for the maintenance painting of the Denison Harvard Bridge in Cleveland. KTA was a subconsultant to another engineering firm.					
02/20-05/20		Louisiana Department of Transportation and Development, Baton Rouge, LA - Mr. Lanterman provided coating condition assessment services, supervision of coatings laboratory testing, and report preparation for rehabilitation of the coating system on the Jackson Street (Red River) Lift Bridge in Alexandria, LA. KTA was a subconsultant to another engineering firm.					
02/18-06/19		Delaware River Port Authority, Camden, NJ - Mr. Lanterman provided coating consulting and project engineering services for a coating condition assessment of the NJ approach spans to the Walt Whitman Bridge in Gloucester, NJ. He performed a coating condition assessment of the spans to develop future maintenance painting strategies. KTA was a subconsultant to another engineering firm.					
03/17-05/17		Louisiana Department of Transportation and Development, Baton Rouge, LA - Mr. Lanterman performed a coating condition assessment, supervised coatings laboratory testing, and prepared a report with recommendations for the rehabilitation of the coating system on the US 90 Morgan City Bridge and Nearby Structures in Morgan City, LA. KTA was a subconsultant to another engineering firm.					



02/17-03/17	Louisiana Department of Transportation and Development, Baton Rouge, LA - Mr. Lanterman performed a condition assessment of the weathering steel tower and girders on the I-310 Luling Bridge in Luling, LA. He prepared a report detailing the conditions found and providing recommendations for the remediation of the corrosion problems on this bridge. KTA was a subconsultant to another engineering firm.
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16. Staff Experience:

Firm employed by				KTA-Tator, Inc.	
Name	Jayson Helsel, P.E.		Years of relevant experience with this employer		27
Title	Senior Coating Consultant		Years of relevant experience with other employer(s)		10
Degree(s) / Years / Specialization			M.S., Chemical Engineering, University of Michigan B.S., Applied Science with High Honors, US Coast Guard Academy		
Active registration number / state / expiration date			#PE.0030090) / LA / 09-30-2026		
Year registered	2002	Discipline	Other Pertinent Training / Certifications AMPP Senior Certified Coatings Inspector (#N-7356; expiration 3/31/2028) AMPP Certified Protective Coatings Specialist (#2011-930-152, expiration 12/31/2027) AMPP Certified Concrete Coatings Inspector (#25374, expiration 10/31/2027)		
Contract role(s) / brief description of responsibilities			Senior Coatings Consultant		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
03/26-Present	St. Francisville Bridge over the Mississippi River, St. Francisville, LA - As a subconsultant, KTA completed a corrosion assessment with the purpose of determining the condition of the exposed weathering steel members and condition of the existing coatings on the painted portions of the structure in order to develop a maintenance painting strategy. As part of the preliminary design services, Mr. Helsel provided a coating condition assessment (visual, coating thickness, adhesion) sampling, laboratory testing (infrared spectroscopy and lead, cadmium, and chromium testing), chloride testing/remediation, provided maintenance painting recommendations for this project, and provided an opinion of probable construction costs.				
04/25-11/25	Dulac Bayou Bridge Coating Assessment, Dulac, LA – The bridge carries LA0057 and two lanes of traffic plus two sidewalks for pedestrians over the Dulac Bayou. The total bridge length is 460 feet with a swing span length of 135 feet, including an open grid deck design. The bridge was constructed in 1971 and most of the structure reportedly still has the original coating system. As a subconsultant to TRC Engineers during the preliminary design services, Mr. Helsel provided a coating condition assessment (visual, coating thickness, adhesion) sampling, laboratory testing (infrared spectroscopy and lead, cadmium, and chromium testing), chloride testing/remediation, provided maintenance painting recommendations for this project, and provided an opinion of probable construction costs.				
09/18-09/24	New York City Department of Transportation, Williamsburg Bridge Recoating, New York, NY - As a subconsultant to TY Lin/Louis Berger, KTA began providing coatings-related services for this project. These services included: reviewing existing documents; conducting a coating condition assessment; evaluating coating rehabilitation options and coating systems; developing an opinion of probable costs of construction; developing/modifying technical special provisions for painting, containment and environmental, worker protection and waste disposal; providing coatings-related construction support services; and attending project meetings as directed. Mr. Helsel provided coatings engineering/consulting services for KTA on this contract.				
06/17-06/20	Port Authority of NY and NJ, On-Call Structural Coating Consulting Services Agreement - KTA provided coatings-related services on this third consecutive contract with PANYNJ (426-17-050A – 2017-2020). Structural coating consulting services consisted of, but were not limited to, performing coating condition assessments, conducting coating condition analyses, proposing painting priorities for steel structures, laboratory paint testing for composition and physical properties, coating failure analysis, and developing technical specifications for the cleaning and painting of steel structures. Mr. Helsel provided coatings engineering/consulting services for KTA on this contract.				
07/17-08/19	Coating Rehabilitation on the Rainbow Bridge, Whirlpool Rapids Bridge, and Lewiston-Queenston Bridge owned by the Niagara Falls Bridge Commission - The purpose of the assessments was to determine the condition of the existing coatings on the structures to develop maintenance painting strategies. Reports were prepared detailing the results of the field inspection and testing, laboratory analysis of field samples, and a discussion of results and recommendations for the repair/replacement of the coating system on these bridges. KTA then prepared contract documents (specifications) for the coating work on the bridges. Mr. Helsel provided coatings engineering/consulting services for KTA on this project.				



05/17-06/19	Coating-Related Support for the Betsy Ross Bridge, Philadelphia, PA - As a subconsultant, KTA provided as-needed technical coatings-related support services on this project involving painting and steel repairs to the New Jersey approach to this bridge (Contract BR-19-2016 Phase I). Specifically, KTA assisted in the review of coatings-related contractor submittals (e.g., Containment Working Drawings/Procedures (SSPC Guide 6), Lead Health and Safety Compliance Program, Waste Handling Plan, Environmental Compliance Plan, Surface Preparation and Painting Plans, Coating Materials Submittals, etc.) for general conformance with the requirements of the project construction specification. Mr. Helsel provided coatings engineering/consulting services (coatings submittal review) for KTA on this project.
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16. Staff Experience:

Firm employed by				Bridge Diagnostics, Inc. (BDI)			
Name		Brice Carpenter, P.E.		Years of relevant experience with this employer		17	
Title		Senior Engineer		Years of relevant experience with other employer(s)		0	
Degree(s) / Years / Specialization				B.S. / 2007 / Civil Engineering M.S. / 2009 / Civil Engineering			
Active registration number / state / expiration date				#PE.0039341 / LA / 03-31-2027			
Year registered		2014		Discipline		Civil Engineer	
Contract role(s) / brief description of responsibilities				Instrumentation / Field Based Evaluation Brice joined BDI in 2009 and serves as a Senior Technical Engineer, Engineering Department Lead, and Subject Matter Expert in data-driven structural evaluation for bridge asset management. He has led the non-destructive testing and evaluation of hundreds of bridges, delivering reliable data to support lifecycle planning and preservation decision-making. His experience includes planning and executing field investigations; deploying instrumentation and data acquisition systems; analyzing structural response data; performing routine and complex structural evaluations and developing actionable results and recommendations. He is proficient in advanced evaluation methods, including conventional and field-verified load rating analysis, as well as structure- and component-specific assessments in accordance with specifications relevant to this proposal: AASHTO (ASD, LFD, LRFD) and LADOTD BDEM standards. Throughout his career, Brice has focused on delivering accurate, actionable results that enable transportation agencies to optimize maintenance, extend service life, and maximize the value of bridge assets through effective, data-driven preservation strategies.			
Experience dates (mm/yy–mm/yy)		Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).					
10/24-Present		Multi-Phase Field-Verified Evaluation of the Bayou Ramos Bridges, Louisiana Department of Transportation and Development / Morgan City - The Bayou Ramos bridges are currently load posted due to deterioration present along many of the prestressed concrete girder ends. To reevaluate these structures’ current live-load capacity, BDI was contracted to provide a multi-phase evaluation. This evaluation included an initial load rating evaluation where multiple strut-and-tie method (STM) procedures were considered and evaluated, a diagnostic load test-based evaluation used to validate both structural behavior and STM capacity assumptions, and a monitoring program set to provide crucial information on the current activity level of the observed deterioration. Brice Carpenter served as project engineer responsible for testing/monitoring plan development and application, evaluation team management, and QA/QC of various project tasks.					
07/24-02/25		Refined Load Rating of Falmouth Bridge for Emergency Repair Response, Virginia Department of Transportation/ Fredericksburg District - Inspections on the Falmouth Bridge carrying Cambridge St. (US-1) over the Rappahannock River in Falmouth, VA showed significant advancement of corrosion of steel members, especially floorbeams and beam/girder ends near deck expansion joints. BDI performed diagnostic load testing and used the accumulated data to calibrate a finite-element model of the bridge for use in a load rating evaluation. Load rating results indicated that the deterioration of the girders and floorbeams resulted in significantly deficient ratings for these members. BDI’s assessment identified emergency repairs for this structure. Mr. Carpenter served as project engineer responsible for overseeing the testing plan design, development and implementation, field-verified finite element modeling, load rating, and reporting.					
01/25-02/25		Bayou La Loutre Bridge Balance Testing, CEC - As part of CEC’s rehabilitation of this vertical lift bridge in Yscloskey, LA, BDI provided bridge balance testing services. This evaluation was performed by installing torque sensors attached to the operating shafts and using the collected response data					

	to compute balance criteria for the structure. Brice served as the project engineer, responsible for client coordination, design and implementation of instrumentation plans, data processing and assessment, balance calculations, and reporting.
01/24-03/24	Load Test & Field-Verified Load Ratings for CFRP Retrofit Bridge, VDOT Fredericksburg District - As part of the structure's repair plan, the condition of this historic reinforced concrete T-beam bridge was assessed following a CFRP retrofit. BDI was contracted to perform diagnostic load testing and subsequent field-verified load rating as part of the approval process for the repair strategy utilized. Submittals included load testing and rating reports presenting the collected data and providing results of the evaluation. Brice Carpenter served as lead analysis and load rating engineer for this project, responsible for instrumentation and testing plan design and implementation, field-verified finite-element modeling, load rating calculations, and reporting.
10/21-05/22	Load Test and Field-Verified Load Ratings of 10 Structures, Louisiana Department of Transportation and Development (LADOTD)/Forte & Tablada - BDI performed refined load ratings of ten structures based on diagnostic load testing of each structure. The evaluated structures ranged from short-span reinforced concrete slabs to culverts of various types with minimal fill depths. In all cases, the bridges were selected for refined analysis based on their inability to meet posting requirements using more standard evaluation techniques. BDI's approach served to validate structure response characteristics in an effort to increase or remove posting requirements. Mr. Carpenter was the lead analysis engineer for the project and provided instrumentation plan design, finite-element model calibration and analysis, load rating calculations, and related reporting.
04/21-05/21	Bayou Teche Pier Testing, Louisiana Department of Transportation and Development (LADOTD) - As part of a Forte and Tablada DOTD complex inspection task order, BDI assisted the inspection team quantify movement observed by their team in the center pier of this swing bridge during operation. Rotation and displacement of the pier were measured during bridge openings to access this inspection finding. Mr. Carpenter was the project engineer responsible for testing plan development, installation of instrumentation and data acquisition, assessment of data quality during testing procedures, analysis and interpretation of accumulated data, and report generation.
07/20-01/21	LA 507 Over I-20 ABC Span Move Monitoring, JB James Construction LLC - During the replacement of this bridge's superstructure, accelerated bridge construction was utilized where spans were cast nearby and moved into place during short outages. BDI provided monitoring services during the span moves. Mr. Carpenter was a field/analysis engineer responsible for installation of instrumentation and data acquisition, data collection during span move operations, on-site data analysis and interpretation, data processing and reporting.

16. Staff Experience:

Firm employed by		Bridge Diagnostics, Inc. (BDI)		
Name	Brett Commander, P.E.		Years of relevant experience with this employer	36
Title	Vice President / Principal		Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization			B.S. / 1986 / Civil Engineering M.S. / 1989 / Structural Engineering	
Active registration number / state / expiration date			#PE.0035864 / LA / 03-31-2027	
Year registered	2010	Discipline	Civil Engineer	
Contract role(s) / brief description of responsibilities			Inspection Lead / NDT Engineer Brett is a co-founder of BDI and has led the engineering team for more than 32 years. He started his engineering career developing software and analytical methods for realistic assessment of structural performance, particularly dealing with load distribution of various bridge types and understanding loading applied to bridges. All of BDI’s modeling procedures have been compared with and calibrated to actual response measurements during live-load tests and structural health monitoring applications. His experience with vehicle load considerations includes Bridge Weigh-in-Motion research and numerous super-heavy load tests and permit load ratings on more than 500 highway and railway bridges using a variety of design codes such as AASHTO, LADOTD BDEM, and many state-specific codes including Louisiana specifications. He now leads a team of engineers to accurately assess bridge performance through instrumentation and data-driven methods. Brett is currently a licensed professional engineer in 30 states (including Louisiana), primarily since heavy permit truck routes typically cross state lines. He has also designed/overseen capacity testing projects of concrete and steel structures using various NDE techniques and has implemented hundreds of structural monitoring systems.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/23-Present	United States Army Corps of Engineers, Instrumentation and Monitoring IDIQ, US Army Corps of Engineers, Walla Walla District - Brett serves as the Principal-in-Charge responsible for instrumentation, structural testing, and structural health monitoring of mechanical and structural systems at several dams in the northwest region. Mr. Commander’s role is to address issues presented by USACE project personnel and develop instrumentation methods that best answer complex problems regarding the condition and behavior of structural systems. He manages BDI engineers in the design and implementation of testing and monitoring programs to achieve this goal. This IDIQ \$7M/5-year contract is available to all districts in the northwest region.			
02/23-Present	Virginia DOT Statewide Instrumentation and Monitoring On-Call, Virginia Department of Transportation (VDOT) - As Subject Matter Expert in the areas of instrumentation, structural testing, and monitoring for the duration of this contract, Mr. Commander’s role is to develop monitoring and quality control plans to address specific structural concerns on bridges, tunnels, and ancillary systems. This includes developing monitoring scopes, provisioning instrumentation and data acquisition, and overseeing teams of engineers and technicians to install and maintain monitoring systems. Various monitoring methods and structural evaluation techniques are implemented, from Automated Total Stations to strain gage installation and load testing to geotechnical monitoring systems. The current IDIQ is a \$7M per year contract for up to four years. BDI held the previous contract 2017-2022, which was a \$3 million two-year contract with two renewable terms.			
07/22-09/22	Nondestructive Evaluation of the Eight (8) USDA Forest Service Bridges, MT and ID, USDA Forest Service / Great West Engineering - BDI performed nondestructive evaluation (NDE) of eight bridges around Missoula, Montana, and northeastern Idaho. These structures are owned and managed by the National Forest Service and are a combination of reinforced concrete slabs, prestressed concrete slabs, prestressed double tees, and concrete arches. Due to the lack of available as-built drawings, various non-destructive and minimally destructive techniques were utilized to determine critical information			

	and calculate load ratings. Techniques included ground penetrating radar (GPR), Ultrasonic Shear Wave Tomography (USWT), and removal of concrete cover at selected locations to assess bar/strand size, shape, and cover depth. The collected data helped determine information such as reinforcing steel and prestressing strand location, orientation, size, shape, spacing, and cover depths at each bridge. Overall geometric information such as span length, width, and member dimensions were also obtained and used to prepare a report and develop CAD drawings for each structure. Great West Engineering used this information to calculate load ratings for each structure. Mr. Commander provided PE Review and Sealing of all deliverables.
10/21-05/22	Load Test and Field-Verified Load Ratings of 10 Structures , Louisiana Department of Transportation and Development (LADOTD)/Forte & Tablada - BDI performed refined load ratings of ten structures based on diagnostic load testing of each structure. The evaluated structures ranged from short-span reinforced concrete slabs to culverts of various types with minimal fill depths. In all cases, the bridges were selected for refined analysis based on their inability to meet posting requirements using more standard evaluation techniques. BDI's approach served to validate structure response characteristics in an effort to increase or remove posting requirements. Load rating calculations were performed within the requirements of LADOTD and AASHTO, and load rating reports meeting LADOTD requirements were submitted for each structure. Mr. Commander was Principal Engineer for the project and provided PE Review of all deliverables.
11/12-9/22	US-90 Bayou Ramos Bridge Load Testing and Monitoring , Louisiana Department of Transportation and Development (LADOTD) - Due to unexpected cracking in PS concrete AASHTO beams, BDI performed load tests to determine the cause and effect of cracks in continuous multi-span prestressed concrete girders. Field-verified load ratings were also calculated according to LADOTD specifications, based on a finite-element model calibrated using the collected testing data. After the completion of the initial evaluation, BDI designed and installed monitoring systems on two sections of the structure to monitor its condition. BDI has maintained the structural health monitoring system throughout the project duration, and data collection is still ongoing. As a technical advisor/principal engineer, Mr. Commander oversaw live-load and thermal load monitoring that was performed during and after repairs to evaluate the performance of the retrofit.
01/17 – 1/22	Retainer Contract for Testing Unknown Foundations Statewide (DOTD Contract No. 4400009224) , Louisiana Department of Transportation and Development (LADOTD) - Mr. Commander was the principal investigator for NDT-E services to determine the unknown foundations of 1,857 piles in Louisiana. The project utilized multiple methods of NDT-E, including ultra-seismic testing, parallel seismic survey, sonic echo/impulse response, and guided wave. Thousands of piles have been tested to determine the embedded depth for subsequent NBIS 113 scour evaluation and reporting. BDI also assisted LADOTD in FHWA reporting these items by uploading all reports into AssetWise.

16. Staff Experience:

Firm employed by		Bridge Diagnostics, Inc. (BDI)		
Name	Steven Fall, Jr., P.E.		Years of relevant experience with this employer	7
Title	Project Manager		Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization			B.S. / 2019 / Civil Engineering	
Active registration number / state / expiration date			#PE.0048637 / LA / 09-30-2026	
Year registered	2024	Discipline	Civil Engineer Other Pertinent Training / Certifications NHI #130055, Safety Inspection of In-service Bridges (7/2022) NHI #130078, Fracture Critical Inspection Techniques for Steel Bridges (12/2022) ATSSA Louisiana Traffic Control Supervisor Refresher (9/2025)	
Contract role(s) / brief description of responsibilities			Project Manager Beginning work for BDI in May of 2019, Steve has spent more than 7 years in the private sectors in both non-destructive testing and evaluation and routine infrastructure inspection and monitoring and is the current office manager of the Louisiana office. He has been involved with non-destructive testing and evaluation of hundreds of structures including bridges, buildings, and hydro-structures such as lock gates and spill gates. His involvement in these projects included project management, planning, implementation, installation of instrumentation, testing, data processing, data review, and reporting. Steve is a certified Professional Engineer, ASNT Level I GPR inspector, and Team Lead under FHWA guidelines for routine inspections. He is also a certified traffic control supervisor in the state of Louisiana. He also has worked with various NDE methods for fracture critical techniques including but not limited to Magnetic Particle Testing, Ultrasonic Testing (UT), and Dye Penetrant Testing.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
05/23-Present	Retainer Contract for Non-Destructive Evaluation of Statewide Structures (DOTD Contract 4400025002) – The Louisiana Department of Transportation awarded BDI with the retainer contract for Non-Destructive Evaluation of Statewide Structures. This IDIQ has 8 Task Orders awarded and will continue until 2025. These task orders include but are not limited steel inspection using Ultrasonic testing and Magnetic Particle Testing; deck evaluations via non-destructive testing methods including SoundAR, Ground Penetrating Radar, Infrared Thermography, and High Resolution Imaging; material sampling using coring; NHI routine and fracture critical inspections; and emergency response efforts. Mr. Fall serves as the project manager for this contract and is responsible for the testing plan development and application, team management, and QA/QC of various project tasks.			
11/23-12/23	Paris Road Emergency Bridge Inspection in Chalmette, LA– After noting a critical finding in a routine inspection on bridge recall 001621 by LADOTD on Paris Rd., BDI was called to perform an emergency in-depth inspection on the underside of the structure along with an NDE of the deck. The inspection results lead to repairs on the bridge and the reopening of the structure. Mr. Fall was the inspection lead on this project for both the NBIS emergency inspection and the Non-destructive testing and evaluation of the structure. He was also responsible for the project management and reporting on the structure.			
01/21-05/23	Task Orders for Retainer Contract for Non-Destructive Evaluation of Statewide Structures (DOTD Contract 4400017163) – The Louisiana Department of Transportation awarded BDI with the retainer contract for Non-Destructive Evaluation of Statewide Structures. This IDIQ had 13 Task Orders awarded and lasted until 2023. These task orders include but are not limited steel inspection using Ultrasonic testing and Magnetic Particle Testing;			

	deck evaluations via non-destructive testing methods including SounDAR, Ground Penetrating Radar, Infrared Thermography, and High Resolution Imaging; material sampling using coring; NHI routine and fracture critical inspections; and emergency response efforts. Mr. Fall served as a staff engineer for this project and was responsible for the testing plan development and application, team management, and field application of the various project tasks.
06/22-06/22; 06/23-06/23	Counterweight Balance Testing of the Seabrook Bascule Bridge (Port of New Orleans) in New Orleans, LA –This bridge is a Strauss double heel-trunnion bascule bridge that carries St. Claude Avenue over the Industrial Canal. It is subject to hurricane winds and salt water and therefore has extreme corrosion and operational issues. During an inspection, the counterweight-to-span link bushings were found to be broken and falling out of the bearing hub. BDI was subcontracted by HNTB to measure force and moment in the truss link member and evaluate the span balance and operational friction. Operational test results showed high levels of friction and asymmetry in both the friction and lifting torque. Tests were initially performed to identify operational issues and again after bushings were replaced and drive torque imbalance conditions were addressed. BDI's instrumentation and data analysis was essential to identifying and solving the operational problems. The primary relevance of this project is identification and quantification of operational performance of bascule bridges.
07/19-01/20	Counterweight Balance and Friction Assessment of the St. Claude Bridge (LADOTD) in New Orleans, LA – BDI performed a counterweight Balance and friction assessment of the St. Claude Bridge to assist LADOTD to bring their bridge into lifting specifications and to determine the friction in each member during lifts. Mr. Fall installed all gages on the shafts and some gages on the steel members of the bridge, performed all testing, and helped report on these findings to help LADOTD balance the counterweight in the bridge and analyze the friction in each member. Mr. Fall was a team member responsible for field instrumentation and operational testing.
04/21-05/21	LA 324 over Bayou Teche – As part of Gresham Smith's advanced inspection team, BDI was contracted to perform short-term testing on the pivot pier of this swing bridge. During initial inspection, the pivot pier was observed to significantly rotate/translate during the opening operation. BDI's testing was performed as part of an emergency response to the inspection findings and consisted of taking laser displacement measurements of the pier during operational swings. Through this testing, BDI verified that up to 6" of movement was occurring at the end of the opening operation and provided short- and long-term recommendations. Mr. Fall was a team member responsible for team coordination, field instrumentation and testing, data processing and review, and reporting.

16. Staff Experience:

Firm employed by		Bridge Diagnostics, Inc.	
Name	Jesse Sipple, PhD, P.E.	Years of relevant experience with this employer	12
Title	Vice President, Services Division Manager	Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization		Ph.D / 2013 / Civil Engineering M.S. / 2008 / Civil Engineering B.S. / 2007 / Civil Engineering	
Active registration number / state / expiration date		#PE.0041028 / LA / 03-31-2027	
Year registered	2016	Discipline	Civil Engineer
Contract role(s) / brief description of responsibilities		Inspection Lead / NDT Engineer Dr. Sipple has over 19 years of experience in instrumentation, diagnostic testing, structural health monitoring, and analysis of heavy civil structures, with a focus on bridges. Dr. Sipple's experience includes planning and executing field installations and testing for large, complex projects; project management; development of new methods for monitoring and data processing; and performing detailed analysis and reporting. Dr. Sipple is a licensed Professional Engineer in several states, sits on a variety of technical committees, and was the former chair of the ASCE SEI Methods of Monitoring Structural Performance Committee. Dr. Sipple is the Engineering Division Manager at BDI. His role includes overseeing the testing, monitoring, and engineering groups, including oversight in both the operation of the division as well as technical oversight of active projects. Dr. Sipple's research expertise is in dynamic testing of bridges for the purpose of parameter estimation through finite element model updating. Dr. Sipple's research on parameter estimation for model calibration was using both static and dynamic data to update finite element models based on field measured structural response data.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
07/18-08/18 07/23-08/23	Bear River Bridge Dynamic Testing – BDI was contracted by Stantec to perform dynamic tests on the Bear River Siphon Bridge near Auburn, CA. The bridge is a single span suspension bridge carrying a water supply pipe. The testing focused on measuring vibration responses across the bridge to determine the dynamic response of the entire structure. The overall goal of these tests was to validate the predicted structural response. Additionally, cable dynamic testing was performed to determine the in-situ tensile forces in each hanger cable and stay cable. Dr. Sipple performed quality control on the analysis and reporting for this project.		
2022-Present	West Seattle High Bridge Investigation and Monitoring, Seattle Department of Transportation (SDOT) - BDI was contracted by Seattle DOT to provide a nondestructive testing and structural health monitoring program to help evaluate the performance of the structure during the first phase of retrofitted internal post-tensioning. The monitoring program helped the Seattle DOT make decisions and resulted in the next phase of strengthening to open the bridge by 2022. Dr. Sipple is the project manager and monitoring engineer in charge of BDI's emergency response participation, which included running several drills with mock alarm scenarios, developed by Dr. Sipple, with the project team.		
06/20-Present	Virgin River Gorge Testing & Monitoring - BDI was contracted by Burgess & Niple under ADOT for the Accelerated Innovation Deployment grant as part of FHWA's Technology and Innovation Deployment Program to perform load testing and structural health monitoring on three bridges along I-15 in the Virgin River Gorge. Dr. Sipple is the project manager for this project's various phases, including the live load testing portion and the long-term monitoring. Dr. Sipple is also a monitoring engineer on this project and is in charge of the monthly reporting, which includes rain flow data analysis, reporting on changes in structural response throughout the project, and system alarm response.		

03/20-Present	Ballard Bridge Monitoring, BNSF Railway - Dr. Sipple was the Project Quality Control Engineer responsible for QC of the trunnion friction and operating torque monitoring system installed on this double trunnion Strauss bascule bridge. BDI installed strain gages, shaft torque gages, and tiltmeters to monitor changes in trunnion friction, system friction, and shaft torque over a 2-year monitoring period. Jesse managed the analysis team that set up automated computation and reporting for trunnion friction, system friction, and shaft torque.
07/20-01/21	LA507 Over I-20 ABC Span Move Monitoring, JB James Construction, LLC - During the replacement of this bridge, accelerated bridge construction was utilized where spans were cast nearby and moved into place during short outages. Dr. Sipple was a field/analysis engineer responsible for monitoring plan implementation, instrumentation, monitoring during span moves, on-site data interpretation, and data processing and reporting.
02/20-11/20	Live Load Testing and Field-Verified Load Rating of 16 Bridges, Virginia Department of Transportation - BDI provided load testing and field-verified load rating of 16 structures in the Fredericksburg and Richmond districts of VDOT. BDI was responsible for the design of load testing requirements, development of instrumentation plans, execution of fieldwork and load testing, data analysis, finite element (FE) model creation and calibration, and eventual load rating per VDOT and AASHTO requirements. Dr. Sipple acted as the quality control manager for this project and all related tasks.
06/19-01/20	St. Claude Bascule Bridge Balancing - Instrumentation tasks were performed when investigating a bearing failure on the span to counterweight link and whether this failure was connected to an imbalance between the counterweight and lift span. BDI performed strain gage testing on the link frame and counterweight balance procedures. Dr. Sipple was the Project Quality Control Engineer responsible for QC of counterweight/span balance, friction calculations, and structural performance evaluation on this double trunnion Strauss bascule bridge.

16. Staff Experience:

Firm employed by		Bridge Diagnostics, Inc. (BDI)		
Name	Charles Young, P.E.		Years of relevant experience with this employer	8
Title	Vice President		Years of relevant experience with other employer(s)	6
Degree(s) / Years / Specialization			M.S. / 2017 / Civil Engineering B.S. / 2012 / Civil Engineering	
Active registration number / state / expiration date			#PE.0042773 / LA / 03-31-2027	
Year registered	2018	Discipline	Civil Engineer Other Pertinent Training / Certifications NHI #130055, Safety Inspection of In-Service Bridges (2014) NHI #130053, Bridge Inspection Refresher Training (2021) NHI #420018, Instructor Development Course (2022)	
Contract role(s) / brief description of responsibilities			Subject Matter Expert Charles has 14 years of experience in the fields of nondestructive evaluation and testing (NDE/NDT), structural monitoring, and inspection/evaluation of civil infrastructure. He is responsible for program management, project management, analysis, and field services related to inspection and NDE/NDT of civil infrastructure.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
12/22-Present	IDIQ Contract for Nondestructive Evaluation of Structures Statewide (DOTD Contract No. 4400025002) - Mr. Young is the Project Manager for statewide NDE of structures for DOTD under this contract. Scope items include testing of bridge decks, concrete substructures, steel elements such as welds and pin and hanger assemblies, unknown foundations, tunnels, culverts, and other highway transportation infrastructure. Mr. Young assists DOTD and the project team with successfully implementing NDE and inspection technologies for application and best methods for analysis and reporting of findings into DOTD’s AssetWise.			
05/23-Present	Twin Spans and Six Mile Bridge Inspection and NDE - The objective of this project is to perform a comprehensive inspection and NDE of the reinforced concrete bridge decks of the Twin Spans and Six Mile Bridges in Louisiana. Also included are supplemental inspection access techniques including unmanned aerial systems (UAS). Nondestructive evaluation includes a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Mr. Young acted as the Project Manager. This work is being performed under LADOTD contract 4400025002.			
01/19-12/22	IDIQ Contract for Nondestructive Evaluation of Structures Statewide (DOTD Contract No. 4400015262) - Mr. Young is the Project Manager for statewide NDE of structures for DOTD under this contract. Scope items include testing of bridge decks, concrete substructures, steel elements such as welds and pin and hanger assemblies, unknown foundations, tunnels, culverts, and other highway transportation infrastructure. Mr. Young assists DOTD and the project team with successfully implementing NDE and inspection technologies for application and best methods for analysis and reporting of findings into DOTD’s AssetWise.			
07/21-10/22	I-10 Over Atchafalaya Basin Inspection and NDE - The objective of this project is to perform an NHI routine and fracture critical (NSTM) inspection of the bridge carrying I-10 over the Atchafalaya Basin between New Baton Rouge and Lafayette along with targeted NDE techniques at various critical portions of the structure. Also included are supplemental inspection access techniques including unmanned aerial systems (UAS). Nondestructive evaluation includes a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Mr. Young acted as the Project Manager. This work was performed under LADOTD contract 4400015262.			
10/20-09/22	Bonnet Carre Spillway Inspection and Nondestructive Evaluation, LA – This project involved an NHI routine and fracture critical (NSTM) inspection of the Bonnet Carre Spillway Bridge and targeted NDE techniques at various critical portions of the structure. Two cycles of Routine and NSTM inspections were conducted for this structure. This work was performed under an IDIQ Contract for Non-destructive Evaluation of Structures for DOTD. Also included			

	were supplemental inspection access techniques including unmanned aerial systems (UAS). Nondestructive evaluation includes a multi-technology bridge deck assessment including Deck Acoustic Response, Ground Penetrating Radar, Infrared Thermography, and High-Resolution Imagery. Mr. Young acted as the Project Manager. This work was performed under LADOTD contract 4400015262.
08/19-07/20	NDE of City Park Lake Bridge LA – Mr. Young was the project manager for the NDE of the City Park Lake Bridge in Baton Rouge, LA. This project included a routine inspection of the structure, along with NDE technologies including ground penetrating radar (GPR), deck acoustic response (DAR), infrared thermography (IR), and high-resolution video (HRV). The remote inspection was performed on the substructure utilizing visual inspection and IR. This work was performed under LADOTD contract 4400015262.

16. Staff Experience:

Firm employed by		Holden Architects, A Professional Corporation	
Name	Thomas Holden, RA	Years of relevant experience with this employer	45
Title	President / CEO	Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization	B. Arch. / 1975 / Architecture		
Active registration number / state / expiration date	#2576 / LA / 12-31-26		
Year registered	1980	Discipline	Architect
Contract role(s) / brief description of responsibilities	Project Architect		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
09/09-06/11	S.P. NO. 046-31-0053, Judge Seeber Bridge Repairs, New Orleans, LA - Architect-of-Record under a contract held by ABMB Engineers to renovate the main operation facilities of the Judge Seeber Bridge in New Orleans. A vertical drawstring lift bridge opened in 1957, the Judge Seeber Bridge averages 27,000 commuters daily with additional boat traffic via the Industrial Canal. The primary focus of the project team was to restore all damaged and deteriorated Katrina damaged elements of the operation facility’s building systems while structural rehabilitation was performed on the bridge. The \$500,000 rehabilitation, which was part of a \$6.7 million complete bridge renovation, consisted of two portions: the Operator House and the Machinery Rooms. The Operator House scope of work included new interior walls and finishes; new ceiling systems and lighting fixtures; new plumbing fixtures; replacement of all existing windows with hurricane complaint window systems; doors, frames, and hardware replacement for all doors; a new roofing system; complete HVAC system replacement; re-painting of the existing roof access ladder; and repairs to damaged exterior concrete. Work associated with the Machinery House consisted of restoring the interior and exterior façade of the two deteriorated rooms atop the bridge’s east and west banks that house the bridge’s vertical lifting equipment. The scope of work included cleaning of the existing machinery equipment and flooring; replacement of all existing windows with hurricane complaint window systems; all doors, frames and associated hardware replacement; and replacement and painting of the existing galvanized roofing/exterior surfacing. Along with the complete restoration of the bridge components, the rehabilitation of the Operator’s House and Machinery Rooms allowed the Judge Seeber Bridge to continue to serve the New Orleans area for years into the future.		
04/13-01/20	CF Industries, Donaldsonville, LA – Architect of Record the design of two, 2-story 35,000 s.f. office buildings at the CF Industries Donaldsonville industrial site. HA was asked to closely examine the engineering and maintenance departments to develop comprehensive programs that outlined the current spatial, functional, and storage needs while creating flexibility for future growth. The completed designs and programs reflected efficient offices, spacious archive capability, large and small conferencing capability, and open office flex spaces. HA utilized a programming approach that identified five major design goals to achieve a conceptual layout that exceeded expectations, while keeping the door open for further refinement. HA implemented creative application of sound design principles to identify the client’s needs and led to a building form that reflects ‘who they are’ and ‘how they work’. The relationship and arrangement of spaces follows function throughout the complex. The \$3 Billion plant is designed on the principle of process engineering, a linear alignment of functions. The buildings mirror that linear alignment and express that fundamental process. HA applied current design trends of strategically placed infrastructure allowing future reassignment of space, day lighting, increased fresh air ventilation rates, use of dynamic or flexible working environments, hoteling, flex space arrangements, breakout areas for social interaction, robust IT infrastructure, and an overall workplace image with a view to the future.		
03/13–9/15	LSU Foundation Business Office Building, Baton Rouge, LA – Architect of Record for a Joint Venture contract. HA/HKS, JV designed the LSU Foundation Building and worked with the Board to advance their goals to better serve LSU and the greater community by creating an iconic facility that will bolster alumni and donor contributions toward academic endeavors. Situated at the NW corner of Nicholson Drive and Skip Bertman Drive, the 38,250 s.f. LSU Foundation Business Building was the first building completed in the \$300 Million mixed-use development that borders Nicholson Drive and houses graduate student housing, retail, office space, and restaurants/entertainment establishments. In support of the Foundation’s goals, the new building was designed and sited in a manner that establishes its identity as the cornerstone for the mixed-use Nicholson Gateway Development. At the same time, the design of the building encompasses both a sense of history and progress, while still being respectful of its campus context and heritage.		

06/11-10/14	New Brusly Law Enforcement Complex – Architect of Record for this facility. HA Master Planned and designed a three-building Law Enforcement Complex for the Town of Brusly. Their existing facilities were adequate but old and lacked many new technologies and conveniences essential for efficient operation. Holden Architects provided an up-to-date facility that provided the men and women in uniform with modern working, living, and training environments while keeping within the constraints of a realistic budget. The project was broken into three construction phases, allowing the departments to continue working in their existing facilities while the new building was being built. This also allowed the city to spread the cost of the project over multiple fiscal years. The result was a complex that will serve the city for many years to come without placing an excessive burden on the taxpayers today. The design features a jointly used engine bay wing sandwiched between Police and Fire Departments. While each department has its autonomy, the City has the benefit of sharing utility infrastructure and energy costs on a single structure and site. Holden Architects also assisted the City with preparing the grant and Capital Outlay requests. The total construction cost was approximately \$3.3 Million.
04/15-11/21	Walk-On's Sports Bistreaux– Walk-On's was named the #1 Sports Bar in America by ESPN in 2012. Holden Architects, the original Prototype Architect worked with the founders Brandon Landry and his partners to design and develop multiple prototypes for this restaurant chain to launch nationally. HA is Architect of Record for 19 of their restaurant locations involving five regional franchises and continues to assist the Corporate office with the rapid growth of the business enterprise.
01/98-09/01	St. Tammany Justice Center – The 22nd Judicial District Court House and Parish Prison Renovation and Addition, Covington, LA - HA was the design architect for all the security systems and holding areas of the new \$35 million Court House. Mr. Holden and was Architect of Record for the \$20 million / 165,000 s.f. St. Tammany Parish Jail Addition that included two new dormitories, an intake center, renovation of the existing jail and administrative building, and design of a future third maximum security facility. HA worked with RCL Engineering, the Prime Consultant, and PGAL Architects, the lead justice center designer of the Court House.

16. Staff Experience:

Firm employed by		Holden Architects, A Professional Corporation	
Name	Jakob Mier	Years of relevant experience with this employer	3
Title	Intern Architect	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		Master of Architecture /2021 / Architecture Bachelor of Architecture / 2020 / Architecture	
Active registration number / state / expiration date		N/A	
Year registered	N/A	N/A	
Contract role(s) / brief description of responsibilities		Staff Architect	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”; etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
10/21-10/22	Sugar Mill Pond TND, Youngsville, LA – Oversaw the design of a large-scale traditional neighborhood development with townhomes and retail locations. The design included site plan layouts for all current phase buildings, roads, parking, and all future expansion buildings parking and roads serving the new development to connect to existing roads. Each existing plan was fully developed into construction documents with all town homes, sidewalks, curbs, parking, and roads fully developed with help of the civil engineer for all grading and drainage necessary for the existing and future phases of construction. All drainage was designed to tie into existing conditions of the site with retainage ponds and site work additions developed in conjunction with a civil engineer. The collaboration with the civil engineer allowed for a well-developed TND with all drainage locations placed in discrete locations and all high and low spots of the sites fully developed so no building or roadway had to have any extreme variations to achieve proper drainage.		
11/21-09/22	Hospice of Baton Rouge, Baton Rouge, LA – Worked with a project architect to develop a large-scale development for the hospice of Baton Rouge. The development was a multi-phase project for a grief support service that had multiple buildings, large scale gardens, a grove, and underground retention systems for drainage and water storage. The development had butterfly gardens that were designed with specific plant life to attract butterflies. It also had a grove planted of specific trees that would attract cardinals that was designed in the shape of a cardinal from a bird’s eye view. All of these plant life choices had to be carefully thought out to not only attract these animals and insects but to survive in the Louisiana weather and rain conditions. Drainage in these areas had to be handled carefully to allow the plants and trees to have all the water needed but to also drain away from paths that connected all of the locations. This was done with underground water retention and porous materials that would capture water and release it slowly into the water retention system. This allowed for maximum land usage for these gardens and groves without the need for multiple large retention ponds. This allowed for more strategically placed ponds and fountains more for the sound of the water and less for their retention capabilities.		
04/24-Present	Benny’s Carwash (Multiple Locations) – Worked on various Benny’s Carwash locations around the greater Baton Rouge area. The development of these projects has consisted of creating prototypical buildings for the carwash building, c-store building, and various support canopies around the sites. This allows for a faster construction document process and allows for a more thought out and developed site layout for all building locations, parking, driveways, road connections, and site drainage. The time we save in construction document phases allows for a larger collaboration period with the Owners and engineers to develop the best possible site layout in regard to building locations and maximum drainage possibilities for all the water that has to be collected from the site and carwash.		

09/21-10/22	Mr. Mier has worked on various residential projects from Louisiana to Florida. All residential projects had to be developed with connections to roads and existing sites in mind. The location of each house was vastly different and had to be carefully considered when working with new ground-up construction. The house had to have the drainage run away from the property but could run into other surrounding neighbors' yards so the development of site work and the use of swells, ditches, and underground water retention had to always be studied for the best possible solutions. Existing residential projects also had their own considerations in mind. When adding on to a residence, the new displacement of land and creation of roofing could cause the entire site to drain differently than the site was previously designed for. Project examples included: • SMP Townhomes – Youngsville, LA • Tekton Townhomes - Youngsville, LA • Lipsey Residence – Baton Rouge, LA • Ferrara Residence – Baton Rouge, LA • Ferrara Residence – Pensacola, FL • Odom Residence - Baton Rouge, LA • Tramatine Residence - Baton Rouge, LA • Sciortino Residence – Baton Rouge, LA • Wolfert Residence – Baton Rouge, LA
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16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	Suna Adam		Years of relevant experience with this employer	32
Title	President		Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization			B.S. / 1988 / Forestry-Wildlife Management	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	Other Pertinent Training / Certifications NHI Course No. 142005, “National Environmental Policy Act (NEPA) and Transportation Decision Making” 40-hour Hazardous Waste Training course under 29 CFR 1910.1120 requirements U.S. Army Corps of Engineers Regulatory IV Wetland Identification and Delineation Course U.S. Fish and Wildlife (USFWS) Symposium on the Red-cockaded Woodpecker U.S. Fish and Wildlife (USFWS) Habitat Evaluation Procedures (HEP) Course	
Contract role(s) / brief description of responsibilities			Environmental Lead / Quality Control / Quality Assurance Officer Suna is the President and a Senior Biologist at GSRC. As President, She maintains ultimate technical and financial responsibility for all contracts. She, therefore, also has the authority to assign personnel to projects, acquire the equipment or additional personnel necessary to complete a task, and to obtain subcontractors or consultants on an as needed basis. Ms. Adam has served as contract manager on numerous indefinite delivery contracts for various governmental agencies, including LADOTD. Under her leadership, GSRC has grown from one employee in 1994 to 34 full-time professionals, with a contract base providing annual revenues of several million dollars. As Senior Biologist, Suna has participated in numerous environmental projects including endangered species surveys, wetland delineations, Environmental Assessments (EA), and environmental impact statements (EIS).	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
04/19-Present	General Services Administration (GSA), Contract No. 47QRAA19D006W - Responsible for preparing the proposal and award for this contract. Ms. Adam maintains the website information required for the contract as well as the supplement of the new task order cost proposals. GSRC has numerous new tasks on this contract, including cultural and natural resources studies .			
09/22-Present	Program Manager. IDIQ Contract for Environmental and Cultural Resources. Contract No. W9123822D017 for USACE Sacramento District - Manages the contractual responsibilities of the contract. She approves cost proposals, QA/QC of deliverables, modifications and any updates required.			
06/22-06/24	Contract Manager. Environmental Assistance in Texas, Louisiana, Mississippi and Arkansas. Contract No. 1064375-0000 for Entergy - Contract manager for this contract. She was responsible for delegating the awarded projects, cost proposals, and overall contractual duties required.			
03/99-03/19	General Services Administration (GSA), Contract No. GS-10F-0058K - Responsible for updating the ebuy website, answering requests for proposals, and the reporting of quarterly sales of this contract. She managed all aspects of this contract, such as annual reporting and maintaining the contractual requirements of the online documentation.			
02/21-07/21	Contract Manager. 4400014188 Retainer Contract for Cultural Resources (LADOTD) - GSRC was awarded the Retainer Contract for Cultural Resources. GSRC completed numerous task orders throughout Louisiana, including the Bonita Overpass and the Verot School Road Phase I cultural resources surveys.			
02/17-02/19	Contract Manager. H.000428 Retainer Contract for Forestry Services (LADOTD) - Responsible for the overall management of the retainer contract. She delegated the staff for the fieldwork required to conduct forest inventories on several private landowners’ properties. She also conducted QA/QC on all deliverables submitted to LADOTD.			

06/19-06/19	Project Manager. Gopher Tortoise Surveys of the Plains All American Pipeline Right-of-Way, De Soto National Forest, MS - GSRC was contracted to conduct biological surveys for the federally endangered gopher tortoise (<i>Gopherus polyphemus</i>) along a 19-mile-long section of the Plains All American pipeline right-of-way that traverses portions of the De Soto National Forest in Mississippi. GSRC biologists located and marked a total of 48 gopher tortoise burrows during the survey.
11/07-08/13	Program Manager. Environmental Impact Statement, Interstate 69 (I-69) Corridor, Shreveport, LA (LADOTD) - Coordinated the assignments for the wetland surveys, archaeological surveys, and meetings required for this EIS. GSRC was contracted to conduct all wetland delineations and reporting, as well as the cultural resources surveys required for this project. A Biological Assessment (BA) was also completed and approved by the USFWS for the red-cockaded woodpecker . GSRC attended and assisted in the Public Meetings held in Shreveport.
01/01-11/03	Program Manager. Environmental Impact Statement, North-South Expressway (I-49), Shreveport to the Arkansas State Line (LADOTD) - Program Manager for this project. Ms. Adam assisted in the technical review and data collection for preliminary stages of this 42-mile corridor study. The primary tasks for GSRC were the cultural resources surveys for all alternatives proposed. A wetlands delineation and standing structures survey and report were also completed for this study. In addition, Ms. Adam assisted in preliminary report preparation and review of all documents submitted.
02/02-10/04	Project Manager. Environmental Inventory for the Proposed Louisiana Highway 117 Project (LADOTD) - Responsible for all coordination, data collection, and field reconnaissance required to complete this project for LADOTD. This project consisted of utilizing all existing information and field verification. These results were incorporated into an environmental inventory report, which included the potential impacts on protected species, scenic streams, and wetland areas.
01/01-10/02	Project Manager. Wetland Delineation of Chalmette-Algiers Mississippi River Bridge, Plaquemine, St. Bernard and Orleans Parishes, LA (LADOTD) - Ms. Adam participated in field investigations, data collection, coordination, and report preparation for the corridor study. GSRC also attended the public meetings and authored sections of the NEPA document prepared for the project.
11/98-01/99	Project Manager. Wetland Delineation for Rigolets Pass & Approaches, Orleans Parish, LA (LADOTD) - Managed project tasks, coordination, data collection, field investigations, and report preparation for the corridor study.
01/99-06/99	Project Manager. Red-cockaded Woodpecker (RCW) Survey of the Weaver Cemetery Bridge Site, Natchitoches Parish, LA (STP 700-09-0159) (LADOTD) - Led a field crew to conduct RCW surveys in Natchitoches Parish. A 0.5-mile radius was surveyed in the pine forest adjacent to the Weaver Cemetery Bridge. There were no known RCW cavity trees within the project area and foraging habitat was not present.
09/92-03/93	Project Manager. Biological Assessment for the RCW (LADOTD) - Participated in all field surveys for the RCW along US Highway 165 from Jennings, Louisiana to Longleaf, Louisiana. She authored the BA and coordinated with the USFWS during the preparation of the Biological Opinion. She also was involved in the decision to relocate the RCW documented within the proposed project corridor.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	John Lindemuth		Years of relevant experience with this employer	31
Title	Principal Investigator / Archaeologist		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			M.A. / 1994 / Anthropology B.A. / 1990 / Anthropology / Sociology	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A Other Pertinent Training / Certifications Introduction to Section 106 Review, June 18-19, 2002	
Contract role(s) / brief description of responsibilities			Archaeologist (Satisfies MPR #11) John has 23 years of experience in cultural resource management. He has participated in and supervised intensive cultural resources surveys, National Register of Historic Places (NRHP) Eligibility archaeological site testing, and data recovery excavations in nine states. He also has experience in both prehistoric and historic site evaluation and excavation, and has analyzed both historic and prehistoric cultural remains for several different projects. Mr. Lindemuth’s experience working with governmental agencies at the local, state, and Federal levels has given him a broad knowledge of compliance with Section 106 of the National Historic Preservation Act (NHPA). Mr. Lindemuth has supervised and participated in chain of title search for historic properties, cultural resources surveys (Phase I), archaeological site testing (Phase II), and data recovery (Phase III). Mr. Lindemuth has also prepared technical reports, which outlined the results of all phases of archaeological investigations as well as agreement documents, such as Memorandums of Agreement (MOAs) and Programmatic Agreements (PAs), and preparation of Section 106 Adverse Effects documentation. He is familiar with the preparation of artifacts and associated records for permanent curation in accordance with curation guidelines, including those published by the Louisiana Division of Archaeology. Mr. Lindemuth is very familiar with conducting Section (4f) evaluations for LADOTD and Federal Highway Administration when highway improvements have the potential to affect public parks and recreational areas, waterfowl and wildlife refuges, and historic sites.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
08/18-05/20	Principal Investigator. Cultural Resources Survey of 12.01 Linear Miles and 20 Grading and Construction Easements for the Proposed Rio Grande City Road Improvement Project, Rio Grande City, Texas, Rio Grande Valley Sector, U.S. Customs and Border Protection, Department of Homeland Security, Starr County, TX - Principal Investigator for the intensive cultural resources survey of 12.01 linear miles of road construction and improvement corridor totaling 57.4 acres. The survey included a pedestrian walkover and excavation of STPs. The survey identified 14 new archaeological sites, revisited and updated two previously identified archaeological sites, and recorded 12 isolated occurrences. Four of the 16 archaeological sites recorded or updated during the survey were recommended for additional testing to determine their eligibility for the NRHP. Mr. Lindemuth directed crews in the field, co-authored the cultural resources technical report, and integrated the findings in the associated NEPA documentation for the project.			
12/13-12/14	Principal Investigator. Phase I Cultural Resources Survey for the Proposed England Airpark Clearing and Grubbing for Wildlife Hazards Control - Principal investigator for the cultural resources survey of 53 acres for proposed clearing and grubbing. Two archaeological sites, two standing structures, and two isolated finds were recorded during the surveys. None of the sites, standing structures, or isolated finds were recommended eligible for			

	the NRHP. Mr. Lindemuth wrote the technical report outlining the results of the study and also integrated the results into the EA, which was prepared for the project in compliance with the NEPA.
04/14-10/17	Principal Investigator. Archaeological Phase II Testing and Phase III Mitigation and Data Recovery at Two Cultural Resources Sites, The McNutt Plantation (16RA692) and the Weil Property (16RA703), for England Economic and Industrial Development District, Alexandria, LA - Served as the principal investigator for the combined Phase II NRHP archaeological site testing and Phase III data recovery excavations for two historic sites located in Rapides Parish, Louisiana. Mr. Lindemuth aided in the development of the Research Design and Work Plan, culling agreement, the management summaries for both the Phase II and Phase III work, the Memorandum of Agreement to address the adverse impacts on the sites, and the combined Phase II and III technical report. The project recovered over 3,000 artifacts dating from the middle nineteenth to twentieth century found in association with multiple features including foundation piers and a belowground cistern. The production of the management summaries allowed for the expedited review of the project so that it could proceed while the final cultural resources report was completed.
07/07-01/16	Principal Investigator. Phase I Survey of the Proposed I-69 Corridor, Caddo and Bossier Parishes, LA - Served as principal investigator and supervised the field investigations during the Phase I cultural resources survey. The project consisted of multiple phases of data collection that were analyzed using GIS and used for the planning of the project corridor. The sources of data included known archaeological sites, known historic standing structures, geomorphology of the area, high- and low-probability zones developed by the principal investigator, the geomorphologist, and field director, and the results of a standing structure survey of a preferred corridor. Phase I intensive cultural resources surveys were conducted on the alignment selected using these criteria. Mr. Lindemuth directed the field investigations and was the primary author of the cultural resources survey report, which outlined the results of the surveys.
09/22-Present	Project Archaeologist. Class III Cultural Resources Survey of 12-Acres for the Proposed Three Points Border Patrol Station Expansion, U.S. Border Patrol Tucson Sector, Pima, County, Arizona (Arizona Department of Transportation Project Number: H08801R, Agreement CRA-3308-1), CBP - Project archaeologist for the cultural resources inventory of 12 acres for the proposed expansion of the U.S. Border Patrol Station located in Three Points, Arizona. The project was conducted in association with SWCA Environmental Consultations under their permit for Arizona State Land. Nine isolated occurrences were noted during the surveys, none of which were recommended eligible for the National Register of Historic Places. Mr. Lindemuth coordinated the fieldwork with personnel from both companies and prepared the Arizona State Historic Preservation Office Survey Report Summary Form under the direction of the principal investigator for the project.
03/22-02/23	Project Archaeologist. Class I Inventory for Six Proposed Bore Hole Locations at Kartchner Caverns State Park, Cochise County, AZ - Principal investigator for a Class I Inventory of proposed bore hole locations in support of a new wastewater treatment facility at Kartchner Caverns State Park. The Class I Inventory included a review of the records in the online AZSITE database as well as a virtual records check of the records houses at ARO. The Class I inventory showed the areas for the proposed improvements and bore hole locations were surveyed over 10 years ago and were not done to today's standards. In addition, two previously recorded archaeological sites were found associated with two of the bore hole locations. Given the results of the Class I inventory, it was recommended that the area be subject to a Class III intensive archaeological survey and the two previously recorded archaeological sites be relocated and updated. Mr. Lindemuth prepared the Class I Inventory letter report outlining the results of the record search and his recommendations.
06/21-10/22	Project Archaeologist. EA for Hurlburt Field Access Gates Reconstruction, Hurlburt Field, FL - Project archaeologist and subject matter expert for the preparation of the cultural resources section for an EA to address potential effects from the reconstruction of five access gates and the reconstruction of a commercial vehicle inspection gate at Hurlburt field. Mr. Lindemuth utilized existing data, including the Integrated Cultural Resources Management Plan (ICRMP) to assess the potential impacts to cultural resources from the reconstruction of the gates. Mr. Lindemuth prepared the cultural resources section that assesses the potential effects of the alternatives, which will be integrated into the EA for the project.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	Brett Somers, Ph.D., RPA		Years of relevant experience with this employer	17
Title	Principal Investigator / Archaeologist		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		Ph.D. / 2007 / Geography M.A. / 2004 / Geography B.A. / 1994 / Communications		
Active registration number / state / expiration date		N/A		
Year registered	N/A	Discipline	Other Pertinent Training / Certifications Registered Professional Archaeologist (RPA), #15485	
Contract role(s) / brief description of responsibilities		Archaeologist (Satisfies MPR #12) Dr. Somers joined the team at GSRC as an archaeologist in 2007. His 2007 completion of his doctorate provided him with 6 years of experience in archaeological research, fieldwork, and GIS analysis. With GSRC, Dr. Somers has supervised and participated in over 50 cultural resources investigations, including Section 106, Section 110, and environmental compliance projects in 19 states. Dr. Somers has also worked outside the U.S. in Belize and Cuba. This involvement has provided a broad base of experience in prehistoric and historic archaeology across several regions of North America, has allowed him the opportunity to work with numerous tribal and government agencies at the local, state, and Federal levels, and has given him a broad knowledge of cultural resources laws and regulations.		
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
03/20-05/20	Project Manager/Principal Investigator. Phase I Archaeological Investigation of the St. Rose to Norco Pipeline, St. Charles Parish, LA - Dr. Somers served as project manager and principal investigator for the intensive Phase I cultural resources survey of 7.4 miles (75.14 acres) of proposed new pipeline from the International Matex Tank Terminal (IMTT) in St. Rose to portions of Shell’s Norco Manufacturing Complex facility in Norco in St. Charles Parish, Louisiana. GSRC conducted the investigation on behalf of Ramboll US Corporation (Ramboll) under Section 106 of the NHPA. The investigation included an intensive Phase I archaeological survey combining pedestrian surface inspection with STPs excavated along transects using a high probability predictive model. No archaeological sites were recorded during this investigation. No aboveground/built resources over 50 years of age were recorded within or adjacent to the survey area. As a result, no further archaeological investigations were recommended for the project area.			
02/13-12/13	Principal Investigator. Cambridge Energy Floating Liquefied Natural Gas (FLNG) Facility, Plaquemines Parish, Louisiana. Cambridge Energy, LLC is proposing the construction and operation of a FLNG facility on the Mississippi River in Plaquemines Parish, LA - Cambridge Energy contracted GSRC for the preparation of resource reports with sufficient information and analysis for the preparation of an EIS. The selected area of potential effect (APE) includes dredging from the navigation channel of the Mississippi River into the batture and natural levee on the east bank of the river across from Venice, Louisiana. A portion of the facility extends eastward into the coastal marsh. The cultural resources portion of the investigation involved a terrestrial survey of the high ground portions of the APE, a fan boat inspection of the marsh portion of the APE, and a marine remote sensing survey of the proposed area of dredge activity in the Mississippi River channel. Dr. Somers was responsible for coordination with the Louisiana SHPO, background research, assessing required research needs given the fluvial, terrestrial, and marsh landscape, conducting the terrestrial and marsh fieldwork, coordinating with a team of marine archaeologists to perform the marine remote sensing survey, and synthesizing all data collected into the required reports for the project. No cultural resources were discovered in the initial field surveys of the APE.			

08/10-11/12	Principal Investigator. Phase I Cultural Resources Survey for the Proposed Improvements to the New Orleans to Venice Levee Protection Project, Plaquemines Parish, LA (USACE, Vicksburg District) - Dr. Somers served as the principal investigator for the Phase I cultural resources survey of approximately 4,208 acres distributed along linear corridors flanking 86.8 miles of the Federal Mississippi River Levee and back levees in lower Plaquemines Parish, Louisiana. The project included restoring, armoring, and accelerated completion of the existing Federal levees on the east bank from Phoenix to Bohemia (15.8 miles of back levee) and on the west bank from St. Jude to Venice (37 miles of back levee and 34 miles of Mississippi River levee) to provide the authorized design grade for storm risk reduction. The project APE included Mississippi River Batture, which is the protected land between the levees and coastal marsh on the outside of the back levees. The investigation resulted in the recovery of several thousand artifacts and the recording of 43 newly discovered Historic period sites. Of the 43 newly recorded sites, examination of field data and laboratory analysis of artifacts resulted in recommendation of one site as eligible, 29 sites as ineligible, and 13 sites of undetermined eligibility for the NRHP.
09/13-03/17	Project Manager/Principal Investigator. Naval Air Station (NAS) Meridian Phase II Archaeological Evaluation of Sites 22LD693 and 22LD697, Lauderdale County, MS - Dr. Somers provided overall administrative oversight for the project, including scheduling; cost management; recruiting, hiring, and supervising necessary personnel; and coordinating with the NAVFAC SE Technical Representative and Cultural Resource Manager at NAS Meridian. Additionally, Dr. Somers served as Principal Investigator, developing the work plan for the investigation, supervising, and participating in fieldwork, and preparing the technical report and Powerpoint™ presentation. This project was conducted under Section 110 of the NHPA of 1966, and with its implementing regulations (16 United States Code [U.S.C.] 470h-2[a]). The investigation included an archaeological survey with shovel testing along transects within an area of 2.7 acres for site 22LD693 and 3.66 acres for site 22LD697 to relocate and delineate the boundaries of the sites. Once the sites were relocated, additional shovel testing was conducted to further define the horizontal and vertical site boundaries and to determine concentration areas of cultural material. Test units measuring 1 meter (m) by 1 m wide and 1 m below ground surface were excavated at each site. This investigation revealed that sites 22LD693 and 22LD697 consist of sparse scatters of prehistoric artifacts. As sparse artifact scatters, sites 22LD693 and 22LD697 do not possess the data necessary to determine association with Criteria A, B, or C, but could contribute information pertaining to Criterion D. However, neither site exhibited the potential for cohesive cultural deposits that would indicate a significant cultural presence or activities from which additional information could be obtained. Further, considering the limited nature of findings from this investigation combined with those from the previous investigation of the sites, the information potential for sites 22LD693 and 22LD697 has been exhausted. It was recommended that the NRHP determination for these two sites as not eligible was appropriate and no further work is warranted.
09/18-03/22	Principal Investigator. Highway 86 Checkpoint, California - The investigation was conducted in support of a cooperative effort by USACE, Sacramento District, the Central Valley Flood Protection Board, and the Sacramento Area Flood Control Agency to address seepage and stability issues in approximately 42 miles of levee surrounding the Natomas Basin. The project included multiple tiered tasks including a Kickoff Meeting, Records Search and Literature Review, Geoarchaeological Sensitivity Assessment and Testing Plan, Cultural Resources Survey and development of an Evaluation Plan, development of a Historic Properties Treatment Plan, and Evaluation Testing. Dr. Somers served as project manager and principal investigator for this project and provided overall administrative oversight for the project including scheduling, cost management, supervising necessary personnel and coordinating with the Sacramento District Archaeologist.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	Mark Hathorn, RPA		Years of relevant experience with this employer	3
Title	Archaeological Technician		Years of relevant experience with other employer(s)	3
Degree(s) / Years / Specialization			B.A. / 2017 / Anthropology	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	Other Pertinent Training / Certifications Registered Professional Archaeologist (RPA), #28089	
Contract role(s) / brief description of responsibilities			Crew Chief / Field Technician (Satisfies MPR #13) Mark’s professional experience as a field technician and as a crew chief includes cultural resources management projects servicing State Parks and National Forests, site damage assessment and mitigation projects, surveying for roadway maintenance projects, and surveying land for the U.S. Military. Projects include large-scale Phase I cultural resources surveys in Tombigbee, Holly Springs, Bienville, Desoto, and Homochitto National Forests in Mississippi, in south Texas along the Rio Grande, and Ocala and Osceola National Forests in Florida. Phase I cultural resources surveys of parcels in Ascension and Iberville Parishes, Louisiana for proposed new construction projects, and surveys for Harvey Point Base in North Carolina, and Townsend Bombing Range in Georgia, as well as land surveys for the U.S. Government in upstate New York. He has been involved in Phase II archaeological site testing investigations for the Alabama Army National Guard, and in the city of New Orleans at Iberville, as well as Phase II archaeological site testing in Starr County, Texas.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
04/22-Present	Archaeologist/Archaeological Field Technician. Phase I Archaeological Survey of 130 Acres for the Cadillac Heights Levee, Dallas County, TX - Mr. Hathorn served as an archaeological field technician for a Phase I cultural resources survey to identify cultural resources that may be impacted by the proposed Cadillac Heights Levee within the Dallas Floodway Extension within the upper Trinity River Watershed, along the Trinity River. Systematic shovel testing and pedestrian surveys were carried out for this project. Mr. Hathorn also conducted and compiled research for the cultural resources survey technical report and co-authored the built environment historic context.			
05/22-Present	Archaeological Field Technician. Phase I Cultural Resources Survey, Caldwell Parish, LA - Served as an archaeological field technician and contributed to the final report of a Phase I cultural resources survey to identify cultural resources that may be impacted by the proposed construction and operation of a new Louisiana Green Fuels Bio-Refinery near the Port of Columbia, Louisiana. The field surveys included systematic shovel testing and pedestrian surveys.			
01/22-05/22	Archaeological Field Technician. Phase I Cultural Resources Survey of 1 Acre for the Ursula Parking Lot Land Purchase, McAllen, Hidalgo County, TX - Served as an archaeological field technician for the cultural resources survey of approximately 1 acre in McAllen, Texas. The survey was conducted on behalf of CBP for the proposed development of a parking lot to accommodate the existing and adjacent McAllen Centralized Processing Center (CPC). A pedestrian walkover utilizing 5-meter intervals and the excavation of 2 shovel test pits were carried out during this survey. No cultural materials were recovered.			
10/20-02/22	Archaeological Field Technician. Phase I Archaeological Investigations of 54 Acres for the Louisiana Correctional Institute for Women (LCIW) in Iberville Parish, St. Gabriel, LA - Involved in a Phase I cultural resources survey with GSRC. He conducted shovel testing and a pedestrian survey and assisted the field director with data collection and day to day operations. Mr. Hathorn also assisted with artifact analysis, as well as cataloging and photographing recovered artifacts.			

10/20	Archaeological Field Technician. Phase I Archaeological Investigation of .55 Acres for the Proposed Retaining Wall, Ascension Parish, LA - Involved in a Phase I cultural resources survey with GSRC. He conducted shovel testing and a pedestrian survey. The objective of this investigation was to determine the presence/absence of archaeological resources across the survey area. A total of 9 shovel test pits were excavated. No new sites were recorded within the project area and one previously discovered recorded site (16AN15) was updated.
01/20-10/20	Archaeological Field Technician. Phase I Cultural Resources Survey for the Desoto National Forest, Wayne County, MS - Involved in a Phase I cultural resources survey with Wiregrass Archaeological Consulting. He conducted shovel testing, artifact recovery, and led site boundary delineations. He repaired field gear when necessary and assisted the field director with day-to-day operations and data recovery.
07/19-01/21	Crew Chief/Archaeological Field Technician. Phase I Cultural Resources Survey for the Bienville National Forest Service, Smith, Newton, and Scott County, MS - Served as a crew chief with GSRC for a Phase I cultural resources survey . Leading crews in the field, he assisted the field director in day-to-day operations and data collection efforts. He participated in shovel testing, artifact recovery, and conducted site boundary delineations. Mr. Hathorn assisted in the analysis of historical materials as well as contributing to the cultural resources survey report.
05/20-Present	Crew Chief/Archaeological Field Technician. Intensive Cultural Resources Survey of 16.7 miles for the proposed construction and maintenance of Border Barrier and Associated Infrastructure U.S Border Patrol, Laredo Sector, Webb County, TX - Served as a crew chief with GSRC for a Phase I cultural resources survey . Leading crews in the field, he assisted the field director in day-to-day operations and data collection efforts. He participated in shovel testing, artifact recovery, and conducted site boundary delineations. Mr. Hathorn assisted in the analysis of historical materials, conducted background research, and prepared sections for the cultural resources survey technical report.
10/20-5/21	Curatorial Assistant. Artifact Curation for Testing and Data Recovery for clearing and grubbing of 302 acres at England Airpark, Alexandria, LA - Assisted the archaeological laboratory director in preparing artifacts and associated documents for curation at the State of Louisiana curation facility in Baton Rouge, Louisiana. This includes properly bagging and labeling artifacts to repository standards, preparing curation boxes, organizing associated documents, as well as photo documenting culled artifacts and cultural materials that are included in the deliverables for curation.
04/20-10/22	Archaeological Field Technician. Phase I Archaeological Investigation of the Greenfield development on Robert Brothers' farm in St. John the Baptist Parish, LA - Involved in a Phase I cultural resources survey . He conducted shovel testing, a pedestrian survey, and assisted the field director with data recovery and day to day operations. Mr. Hathorn also assisted in artifact processing and analysis. GSRC was contracted to survey additional acreage to address a revised layout of the original project area resulting in an Addendum to the initial Phase I Archaeological investigation. Mr. Hathorn assisted with the preparation of the public version of the Phase I Archaeological investigation technical addendum report.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	Anna Marcum		Years of relevant experience with this employer	1
Title	Architectural Historian		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization			M.S. / 2018 / Preservation Studies B.A. / 2013 / Art History	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A	
Contract role(s) / brief description of responsibilities			Architectural Historian (Satisfies MPR #13) Anna will be the Architectural Historian for this contract. She has over 8 years of experience in historic preservation and architectural history. She has conducted fieldwork and research in multiple states, including Louisiana. She is experienced in Section 106 compliance evaluations and preservation planning.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/18-Present	Principal Investigator. Cultural Resource Assessments and Preservation Consultation Services, Multiple Projects - Served as Principal Investigator for numerous cultural resource assessment projects, including Section 106 compliance evaluations for federal undertakings, National Register eligibility evaluations, and historic structure reports. Notable projects include work with Workforce Group providing architectural historian expertise for government contract compliance, collaboration with McNair Historic Preservation conducting architectural research and updating National Register nominations, and consultation services for Hammond Historic District Commission developing preservation education materials and regulatory guidance. Ms. Marcum has produced technical reports, preservation briefs, and educational materials while maintaining compliance with federal and state preservation standards.			
02/24-02/25	Senior Director of Preservation. Countywide Historic Preservation Program Management and Community Engagement Initiative, Heritage Foundation of Williamson County, TN - Served as Senior Director leading comprehensive historic preservation initiatives for Williamson County, Tennessee. The program included development and execution of the Preserve Williamson Campaign featuring community town halls, media outreach, and educational programming reaching over 5,000 county residents. Ms. Marcum established the county's first historic preservation easement program, securing legal protection for key landmarks and historic properties. She managed consultant teams producing countywide architectural surveys documenting over 200 historic structures, curatorial programs, and preservation planning reports. Ms. Marcum coordinated with the National Trust for Historic Preservation, Tennessee State Historic Preservation Office, and local regulatory agencies to align preservation initiatives with state and federal standards.			
04/23-/2/24	Executive Director. Upper East Side Historic Districts Advocacy and Preservation Program. Friends of the Upper East Side Historic Districts - Executive Director responsible for managing the preservation advocacy for Manhattan's Upper East Side historic districts encompassing over 1,000 contributing structures. The program included review and advocacy for landmark and land use policies, coordination with New York City Landmarks Preservation Commission, and community engagement initiatives reaching local stakeholders and property owners. Ms. Marcum directed fundraising campaigns including grant writing, membership development, and annual benefit events generating \$200,000+ in preservation funding. She coordinated educational programming including walking tours documenting architectural significance, research symposia, and preservation award ceremonies while managing organizational operations and staff coordination.			
07/21-04/23	Director of Research and Preservation. Greenwich Village Historic Building Documentation and Advocacy Program, Village Preservation (GVSHP) - Ms. Marcum served as Director leading research and preservation initiatives for Greenwich Village and surrounding historic neighborhoods. Projects included management of research teams documenting historic buildings, oversight of design reviews for new developments ensuring preservation standards compliance, and preparation of landmark designation applications for the New York City Landmarks Preservation Commission. Ms. Marcum created the organization's landmark applications database, authored evaluation requests for threatened properties, and provided expert testimony at public			

	hearings. She developed educational materials including digital and print resources for property owners and community members, while monitoring building code and landmark violations to protect architectural heritage. Ms. Marcum supervised staff and interns conducting field surveys and archival research while representing the organization at community meetings and preservation advocacy events.
01/17-05/17	Graduate Assistant. Architectural History, Survey, and Inspection, Vieux Carré Historic Property Monitoring and Documentation Program - Ms. Marcum conducted property condition assessments and violation documentation for historic structures within the French Quarter National Historic Landmark District. She prepared official violation notices using LLAMA software with supporting photographic documentation to ensure preservation standards compliance. Ms. Marcum organized and digitized extensive Commission archives including permits, citations, property records, and historical photographs, creating accessible digital databases for ongoing preservation management. The work supported preservation of over 2,800 contributing structures within one of the nation's most significant historic districts.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	Howard Nass		Years of relevant experience with this employer	25
Title	Senior Biologist / NEPA		Years of relevant experience with other employer(s)	11
Degree(s) / Years / Specialization			B.S. / 1990 / Forest and Wildlife Management	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A	
			Other Pertinent Training / Certifications NHI Course No. 142005, “National Environmental Policy Act (NEPA) and Transportation Decision Making” U.S. Fish and Wildlife Service (USFWS) Interagency Consultation for Endangered Species, 2006 Basic Wetland Delineation Course, Wetland Training Institute, 1992 Nationwide Wetland Permits, Wetland Training Institute, 1997	
Contract role(s) / brief description of responsibilities			Senior Biologist / Wetlands/NEPA (Satisfies MPR #14) Howard has over 31 years of experience managing and implementing NEPA and NEPA-related studies for various federal, state, and private entities. He has participated in EAs, BAs, EISs, wetland determinations and delineations, wetland mitigation bank development, water resources permitting, and natural resources projects throughout the U.S. Mr. Nass has managed the completion of over a dozen BAs in various states.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
01/24-Present	Project Manager. EA for Louisiana Green Fuels Bio-Refinery Project, Caldwell Parish, LA (Strategic Biofuels, LLC) - GSRC is currently contracted by Strategic Biofuels, LLC. (Strategic) to prepare an EA analyzing the potential effects on the natural and human environment resulting from the construction, operation, and maintenance of a renewable fuels bio-refinery in Caldwell Parish, Louisiana. Strategic is proposing to construct, operate, and maintain the Louisiana Green Fuels (LGF) refinery, a renewable fuels bio-refinery with an ultra-low carbon footprint in northeast Louisiana powered by onsite-generated “green” power that would use forestry residue as a feedstock and include Carbon Capture and Sequestration of the carbon dioxide produced from all processes. The project would also include two approximately 1-mile pipelines, two CO ₂ injection wells located offsite, and an approximately 1-mile natural gas pipeline. The majority of the project area is agricultural land used for crop production. Mr. Nass is responsible for the preparation of the EA; oversight of associated studies (wetlands, cultural resources, and biological resources); schedule; budget; and agency, tribal, and public coordination.			
09/20-09/23	Senior Reviewer. EA for Facility Enhancements and Land Use Modification Projects at Columbus Air Force Base (CAFB), USACE Mobile District - Served as the Senior Reviewer for the EA to address the potential effects, beneficial and adverse, resulting from the proposed construction, demolition, and land use modifications of multiple planned actions at CAFB, Mississippi. The 14th Civil Engineer Squadron (CES)/Civil Engineering Environmental Installation (CEIE) plans the replacement and construction of the Physical Fitness Center, replacement and construction of the Water Storage Tank, and the permanent fill in of the Strategic Air Command (SAC) Lake. The Region of Influence of the Proposed Action is the land area within the boundaries of the CAFB. In support of the permanent fill in of the SAC Lake, GSRC staff biologists conducted a biological resources survey of flora and fauna species in the vicinity of the proposed project. CAFB is also planning for the acquisition of 118.2 acres of land abutting the East/South-East property line of CAFB from a private individual to the United States Air Force.			
11/20-09/21	Project Manager. EA for the Construction, Operation, and Maintenance of the New Laredo Air Branch Facility U.S. Border Patrol, Laredo Sector, Texas. U.S Customs and Border Protection, Laredo Sector, TX - GSRC was contracted by CBP to prepare an EA for a new Air and Marine Operations (AMO) Air Branch Facility at the Laredo International Airport in Laredo, Texas. The current facility is overcrowded and does not meet CBP facility			

	standards. The overcrowded conditions do not provide the safest, most secure working environment for personnel. Currently, the CBP AMO is unable to expand operations or support surge capacity to meet mission requirements at the current facility. The purpose of the project is to alleviate overcrowded conditions and to allow room for current and planned future growth. As a part of the contract, GSRC was responsible for conducting a biological resources survey, cultural resources survey, Waters of the U.S. survey, and preparing a Phase I Environmental Site Assessment on the 13-acre project site. Mr. Nass supervised, directed, and participated in the preparation of the EA and FONSI and associated studies. He was also responsible for all agency, tribal, and public coordination concerning the EA. All functions of the current AMO leased facility at the Laredo Airport would be transferred to the new Air Branch Facility.
02/21-04/23	Project Manager. St. Tammany Parish Wetland Planning Map and Policy (Resilient Development and Management, LLC) - GSRC was contracted to develop a wetland planning map for St. Tammany Parish, Louisiana. GSRC developed a color-coded wetland planning map using existing data such as National Wetland Inventory, hydric soils, digital elevation data, drainage data, and field verification surveys. The map was color-coded based on the potential to develop in a specific area and the degree of difficulty obtaining a permit. GSRC also participated in the development of a wetland policy manual for St. Tammany Parish. The purpose of the project was to develop a policy for development resiliency. Mr. Nass supervised and oversaw the development of the color-coded wetland map and wetland policy.
06/13-08/15	Project Manager. Interstate 12 (I-12) to Bush Mitigation Plan, LA 3241, St. Tammany Parish, LA (LADOTC) - GSRC was contracted by LA DOTD to prepare a mitigation plan for unavoidable impacts on jurisdictional wetlands associated with the construction of the I-12 to Bush Highway in St. Tammany Parish, Louisiana. The mitigation of unavoidable impacts on jurisdictional wetlands is required by Section 404 of the Clean Water Act (CWA). As part of the contract, GSRC researched the best methods for identifying mitigation measures for projects similar in scale to the I-12 to Bush Highway project. This report provides the methodology used by GSRC to identify the best methods for identifying mitigation measures for projects similar in scale, research findings, and recommended best practices for wetland mitigation. Mr. Nass researched current mitigation practices used by other States' Departments of Transportation to streamline the USACE 404 permitting process and mitigation requirements associated with the approval of a Department of the Army individual permit and to reduce costs and liability. Additionally, GSRC identified numerous potential mitigation providers and assisted LADOTD during the selection and negotiation process. Mr. Nass was responsible for scheduling, budget, project coordination with LADOTD and private mitigation banks and landowners, preparation of all necessary project documents, and negotiating with the selected mitigation bank provider.
10/95-06/96	Project Manager. Wetland Delineation, U.S. 61 From Bains, Louisiana to the Louisiana/Mississippi State Line (LADOTD) - Mr. Nass conducted wetland delineations along an approximately 12-mile by 200-foot (290.9 acres) proposed highway expansion corridor from Bains, Louisiana, to the Louisiana/Mississippi State Line. A preliminary investigation using color infrared photography was conducted and potential wetlands were delineated and mapped. Potential wetlands were ground-truthed during a transect survey of the proposed highway expansion corridor. Mr. Nass was responsible for field data collection, delineation of the wetland/non-wetland boundary, mapping, and the preparation of the wetland finding report. A formal jurisdiction determination was received from the USACE (New Orleans District) for the surveyed area. A map indicating wetland boundaries was provided to LADOTD for future planning strategies.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation		
Name	Beau Rapier		Years of relevant experience with this employer	8
Title	Wetland Biologist		Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization			B.A. / 2016 / Forestry Wildlife Management and Habitat Conservation M.S. / 2018 / Science in Biology	
Active registration number / state / expiration date			N/A	
Year registered	N/A	Discipline	N/A Other Pertinent Training / Certifications 38-Hour USACE Wetland Delineation Training Program	
Contract role(s) / brief description of responsibilities			Wetland Biologist / Threatened and Endangered Species (Satisfies MPR #14) Beau has 10 years of experience working in 28 states, predominately focused on mammals of conservation concern, but he has also held positions surveying for birds, vegetation, herpetofauna, and parasite/disease dynamics. Mr. Rapier has led field crews to conduct point count surveys for Neotropic migratory birds of conservation priority, as well as identifying and buffering active bird nests in ROWs. In addition, he has aided in reporting cases of white-nose syndrome in Indiana bats, northern long-eared bats, and gray bats in Illinois and Tennessee. Mr. Rapier has managed and performed a range of field-related tasks, wrote NEPA documents, and acquired permitting for various project components.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
10/24-Present	Project Manager. Plaquemines Wetland Desktop Survey, Louisiana - GSRC is under contract with Principal Engineering on behalf of the Coastal Protection Restoration Authority to perform a desktop wetland delineation for eight separate project areas. Mr. Rapier will collect data from USFWS, USDA, and FEMA, create and digitize polygons to delineate the perceived jurisdictional wetland/upland boundary, submit findings reports and budgets, and coordinate with multiple teams and stakeholders.			
10/23-Present	Central Wetland Delineation, Louisiana - GSRC is under contract with Forte and Tablada to perform a wetland delineation on an approximately 50-acre parcel of land and 17 separate ditch segments. Mr. Rapier conducted the delineations, prepared the wetland findings report, and submitted findings to the USACE. GSRC has received the Preliminary Jurisdictional Determination, and is assisting the client in determining the next steps to take in the permitting process.			
04/20-11/23	Project Manager. Gopher Tortoise Population Surveys, Mayport, FL - GSRC was contracted by NAFVAC SE to conduct gopher tortoise burrow surveys. Field surveys were conducted in two phases. During the first phase, Mr. Rapier walked parallel transects through suitable gopher tortoise habitat and recorded transects using a Trimble GPS unit. Each burrow observed was photographed, recorded with the GPS unit, and temporarily marked with flagging. Each burrow was then classified by size and noted as active, inactive, or abandoned. During the second phase, Mr. Rapier used a specially designed gopher tortoise burrow camera to verify the presence or absence of gopher tortoise in all burrows over 3 inches in diameter. Mr. Rapier also documented vegetation characteristics at each gopher tortoise survey site, and if other animals were utilizing the gopher tortoise burrows. Mr. Rapier handled the preparation and execution of all project deliverables, including data analysis and technical reports.			
09/20-11/23	Project Manager. Eastern Indigo Snake and Gopher Tortoise Surveys, Kings Bay, GA - GSRC was contracted by NAFVAC SE to conduct surveys for the presence of gopher tortoise and eastern indigo snake at Naval Submarine Base (NSB) Kings Bay in Camden County, Georgia. In total, six drift fence arrays were established in areas that appeared suitable for eastern indigo snakes. Drift arrays were fixed with automatic cameras pointed towards the ground to passively detect animals that traversed the array. For the gopher tortoise burrow surveys, Mr. Rapier walked parallel transects through suitable gopher tortoise			

	habitat and recorded transects using a Trimble GPS unit. Each observed burrow was photographed, recorded with the GPS unit, and temporarily marked with flagging. Burrows were classified by size and noted as active, inactive, or abandoned. Mr. Rapier handled the preparation and execution of all project deliverables, including data analysis and technical reports.
06/21-10/21	Project Manager. Wharton Wetland Delineation, Louisiana - GSRC was contracted by a private landowner to perform a wetland delineation on an approximately 17-acre parcel of land. Mr. Rapier conducted the delineation, wrote the wetland findings report, and submitted the report to the USACE. After receiving the Preliminary Jurisdictional Determination, GSRC aided the client in determining the next steps to take in the permitting process.
04/20-6/20	Project Manager. Morrison Hill Wetland Delineation, Louisiana (Morrison Enterprises, LLC) - GSRC was contracted by Morrison Enterprises, LLC to perform a wetland delineation on an approximately 9-acre parcel of land. Mr. Rapier conducted the delineation, wrote the wetland findings report, and served as a liaison between the client and the USACE until a Preliminary Jurisdictional Determination was issued.
09/18-09/19	Field Crew Lead. Migratory Bird and Rare and Threatened Species Surveys, Mammal Surveys, Herpetofauna Surveys, Mississippi - GSRC was contracted by NAVFAC SE to survey the Stennis Western Maneuver Area for migratory bird species with a special focus on documenting any federally or state threatened or endangered species that may be present. Mr. Rapier conducted point counts, meandering or opportunistic surveys, and call playback surveys for secretive marsh birds on a quarterly basis to record, to the best extent possible, all bird species on the installation. Mammal surveys consisted of Tomahawk trapping and deploying trail cameras with scent lures. Herpetofauna surveys consisted of deploying cover boards, floating turtle traps, submerged trashcan traps, hoop nets, and glow-stick-baited funnel traps.
02/19-Present	Project Manager. Wetland Delineation for the East Jackson County Wastewater Treatment Plant, Jackson County, MS - GSRC was contracted by Arcadis, on behalf of the East Jackson County Wastewater Treatment Plant, to perform a wetland delineation on a proposed pipeline ROW and adjoining parcel of land encompassing a total area of 203 acres. Habitat within the project area included pine and pine-hardwood forests, bottomland hardwood forest, and periodically maintained pipeline and powerline ROWs. Mr. Rapier served as a biologist during all field surveys, wetland delineations, and Phase 1 ESAs. Mr. Rapier was responsible for project management and preparation of all deliverables.
04/19-08/19	Project Manager. Trimcane Wetland Delineation, Mississippi (Trimcane, LLC) - GSRC was contracted by Trimcane, LLC to perform a wetland delineation on an approximately 35-acre parcel of land. Mr. Rapier conducted the delineation, wrote the wetland findings report, and submitted this to the USACE. After receiving the Preliminary Jurisdictional Determination, GSRC aided the client in determining the next steps to take in the permitting process, including an alternatives analysis and Department of the Army Permit.
06/18-09/18	Field Biologist. Preparation of Wetland Jurisdictional Determinations for Four Strategic Petroleum Reserves, Department of Energy, Strategic Petroleum Reserve, Texas and Louisiana (FFPO, LLC) - GSRC was contracted by Fluor Federal Petroleum Operations, LLC, to conduct wetland delineation surveys at four separate Strategic Petroleum Reserve (SPR) sites operated by the Department of Energy. These sites have been proposed for maintenance and expansion to existing infrastructure. Mr. Rapier served as a field biologist during wetland delineations conducted at the Bayou Choctaw SPR in Iberville Parish, Louisiana, and the Bryan Mound SPR in Brazoria County, Texas. In addition to determining the presence of potential wetlands and Waters of the U.S., Mr. Rapier was responsible for preparing the final summary reports at Bayou Choctaw.

16. Staff Experience:

Firm employed by		Gulf South Research Corporation	
Name	Allen Fuller	Years of relevant experience with this employer	14
Title	Wetland Biologist	Years of relevant experience with other employer(s)	2
Degree(s) / Years / Specialization		B.S. / 2008 / Plant and Soil Systems	
Active registration number / state / expiration date		Wetland Training Institute Wetland Plant Species Identification	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		Wetland Biologist / Delineation (Satisfies MPR #14) Allen has participated in restoration projects in multiple states for clients including USACE, DoD, and various private companies. Mr. Fuller has conducted numerous wetland delineations and biological surveys. He has also assisted in wetland mitigation banking projects. Mr. Fuller currently manages multiple ongoing restoration projects for government agencies. He has conducted plant propagation, pesticide applications, and implemented various revegetation methods on many species in a variety of settings and has designed and installed irrigation systems for restoration projects in numerous states.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
01/09-Present	Biologist. Wetland Delineations for Private Clients, Louisiana - Mr. Fuller has assisted in the field surveys, report preparation, and permitting processes for wetland delineations within several parishes in Louisiana. Field surveys, plant identification, and report preparation were required to be submitted to the USACE for verification of wetland boundaries and permitting of dredge and fill operations for property development.		
02/20-02/21	Biologist. Wetland Delineations for a Proposed Wind Farm in Quitman and Tunica Counties, MS - GSRC was contracted by CSRS to determine the extent of potential jurisdictional Waters of the U.S., including wetlands on approximately 43,000 acres near Tunica, Mississippi. The Area of Interest (AOI) consisted primarily of private agricultural lands interspersed with wooded streams and forested hunting lands. Mr. Fuller served as a field biologist for the wetland delineations, which were conducted both on foot and with the use of ATV’s over the course of several months. Threatened and endangered species surveys were conducted concurrently with the wetland delineation surveys.		
09/17-10/18	Field Biologist. Multiple Wetland Delineations of Separate Project Areas for the Joint Readiness Training Center and Fort Johnson, Vernon Parish, LA - GSRC was contracted by the USACE, Fort Worth District, to perform wetland delineations for various construction projects as part of a larger effort to manage newly acquired lands within the jurisdiction of Fort Johnson. These lands contain large expanses of bottomland hardwood that offer potential as future mitigation credit sites. Mr. Fuller has participated in two wetland delineations for separate construction projects that have or will take place on the newly acquired property. The wetland delineation project areas were 18 acres and 87 acres in size and predominantly were located in areas containing upland loblolly pine plantations, mixed hardwood-loblolly pine forests, and bottomland hardwood forests. Mr. Fuller conducted the wetland delineation data collection and mapping and prepared the final summary report.		

16. Staff Experience:

Firm employed by		Gulf South Research Corporation	
Name	Ross Hackbarth	Years of relevant experience with this employer	9
Title	Wetland Biologist	Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization		B.A. / 2014 / Botany	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	N/A
Other Pertinent Training / Certifications Wetland Training Institute – Wetland Delineation Training 2017			
Contract role(s) / brief description of responsibilities		Wetland Biologist / NEPA (Satisfies MPR #14) Ross is an ecologist specializing in vegetation assessments, wetland delineations, and floral inventories. He has 5 years of experience in habitat analyses, ecological restoration, and NEPA documentation for numerous projects throughout the southern U.S., and has provided assistance in the development of NEPA documents, including EAs. He has performed field surveys for threatened and endangered species and habitat management planning for invasive species, including mapping seeds collection sites for re-plantings. Additionally, Mr. Hackbarth has experience in native plant nursery and greenhouse operations, wildlife surveys, nationwide permitting, and construction monitoring standards and regulations.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
09/20-09/23	Biologist. Environmental Assessment for Facility Enhancements and Land Use Modification Projects at Columbus Air Force Base, MS - GSRC was contracted by USACE, Mobile District, to complete an EA and supporting environmental studies for proposed construction, demolition, and land use modification actions at Columbus Air Force Base in Lowndes County, Mississippi. The proposed projects were the replacement and construction of a physical fitness center, replacement and construction of a water storage tank, and permanent placement of fill material into and onto the water bottom of a man-made lake. Mr. Hackbarth served as a technical preparer for sections of the EA and provided quality assurance for supporting documents including a biological resources report and environmental baseline study. Additionally, Mr. Hackbarth served as a GIS analyst and assisted with map creation for the various documents required under the contract.		
09/19-10/21	Field Biologist. Rare, Threatened, and Endangered Species, Bird, and Invasive Plant Inventory at Naval Construction Battalion Center Western Maneuver Area, Hancock County, MS - Naval Facilities Engineering Systems Command Southeast (NAVFAC SE) contracted JESCO Environmental and Geotechnical Services, Inc. and GSRC to conduct an inventory of rare, threatened, and endangered species, birds, and invasive plants on approximately 1,477 acres of land newly acquired by the U.S. Navy at the Naval Construction Battalion Western Maneuver Area (NCBC WMA) in Hancock County, Mississippi. Knowledge of the site occupancy and seasonal use of the survey area by these species supports the long-term sustainment and planning of NCBC WMA actions. Mr. Hackbarth participated in fall field surveys, which included live trapping (e.g., hoop nets, cover boards, trash can traps), bird point count stations, and pedestrian transects. One species documented in 2019 during point-count surveys, the little blue heron (Egretta caerulea), is considered a Tier II species of concern in the state of Mississippi.		
02/20-02/21	Field Biologist. Wetland Delineations for a Proposed Wind Farm in Quitman and Tunica Counties, MS - GSRC was contracted by CSRS to determine the extent of potential jurisdictional Waters of the U.S., including wetlands on approximately 43,000 acres near Tunica, Mississippi. The survey area consisted of primarily private agricultural lands interspersed with wooded streams and forested hunting lands. Mr. Hackbarth served as a field biologist for the wetland delineations, which were conducted both on foot and with the use of ATVs over the course of several months. Threatened and endangered species surveys were conducted concurrently with the wetland delineation surveys.		

09/17-10/18	Field Biologist. Wetland Delineations, Stream Biomonitoring Support, and Vital Rate Support for Fort Johnson, Vernon Parish, LA - GSRC was contracted by the USACE, Fort Worth District, to provide various environmental services at Fort Polk, including stream biomonitoring. Stream fish assemblages and macro-invertebrate surveys are used at Fort Polk to monitor water quality and assess potential effects of training activities on aquatic ecosystem health. GSRC assisted with studies to quantify the relative health of a limited number of streams on Fort Johnson in primary training lands. These studies can be used to address questions regarding potential training effects that may arise during NEPA analyses. Mr. Hackbarth took part in the stream biomonitoring of six Fort Johnson streams, which included: 1) electroshocking to collect fish samples; 2) scoop net sampling for macroinvertebrates; and 3) a qualitative analysis of stream appearance, structure, and condition.
02/19-10/19	Field Biologist. Wetland Delineation for the East Jackson County Wastewater Treatment Plant, Jackson County, MS - GSRC was contracted by Arcadis, on behalf of the East Jackson County Wastewater Treatment Plant, to perform a wetland delineation on a proposed pipeline ROW and adjoining parcel of land encompassing a total area of 203 acres. Habitat within the project area included pine and mixed pine-hardwood forests, bottomland hardwood forest, and periodically maintained pipeline and powerline ROWs. Mr. Hackbarth served as a biologist during all field survey activities. The project area was found to contain approximately 166 acres of potentially jurisdictional wetlands and 16,534 linear feet (3.13 miles) of potential jurisdictional Waters of the U.S.
01/19-11/19	Field Biologist. Biological Resources Survey and Wetlands Delineation for the Rio Grande Valley 50-Mile New Wall Construction Project, Starr and Hidalgo Counties, TX - CBP contracted GSRC to provide environmental planning support for the proposed construction of approximately 50 miles of new border wall. Mr. Hackbarth served as a biologist for all natural resources survey activities including threatened and endangered species surveys, comprehensive floral and faunal documentation, and wetlands delineations. GSRC biologists conducted meandering pedestrian transects through the 200-foot-wide project corridor. Species lists were recorded for distinct vegetation communities. Threatened or endangered species observed included Zapata bladderpod (<i>Physaria thamnophila</i>), Texas tortoise (<i>Gopherus berlandieri</i>), and Texas horned lizard (<i>Phrynosoma cornutum</i>). Wetland delineations were conducted in accordance with the <i>Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual</i> and the <i>2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region</i>
04/18-09/18	Technical Preparer. Preparation of Clean Water Act Section 404 Nationwide Permit Pre-Construction Notification for RGV-WSL-South Road and RGV-FTB-Gallinas RVSS Tower Locations, TX - GSRC was contracted by CBP to prepare separate Clean Water Act (CWA) Section 404 permit applications for the alteration of jurisdictional wetlands from planned construction activities. CBP proposed to construct approximately 72 new Remote Video Surveillance System (RVSS) towers in its RGV sector and two of these tower locations were previously identified as occurring in areas delineated as potentially jurisdictional wetlands. CWA Section 404 permits must be submitted to the proper USACE district in order to construct within these areas. Mr. Hackbarth authored the two permit applications that were submitted in order to obtain a Nationwide Permit 39. The tower sites were designed in a manner that prevented having to conduct off-site mitigation for the proposed tower construction locations.

16. Staff Experience:

Firm employed by		Marrero, Couvillon & Associates, LLC	
Name	Christian Schade, P.E.	Years of relevant experience with this employer	8
Title	Sr. Electrical Engineer	Years of relevant experience with other employer(s)	24
Degree(s) / Years / Specialization	B.S. / 1993/ Electrical Engineering		
Active registration number / state / expiration date	#PE.0032483 / LA / 09-30-2026		
Year registered	2006	Discipline	Electrical Engineering & Computer Engineering
Contract role(s) / brief description of responsibilities	Senior Electrical Engineer Christian's areas of expertise include electrical engineering for roadway lighting, power distribution, power generation, lighting, specification writing and contract administration. His experience includes Power system analysis, consisting of load flow, fault, arc flash and coordination studies using SKM Power Tools for Windows and ETAP. Proficient with incident energy level method of Arc Flash calculations per NFPA 70E, 2015 version. Electrical design support for small to medium size projects in industrial facilities, including installation of new pumps, agitators, metering equipment, lighting, and power distribution centers.		
Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
06/25-Present	LADOTD, Grand Prairie Rest Area Lighting Upgrade, St. Landry Parish, LA - Sr. Electrical Engineer. MCA is providing the design for a complete replacement of all exterior lighting at the rest area. The rest area has roadways, parking areas, walk paths to pavilions, and a separate boat launch and parking lot. The scope of work includes the removal of existing high mast lighting and replacement with low mast and walkway lighting in all areas. All new underground circuitry shall be provided to the new lighting, along with new lighting controls.		
09/23-Present	LADOTD, I-20 Widening, Wells to LA34 Electrical and Lighting Design, Baton Rouge, LA - Sr. Electrical Engineer. The scope of work is to provide additional traffic capacity in each direction. This was accomplished primarily by increasing the entrance/exit ramps. MCA provided design services to analyze the existing conditions of the roadway lighting, which consisted of high pressure sodium fixtures on low mast poles, and provide modifications to the existing lighting systems as necessary to accommodate the changes in roadway geometry. This includes upgrading the existing fixtures to LED, re-position select poles, and upgrading the secondary controllers to current standards.		
07/17 – 11/20	LADOTD, I-10 and 73 Widening Design-Build - Sr. Electrical Engineer. Provided electrical engineering and design for lighting on the I-10 Widening from Highland to LA 30 design-build project.		
04/18 – 02/20	France Road – North, Roadway and Drainage Improvements, New Orleans, LA (Port of New Orleans) - Sr. Electrical Engineer. MCA provided the electrical and mechanical engineering services for the roadway, lighting, and drainage improvements.		
04/18 – 02/19	Howard Avenue Extension (Loyola Avenue to LaSalle Street) New Orleans, LA (City of New Orleans) - Sr. Electrical Engineer. Marrero, Couvillon & Associates was responsible for the electrical services needed for the Howard Avenue Extension. Work included revising the roadway lighting from high pressure sodium lights to LED lights per new City of New Orleans Standards. Revisions included changing light fixtures, downsizing electrical conductors and revising drawings, including bill of materials. Performed lighting calculations and followed illumination guidelines per the latest IES roadway lighting recommended practices issued in 2014.		
01/20-06/20	Bluebonnet Blvd. (Picardy to Highland) Roadway Lighting, Baton Rouge, LA (City/Parish of East Baton Rouge) - Sr. Electrical Engineer. Existing Bluebonnet Blvd was two lanes in each direction. Pedestrian facilities are interspersed throughout the corridor and there is commercial development abutting the corridor. The project was to add an additional travel lane in each direction and provide for connected pedestrian facilities throughout the corridor. MCA was responsible for all activities needed to complete a lighting plan and a photometric analysis report that contains illumination analysis of all roadways and/or interchanges within the project limits and conform to illumination criteria specified in the design guidelines are included in this scope.		

16. Staff Experience:

Firm employed by		Marrero, Couvillon & Associates, LLC	
Name	M. Kimball Schlafly, P.E.	Years of relevant experience with this employer	6
Title	Sr. Electrical Engineer	Years of relevant experience with other employer(s)	32
Degree(s) / Years / Specialization		B.S. / 1988 / Electrical Engineering	
Active registration number / state / expiration date		#PE.0027699 / LA / 09-30-2026	
Year registered	1998	Discipline	Electrical Engineer
Contract role(s) / brief description of responsibilities		Sr. Electrical Engineer Mr. Schlafly has over 35 years of engineering experience in electrical engineering, project engineering and project management. He has been responsible for various projects requiring design of roadway lighting, low and medium voltage power distribution, standby and emergency power systems, telecommunications, fire alarm, access control, video surveillance, and theatrical audio/visual and lighting systems.	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).		
07/17-11/20	LADOTD, I-10 and 73 Widening Design-Build - Sr. Electrical Engineer. Provided electrical engineering and design for lighting on the I-10 Widening from Highland to LA 30 design-build project.		
04/18-02/19	Howard Avenue Extension (Loyola Avenue to LaSalle Street), New Orleans, LA (City of New Orleans) - Sr. Electrical Engineer. Marrero, Couvillon & Associates was responsible for the electrical services for the Howard Avenue Extension. Work included revising roadway lighting from high pressure sodium lights to LED lights per new City of New Orleans Standards. Revisions included changing light fixtures, downsizing electrical conductors and revising drawings, including bill of materials. Performed lighting calculations and followed illumination guidelines per the latest IES roadway lighting recommended practices issued in 2014.		
01/20-06/20	Bluebonnet Blvd. (Picardy to Highland) Roadway Lighting, Baton Rouge, LA (City/Parish of East Baton Rouge) - Sr. Electrical Engineer. The scope of work included additional lane capacity in each direction. Bluebonnet Blvd was two lanes in each direction. Pedestrian facilities are interspersed throughout the corridor and there is commercial development abutting the corridor. The project was to add an additional travel lane in each direction and provide for connected pedestrian facilities throughout the corridor. MCA was responsible for all activities necessary to complete a lighting plan and a photometric analysis report that contains illumination analysis of all roadways and/or interchanges within the project limits and conform to illumination criteria specified in the design guidelines are included in this scope.		
09/23-Present	LADOTD, I-20 Widening, Wells to LA34 Electrical and Lighting Design, Baton Rouge, LA - Sr. Electrical Engineer. The scope of work is to provide additional traffic capacity in each direction. This will be accomplished primarily by increasing the entrance/exit ramps. MCA is providing design services to analyze the existing conditions of the roadway lighting, which consist of high pressure sodium fixtures on low mast poles, and provide modifications to the existing lighting systems as necessary to accommodate the changes in roadway geometry. This includes upgrading the existing fixtures to LED, re-position select poles, and upgrading the secondary controllers to current standards.		
09/23-Present	LADOTD, I-10 and Pecue Lane - Lighting Design, Baton Rouge, East Baton Rouge, City Parish, LA - Sr. Electrical Engineer. Currently, there is no access to I-10 from Pecue Lane and the existing Pecue Lane consists of 2 traffic lanes. The existing overpass will be removed and replaced with two overpass structures, with 3 lanes in each direction. Pecue Lane will be reconstructed to a curb and gutter section, with a raised median and 3 lanes in each direction. South of I-10 there will be two bridge structures for Pecue to cross Ward’s Creek. Cost: \$36M		

16. Staff Experience:

Firm employed by		Vectura Consulting Services, LLC		
Name	Laurence Lambert, II, P.E., PTOE, PTP		Years of relevant experience with this employer	10
Title	Principal		Years of relevant experience with other employer(s)	18
Degree(s) / Years / Specialization			B.S. / 1997 / Civil Engineering M.S. / 2006 / Civil Engineering (Transportation focus) MBA / 2010	
Active registration number / state / expiration date			#PE.0029901 / LA / 03-31-2028	
Year registered	2001	Discipline	Civil Engineer Other Pertinent Training / Certifications LTRC Traffic Engineering Analysis Process and Report Course – Modules 1, 2 and 3 (2018) Professional Traffic Operations Engineer (exp. 9/9/2027) Traffic Control Supervisor Refresher-LA State Specific (exp. 4/27/2030) ATSSA Certified Flagger (exp. 5/8/2027)	
Contract role(s) / brief description of responsibilities			Traffic Study Lead	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
12/23-08/24	H.972501.1 South Range Road Operations Study Stage 0 Feasibility Study, Tangipahoa Parish, LA - Principal in Charge for a Stage 0 for the Regional Planning Commission (RPC) to evaluate operating conditions of the S. Range Road corridor that included the intersection with Old Covington Highway. The corridor study included traffic data collection, pedestrian / bicycle counts, safety analysis, existing conditions analysis and alternative analysis. The results were summarized in a Stage 0 report.			
05/23-05/24	US 190B/Fremaux Ave Sidewalk Feasibility Study, Slidell, LA - Principal in charge for a sidewalk feasibility study that included data collection, safety analysis, alternative analysis, and a final report.			
07/23-11/23	H.015504.5 CCC Decorative Lighting Level 4 TMP, New Orleans, LA - Project manager for a Level 4 Traffic Management Plan (TMP) for the Crescent City Connection (CCC). Laurence oversaw the lane closure analysis based on queuing. A safety analysis of the construction zone was also performed to identify any “hot spots”. The results were summarized in a report that was reviewed by DOTD.			
04/23-10/23	H.014591.5 I-12: US 61 Bridges Girder Repairs, Baton Rouge, LA - Project manager for a Level 2 TMP for the interchange of I-12 at US 61. Laurence performed QA/QC for a lane closure analysis based on queuing. A safety analysis of the construction zone was also performed to identify any “hot spots” where Laurence also performed QA/PC. The results were summarized in a report that was reviewed by DOTD.			
07/19-Present	MOVEBR New Capacity Projects Program Management, Baton Rouge, LA - At the beginning of the program, Laurence worked with the Capital Region Planning Commission to produce measures of effectiveness from the travel demand model to prioritize the MOVEBR project list. Laurence and Pong Wu developed a list of vehicle miles traveled, V/C ratios and vehicles hours of delay. Laurence also developed specifications of Rectangular Rapid Flashing Beacons (RRFB) for the City of Baton Rouge.			
01/23-02/24	H.011504 Alexandria ITS Phase 2 - Project manager for a System Engineering Analysis Report, Engineering Opinion of Probably Construction Cost and Level 2 Transportation Management Plan for the Alexandria area.			
10/21-03/22	H.013256.5 I-10 ITS Scott to Lake Charles - Lead traffic engineer for a Level 2 Traffic Management Plan (TMP) for the construction of ITS equipment along I-10. The plan included a safety strategy that included a CAT Scan, LOS determination utilizing Citrix data, lane closure recommendations based on a queue analysis and public information strategies.			
09/20-04/21	MOVEBR LA 67 (Plank Road) Enhancement Project, Baton Rouge, LA - Project manager to enhance transit, bicycle, and pedestrian mobility on Plank Road that required both City-Parish and DOTD approval. Laurence evaluated the proposed pedestrian crossings on LA 67 using the DOTD Traffic			

	Engineering Manual pedestrian warrants found in Section 3B.2. Laurence also developed traffic operations evaluation of the traffic study which included traffic signal timing evaluations.
02/20-09/21	College Drive Corridor Enhancement from Perkins Road to I-10, Baton Rouge, LA - Project manager to develop Chapter 1 (Data Collection), Appendix A (Initial Data Collection), and Appendix B (Final Data Collection) for proposed improvements College Drive. Since the I-10 interchange was included in the study, approval from DOTD was required. Vectura collected, turning movement counts, 85% speed data, travel time runs, queue measurements, field observations, verification of Traffic Signal Inventories, and bicycle / pedestrian / transit observations.
10/17-10/18	H.013025 LA 182 (University Avenue) Corridor Planning Study, Lafayette, LA - Lead transportation engineer for a Corridor Planning Study for LA 182. The scope focused on improving safety and mobility for pedestrian, bicycle, and transit users. Laurence collected AM & PM peak vehicle turning movement counts as well as pedestrian and bicycle counts. Laurence coordinated with the Acadiana Planning Commission to develop growth rates and design year volumes. Laurence then performed Highway Capacity Manual analysis for 5 intersections along the intersection analyses for the signalized and roundabout controlled alternatives. Included in the study was a safety analyses of five intersections and the intermediate segments. Based on the results of the safety analysis, Laurence provided design criteria to the design team for improving safety of pedestrians, bicycles, and vehicles.
02/17-10/17	Judge Tanner Boulevard at N. Causeway Roundabout Study, St. Tammany Parish, LA - Performed a Stage 0 Feasibility Study for Roundabouts at 4 intersections in Mandeville area. The scope was developed based on EDSMs VI.1.1.1 / VI.1.1.5 and DOTD Traffic Engineering Manual (TEM) Section 20.2. Laurence, along with Brin, collected 7-day, 24-hour counts w/ Classification on mainlines, turning movement counts for morning and evening peak periods and speed data for mainlines. Once the traffic data was collected, Laurence performed traffic signal warrants analyses, performed a Sidra unsignalized, signalized, and roundabout analyses for years 2020 and 2040, AM & PM peak hours. Laurence developed a report that captured all the results.
01/17-07/17	Minnesota Park Road Improvements Traffic Study, Tangipahoa Parish, LA - Task leader for a traffic data collection and intersection analyses of a Stage 0 Feasibility study for Minnesota Park Road in Hammond, LA. Laurence utilized Sidra software to perform a roundabout alternative. The DOTD procedures for utilizing Sidra were followed for this project.
09/16-04/17	H.004957.5 I-12 To Bush - LA 3241 (I-12 – LA 36) Corridor Study, St. Tammany Parish, LA - Lead traffic engineer for a DOTD traffic study for the new LA 3241 alignment with the purpose of obtaining both existing and projected future traffic variables in accordance with standard operating procedures typically performed in these types of analyses. Laurence worked closely with the NORPC and District 62 to develop design year volumes using data the TransCAD model. The traffic study examined concepts that improved the safety and efficiency of the roadway consistent with the latest DOTD policies related to access management. Laurence, along with Brin, collected 7-day, 24-hour counts w/ classification on mainlines, turning movement counts for morning and evening peak periods and speed data for mainlines. Laurence also developed a VISSIM traffic simulation model of the preferred alternative.
06/12-12/12	Ramp Metering Study of I-10 Segment, East Baton Rouge and Ascension Parishes, Louisiana (Project Manager) - Conducted a feasibility study to deploy ramp meters along the Interstate 10 (I-10) Corridor in Baton Rouge between Dalrymple Drive and LA 73. The study consisted of analyzing 17 on-ramps under differing design conditions, which include the following: 2010 Existing, 2012 Without Ramp Meter, 2012 Ramp Meter, and 2012 Ramp Meter with Recommendations. Laurence's role in this project as project manager was to oversee all QA / QC measures and interpret the results from the model. Laurence coordinated with the local agencies to obtain all current proposed projects in the area, which included DOTD I-10 Widening Project Phases 1 and 2, the Green Light Plan (GLP) Essen Lane Widening Project, and the GLP Highland Road Widening Project.
03/10-11/11	S.P. No. 700-09-0171 Stage 0 and 1 Study I-49 Inner City Connector, Shreveport, LA - This 3.5-mile route will connect existing I-49 / I-20 interchange to the proposed I-49 / I-220 interchange. After completing the Stage 0, Laurence was the project manager for the traffic analyses for the EA phase. The total traffic analyses effort included over 30 TransCAD Models, 20 interchanges and 70 intersections. Analyses included signalized and unsignalized intersections, basic freeway segments, freeway merge / diverge segments and freeway weaving segments at the studied intersections and interchanges. This project included performing both Interchange Modifications Reports (IMRs) and Interchange Justification Reports (IJRs).

16. Staff Experience:

Firm employed by		Vectura Consulting Services, LLC		
Name	Sheelagh Brin Ferlito, P.E., PTOE		Years of relevant experience with this employer	10
Title	Principal		Years of relevant experience with other employer(s)	27
Degree(s) / Years / Specialization			B.S. / 1988 / Civil Engineer	
Active registration number / state / expiration date			#PE.0025383 / LA / 09-30-2027	
Year registered	1993	Discipline	Civil Engineer	
		Other Pertinent Training / Certifications LTRC Traffic Engineering Analysis Process and Report Course – Modules 1, 2 and 3 (2018) Professional Traffic Operations Engineer (exp. 9/9/2027) ATSSA Certified Flagger (exp. 5/8/2027)		
Contract role(s) / brief description of responsibilities			Traffic Control Design, Temporary Traffic Signal Analysis, Design QC	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
07/21-Present	H.007160 - EBR Computerized Traffic Signal, Phase VB, Baton Rouge, LA - Task leader for Vectura for the Construction Engineering and Inspection of 24 traffic signals. Brin oversaw the review of signal mast arm shop drawings to assist the City-Parish of Baton Rouge in accepting the manufactured poles. Brin and Reece, with the DOTD, City-Parish and the Contractor conducted field visits to confirm pole foundation locations.			
07/19-Present	MOVEBR New Capacity Projects Program Management, Baton Rouge, LA - Lead traffic engineer for entire the New Capacity Projects program management team. All traffic engineering scope of services, traffic / speed data collection, traffic design studies, safety studies, and traffic signal design plans are reviewed by Brin. She is in constant communication with the Traffic Engineering staff of DOTD and EBR Traffic Engineering Department. She understands the current requirements for all aspects of traffic engineering projects.			
07/19-Present	H.004791 DOTD Belle Chasse Bridge & Tunnel Replacement PPP, Belle Chasse, LA - Project manager for the temporary and permanent traffic signal plans for the intersections of LA 23 at Burmaster St and at Engineers Rd. She based her traffic signal plans on design year volumes that were developed using growth rates from the New Orleans Regional Planning Commission Travel Demand Model. This project is the first ever Public-Private-Partnership performed by DOTD.			
09/20-12/21	H.010960.5 LA 30 Roundabouts at Tanger I-10, Ascension Parish, LA - Project manager for the design of temporary traffic signal plans that will be implemented during the roundabout construction along LA 30 in Gonzales, LA. The project involves replacing three existing signalized intersections with multilane roundabouts along LA 30 at I-10 Interchange ramps and at Tanger Boulevard. Vectura also developed signal timing plans for each phase of the construction to maintain progression along LA 30.			
07/18-04/19	LA 1 Pedestrian Crosswalk Study and Traffic / Pedestrian Signal Design West Baton Rouge Parish, Addis, LA - Developed a Pedestrian Crosswalk Study and Traffic Signal Construction Plans for the intersection of LA 1 at LA 990 in Addis, LA. The study was based on DOTD Traffic Engineering Manual Crosswalk Guidelines followed by traffic signal design plans based on DOTD requirements. The study included traffic and pedestrian traffic data collection, a speed study, crash analyses, intersection analyses and progression analyses. The signal plans included pedestrian signal equipment, signal timing parameter calculations, crosswalk striping, signs, DOTD pay items, estimated quantities, and construction cost. Brin also assisted with the Parish with the DOTD Permit Request for Intersection Control Devices on a State Right of Way.			
09/17-04/18	US 11 at US 190 Bus. (Fremaux Ave.) Pedestrian Crosswalk Study and Traffic / Pedestrian Signal Equipment Design Slidell, LA - Developed a formal traffic study for a proposed crosswalk with pedestrian traffic signal equipment and pedestrian clearance timings based on DOTD requirements. Brin assisted with vehicle and pedestrian data collection, spot speed study, analyzed 3-year intersection crash data and developed signal timing for pedestrians to cross the street. From the design study, a set of Traffic Signal Modification Plans were developed to implement the recommended alternative.			

08/15-05/17	Enhancing Guidance for Evacuation Time Estimate Studies (Nuclear Regulatory Commission Rockville, MD) - Conducted an applied research study of U.S. Nuclear Regulatory Commission guidance for developing evacuation time estimate studies and produced a technical basis for revision of NUREG/CR-7002 "Criteria for Development of Evacuation Time Estimate Studies" in support of the 2020 update of ETEs. Specifically, Brin was the lead VISSIM modeler for the "large" population models, which consisted of a 20-mile radius model. The VISSIM model input included traffic volumes distributed over 8 hours, highway and intersection lane geometry using links and connectors, conflict areas, traffic signal and stop control and speed. Brin also developed Dynamic Traffic Assignment code to simulate that fastest route out of the evacuated zone.
04/14-12/14	H.002301 Signal Design for N. Sherwood Forest Dr. Widening Project, Baton Rouge, LA - Project engineer, Brin was in responsible charge for data collection and design for three signalized intersections as part of a road widening project as per EBR DPW and DOTD requirements. Ms. Ferlito developed the traffic signal equipment, signal timing and communication construction plans, special provision specifications, quantities, and cost estimate. She also performed tasks to develop the striping plans and sequence of construction plans which included temporary signal equipment placement due to lane shifts during construction.
07/12-03/14	EBR 03-TS-CI-0026 CE&I for EBR Traffic Signal Systems Jefferson Highway Construction, Baton Rouge, LA - Project Resident Engineer on behalf of EBR for performing CE&I services for the construction of 11 traffic signals. She maintained records of the contractor's daily operations, coordinated significant events that affected construction progress including utility issues, reviewed shop drawings, conducted monthly progress meetings, recorded daily installed quantities, developed change orders and monthly contractor pay estimates. She also coordinated with DOTD ITS division for fiber splicing into interstate I-12 fiber backbone and ATM / EOC building. She processed all monthly tasks in EBR formats, as well as all items on the EBR project closeout checklist.
07/08-09/09	SPN 013-05-0043 CE&I for EBR Traffic Signal Systems Phase IV Construction, Baton Rouge, LA - Project Resident Engineer for DOTD and EBR to perform CE&I services for the construction of 21 traffic signals. She developed the project Sample Plan, maintained records of the contractor's daily operations, coordinated significant events that affected construction progress including utility issues, reviewed shop drawings, conducted monthly progress meetings, recorded daily installed quantities, coordinated concrete sampling for DOTD Materials Lab, developed change orders and monthly contractor pay estimates. She also coordinated with DOTD ITS division for fiber splicing into Airline Highway fiber backbone and ATM / EOC building. She processed all monthly tasks electronically in DOTD Site Manager and in EBR required formats as well as all items on the DOTD Project Closeout Checklist including the 2059 Report.
09/13-04/14	S.P. 700-99-0477 Jefferson Hwy. Signal Design, Baton Rouge, LA - Designed traffic signal plans for 11 intersections along Jefferson Highway between College Drive and the I-12 On Ramp in Baton Rouge. Design included traffic data collection, traffic signal layout, fiber interconnect layout, fiber splicing diagrams, pedestrian crosswalk layout, and sign layout. Design also included traffic signal synchronization signal timing and pedestrian signal timing. She prepared estimated quantities, preliminary and final signal construction plans, and specifications.
03/05-11/05	Airline Hwy Widening SPN 700-99-0332, Baton Rouge, LA - Designed 8 traffic signals as part of the Airline Hwy. widening project in Baton Rouge. Her design included traffic data collection, traffic signal equipment, signal synchronization timing, fiber communication, storage length calculations based on queues analyses, special provision specifications, quantities, and cost estimate. This project included fiber design to be the first Baton Rouge project to connect video surveillance images and traffic controller information to the ATM / EOC.
02/03-01/04	EBR Traffic Signal Systems Phases IV and V SPN 700-17-0172, Baton Rouge, LA - Project engineer for the design of 66 signalized intersections on eight arterials in Baton Rouge which included traffic data collection, traffic signal equipment, pedestrian crosswalk equipment, emergency vehicle and railroad preemption equipment, fiber interconnect equipment as well as traffic signal synchronization. Brin prepared traffic signal construction plans, estimated quantities, and specifications.

16. Staff Experience:

Firm employed by	Vectura Consulting Services, LLC			
Name	Kristen (Gahagan) Farrington, PE, PTOE, RSP1		Years of relevant experience with this employer	5
Title	Engineer		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization			B.S. / 2014 / Civil Engineering	
Active registration number / state / expiration date			#PE.0042785 / LA / 03-31-2027	
Year registered	2018	Discipline	Civil Engineer	
		Other Pertinent Training / Certifications LTRC Traffic Engineering Analysis Process and Report Course – Modules 1, 2 and 3 (2018) Professional Traffic Operations Engineer (exp. 9/9/2027) Traffic Control Supervisor Refresher-LA State Specific (exp. 4/18/2029) Road Safety Professional 1 (RSP1)		
Contract role(s) / brief description of responsibilities			Project Traffic Engineer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
12/23-Present	H.972501.1 South Range Road Stage 0, Tangipahoa Parish, LA - Project manager for a Stage 0 project to improve operations on South Range Road. The project included data collection, existing conditions analysis, safety analysis, and alternatives development.			
02/20-06/25	H.010616 – I-20: LA 544 Overpass Replacement, Ruston, LA - Project engineer for a Level 2 Transportation Management Plan (TMP) for a new four-lane bridge over I-20 and three, two-lane roundabouts along LA 544. Kristen also assisted Brin in the development temporary traffic signal plans with multiple setup configurations for the construction of the roundabouts.			
05/23-05/24	US 190B/Fremaux Ave Sidewalk Feasibility Study, Slidell, LA - Project manager for a sidewalk feasibility study that included data collection, safety analysis, alternative analysis, and final report.			
07/23-11/23	H.015504.5 CCC Decorative Lighting Level 4 TMP, New Orleans, LA - Project traffic lead for a Level 4 Traffic Management Plan (TMP) for the Crescent City Connection (CCC). Kristen calculated the lane closure analysis based on queuing. A safety analysis of the construction zone was also performed to identify any “hot spots”. The results were summarized in a report that was reviewed and approved by DOTD.			
04/22-11/23	H.013267 Capital Area Pathways Project, Baton Rouge, LA - Lead designer for four pedestrian hybrid beacons (PHB’s) with two crossings located on state routes. The locations were approved in a previous study and are now under design for construction. Kristen is working closely with the City and DOTD on the construction plan development as PHB’s are a new traffic control device for DOTD. Prior to the design of the PHB’s, Kristen prepared a traffic study evaluating all six uncontrolled crosswalks along the path, which included data collection and determining the appropriate treatment for each crossing location based on FHWA, DOTD and MUTCD guidance.			
06/19-02/21	H.013460 US 167 Improvements Stage 0 Enola Street to Ross Road, Evangeline Parish, LA - Project manager for a Stage 0 study of a two-lane road to remove a curvilinear section of US 167 from Enola Street near LA 748, southeast for approximately 1.2 miles. The study compared connecting existing property owners to a new roadway with driveways or intersection of old roadway. Environmental impacts and cost estimates were prepared. Civil Engineer responsible for safety analysis including crash rate number method, over-representation, CATScan quality assurance, HSM existing safety analysis, and No-Build Analysis, as well as a benefit-cost analysis. Designed high-level concept exhibits and a comparison matrix to determine best preliminary alternatives moving forward to meet the purpose and need of the project. Compiled meeting agenda materials and minutes.			
09/17-09/18	H.011160 LA 73 Corridor Study Stage 0 (LA 74 to LA 621), Ascension Parish, LA - Designer responsible for concept development, report writing, and impact analysis for a Stage 0 study. The purpose of the study was to evaluate conceptual alternatives to improve capacity and operations along the LA 73 corridor and its connecting transportation network. The scope included the evaluation of three interchange configurations for the interchange of I-10 at			

	LA 73 in conjunction with two corridor alternatives for LA 73, resulting in six different alternatives for which line and grade, impacts, and high-level cost estimates were prepared.
04/18-04/19	H.011243.1 I-49 at US 190 and LA 31 Interchange Improvements Stage 0, St. Landry Parish, LA - Project engineer responsible for crash and safety analysis, report writing, planning, and designing for this Stage 0 Study to evaluate alternatives to improve traffic operations and safety at the I-49 interchanges with US 190 and LA 31. Crash and safety analysis was performed using the DOTD CAT Scan tool and IHSDM, and line and grade was prepared to DOTD Design Standards for various corridors, including arterial collectors and freeway ramps.
04/19-06/21	H.013817.1 A 117 Improvements Stage 0, Vernon and Natchitoches Parishes, LA - Project engineer responsible for a Stage 0 study for 18 miles of two-lane highway. The study evaluated the impacts of correcting deficient vertical and horizontal geometry along the corridor, widening for the addition of shoulders, and adding passing lanes and turn lanes at strategic locations along the corridor. Kristen was responsible for performing the safety analysis including crash rate number method, over-representation, CAT Scan quality assurance, HSM existing safety analysis, and No-Build Analysis. Kristen designed high-level concept exhibits, evaluated environmental impacts, and prepared high level cost estimates and comparison matrices to determine which preliminary alternatives best meet the purpose and need of the project.
03/19-11/19	H.012311 LA 429 Connector Stage 0, Ascension Parish, LA - Task leader for the preparation of a Stage 0 study to evaluate alignments for a limited-access corridor (LA 429) near I-10, between LA 30, LA 73, and US 61. Two alternatives for the widening and reconstruction of LA 429 were evaluated. The scope consisted of stakeholder and public meetings, site visits and data collection, phasing of alternative development for the corridor, scope and budget checklists, and an opinion of probable cost to prepare the Stage 0 Report. Kristen served as the civil engineer responsible for designing high level concept exhibits and comparison matrix to determine the best preliminary alternatives moving forward to meet the purpose and need of the project. Compiled meeting agenda materials and minutes, coordinated with interchange study consultants for a cohesive project, and wrote report.
11/18-03/21	H.013322 LA 3040 Feasibility / Safety Study Stage 0, Houma, LA - Project engineer for a study to identify safety and operational issues along 2.5 miles of Martin Luther King Boulevard (LA 3040) in Houma, LA to evaluate reasonable alternatives to address any deficiencies discovered. Kristen was responsible for compiling a data collection plan for submittal to DOTD, including count locations, determined peak periods, and peak hours. Kristen performed peak period observations in the field and geometric field checks, as well as unmet demand observations and calculations. Kristen prepared TMC figures, as well as performed existing analysis in Vistro. Compiled all data collected into Appendices A and B per the DOTD Traffic Process and Report and wrote Chapter 1 of report. Kristen represented the project at stakeholder meetings to discuss project status.
04/18-04/19	H.011243.1 I-49 at US 190 and LA 31 Interchange Improvements Stage 0, St. Landry Parish, LA - Project engineer responsible for crash and safety analysis, report writing, planning, and designing for this Stage 0 Study to evaluate alternatives to improve traffic operations and safety at the I-49 interchanges with US 190 and LA 31. Crash and safety analysis was performed using the LADOTD CAT Scan tool and IHSDM, and line and grade was prepared to DOTD Design Standards for various corridors, including arterial collectors and freeway ramps. Close coordination with traffic engineer ensured maximum improvement of safety and operations given limited right-of-way and utility conflicts along the corridors.
09/17-09/18	H.011160 LA 73 Corridor Study Stage 0 LA 74 to LA 621, Ascension Parish, LA - Designer responsible for concept development, report writing, and impact analysis for a Stage 0 study. The purpose of the study was to evaluate conceptual alternatives to improve capacity and operations along the LA 73 corridor and its connecting transportation network. The scope included the evaluation of three interchange configurations for the interchange of I-10 at LA 73 in conjunction with two corridor alternatives for LA 73, resulting in six different alternatives for which line and grade, impacts, and high-level cost estimates were prepared.
11/16-07/17	H.001271 Cane River Bridge Church Street Route LA 1-X Environmental Assessment - Project engineer responsible for assisting with the site visits, data organization, analysis of permanent alternatives and traffic control alternatives, and traffic report to aid in the delivery of an environmental assessment for the Cane River Bridge Replacement

16. Staff Experience:

Firm employed by		Vectura Consulting Services, LLC		
Name	Reece Rodrigue, P.E., PTOE, RSP1		Years of relevant experience with this employer	6
Title	Engineer		Years of relevant experience with other employer(s)	7
Degree(s) / Years / Specialization			B.S. / 2013 / Civil Engineering	
Active registration number / state / expiration date			#PE.0042074 / LA / 03-31-2028	
Year registered	2017	Discipline	Civil Engineer	
			Other Pertinent Training / Certifications LTRC Traffic Engineering Analysis Process and Report Course – Modules 1, 2 and 3 (2018) Professional Traffic Operations Engineer (exp. 9/9/2027) Traffic Control Supervisor Refresher-LA State Specific (exp. 3/10/2027) ATSSA National Flagger Certification (exp. 10/1/2028) Road Safety Professional 1 (RSP1)	
Contract role(s) / brief description of responsibilities			Project Traffic Engineer	
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).			
04/21-Present	MOVEBR Direct Select for Traffic Signal Design, Baton Rouge, LA - Project engineer for the design of traffic signal upgrades at 10 intersections. This project included a traffic design report, preliminary and final plans for traffic signals that included traffic signal layout, fiber interconnect layout, fiber splicing diagrams, pedestrian crosswalk layout, and sign layout. The design also included traffic signal synchronization signal timing and pedestrian signal timing.			
06/23-Present	H.012845.1 Connected & Autonomous Vehicles (C/AV) Team and Working Group Support - Member of the team to develop new policies and legislation related to C/AV.			
06/23-Present	H.011507.1 Monroe Phase 3 SEA - Visited the project site to document the controller type and detection needs at each signalized intersection within the right-of-way.			
07/21-Present	H.007160 - EBR Computerized Traffic Signal, Phase VB, Baton Rouge, LA - Part of the team responsible for Construction Engineering and Inspection. Reece has reviewed the signal mast arm shop drawings to assist the City-Parish of Baton Rouge in accepting the manufactured poles. Reece, with the DOTD, City-Parish and the Contractor conducted field visits to confirm pole foundation locations.			
01/23-02/24	H.011504 Alexandria ITS Phase 2 - Project engineer for a site visit, System Engineering Analysis Report, Engineering Opinion of Probably Construction Cost and Level 2 Transportation Management Plan.			
06/22-02/23	H.012381.5 ITS Fiber Management System Data Collection - Performed the field observations for 40 sites to verify the ITS FMS and inventory services.			
04/20-Present	H.004791 DOTD Belle Chasse Bridge & Tunnel Replacement Public-Private Partnership Project, Belle Chasse, LA - Responsible for designing the temporary traffic signal for the intersection of LA 23 at Engineers Rd. for eight phases of construction per the anticipated sequence of construction. Temporary pole location and heights were recommended for placement for use for all construction phases. Vehicle clearance interval calculations were conducted for each phase in accordance with DOTD and ITE guidance. Reece is responsible for producing the traffic impact analysis portion of the Traffic Management Plan that was also used in planning for the permanent and temporary signal timing plans. Reece was also responsible for producing the permanent signal plans for the LA 23 intersections at Engineers Road and at Burmaster Street. He evaluated stop bar locations, calculated vehicle, and pedestrian clearance intervals, designed the railroad preemption sequence for both at-grade crossings, designed the wiring layout, and developed the interconnect plan. In addition, Reece was responsible for reviewing and approving shop drawings that were submitted by the contractor for use in construction.			

01/21-05/21	H.013256 - I-10 ITS Scott to Lake Charles (Lafayette, Acadia, and Jefferson Davis Parishes) - Member of the subconsultant team who was tasked with reviewing the ITS plans for 15 sites along I-10 where CCTV cameras were being installed. Reece was responsible for measuring anticipated construction quantities and producing a cost estimate for said quantities by using DOTD's Bid Tabulation and Cost Estimating Tool.
09/20-12/21	H.011909.5-4 Roundabout: US 171 at Boone St., Vernon Parish, LA - Design engineer who assisted in the production of the temporary signal design associated with the sequence of construction for the roundabout at US 171 at Boone St. He conducted a thorough analysis of the US 171 corridor's existing allowable movements and identified the movements that would be restricted during the proposed construction process and how it would impact the typical traffic patterns.
09/20-12/21	H.010960.5 LA 30 Roundabouts at Tanger I-10, Ascension Parish, LA - Design engineer, who assisted in the production of the temporary signal design associated with the sequence of construction for the roundabouts on LA 30 in Gonzales, LA. This project consists of eight proposed construction phases. He assisted in calculating the temporary pole heights, determining the placement location for the temporary poles for each phase, measuring and calculating clearance intervals. Reece conducted a thorough analysis of the LA 30 corridor's existing allowable movements and identified the movements that would be restricted during the proposed construction process and how it would impact the typical traffic patterns.
11/21-12/21	Emergency Street Light and Traffic Sign Assessment, New Orleans, LA - In response to the damage caused by Hurricane Ida, Reece inspected streetlights and street signs to report damage using the City's ArcGIS Online Organization and ArcGIS Field Maps app. The assessment area was approximately 2.5 miles by 2 miles area in the City of New Orleans.
02/20-09/21	College Drive Corridor Enhancement from Perkins Road to I-10, Baton Rouge, LA - Task leader for organizing and formatting the data collection of the College Drive project limits. Tasks included in data collection were 7-day tube counts, intersection turning movement counts, approach tube counts, unmet demand observations, driveway counts, travel time runs, pedestrian / bicycle counts, and weaving counts.
07/19-12/19	Burgess Avenue at Duff Road Traffic Signal Design, Walker, LA - Responsible for the design of a fully actuated signalized intersection in the city of Walker, LA. The traffic signal was determined to meet signal warrants upon completion of the Foxglove subdivision in Livingston Parish, LA. Plans included road widening, signal face indication schedule, signal sequence chart, sign schedule, detector schedule, controller timing, wiring diagram, and free operation phasing diagram. Reece met with city officials to discuss the feasibility of constructing a traffic signal as opposed to other alternative measures for improving the intersection.
02/16-12/16	H.005733.5 US 190 Superstreet Task Order, St. Tammany Parish, LA - Team member responsible for the layouts for the US 190 Superstreet signal designs. He created the preliminary plans using CAD software program MicroStation V8i. He aided in the technical design of each intersection. He conducted field inspections to verify locations of existing equipment as well as observing the area for feasible proposed utility locations. He attended project team meetings to discuss the project details as well as the plan-in-hand walk-through.
01/16-11/17	Ochsner Main Campus Traffic Signals, Jefferson Parish, LA - Design engineer for the traffic signal plans for the two Ochsner Main Campus access traffic signals with US 90 (Jefferson Hwy). The goal of the design was to implement updated pedestrian timings as well as optimize progression through the US 90 corridor. He reviewed traffic data and assigned time of day coordination timing parameters for the two intersections so that they may be included in the coordinated system west of the intersections. He used TruTraffic to determine the appropriate offset parameters so that vehicles may progress efficiently through the coordinated system. Plans for the two intersections were drafted in the form of DOTD's latest version of the TSI format. He was responsible for estimating construction quantities using DOTD's 2016 Spec Item list.
10/16-05/17	Loyola Interchange Modification Request, Kenner, LA - Team member in the production of an Interchange Modification Report (IMR) for the I-10 at Loyola Dr. Interchange. He was an active member in collecting vehicle travel time data and processing the data. He also aided in collecting vehicle queues at the study intersections. He also assisted in the Vissim model calibration.
02/15-12/15	H.011646 Retainer Contract for DOTD District 02 Traffic Signal Inventories - Nola 3 - Served as the lead engineer in the production of the traffic study for the District 02 Traffic Signal Inventories. The objective was to effectively correct the progression of traffic through the US 90 (Broad St) corridor. He reviewed vehicle crash data at all intersections in the study scope. He conducted travel time runs. He created a model with existing traffic signal timing information using Synchro 8 Software. He recommended traffic signal pedestrian clearance times and yellow and red clearance times for each intersection. He used MicroStation V8i when designing traffic signal plans in DOTD's TSI format.

17. Firm Experience:

Firm name	TRC Engineers, Inc.		Discipline(s)		Bridge	
Project name	IDIQ Contract for Bridge Preservation (On-System)				Firm responsibility (prime or sub?)	Prime
Project number	4400024185		Owner's name	Louisiana Department of Transportation and Development		
Project location	Statewide Louisiana			Owner's Project Manager	Brian Allen, P.E.	
Owner's address, phone, email	1201 Capital Access Rd., Baton Rouge, LA 70802-4438 (225) 379-1840 Brian.allen@la.gov					
Services commenced by this firm (mm/yy)		09/22	Total consultant contract cost (\$1,000's)			\$1,142
Services completed by this firm (mm/yy)		Present	Cost of consultant services provided by this firm (\$1,000's)			\$945

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

Provided engineering and related services under a retainer contract that includes alternate bridge alignment study, roadway design, maintenance of traffic design, bridge structural inspections and evaluations, bridge repair design, conceptual bridge design, topographic surveying, drafting, and construction related services to include shop drawing reviews at proposed bridge sites throughout Louisiana.



Project Relevance:

- Task order based contract
- Structural rehab/repair plans
- Bridge inspection
- Alternative alignment study
- Construction phase engineering services

To date, TRC has been assigned a total of four (4) Task Orders under this contract which consist of the following:

- **H.010885.5, LA 91: Bayou Plaquemine Brule Bridge Replacement, Acadia Parish, LA** - Initial services involved the completion of a study for bridge alignment alternatives. The study took into account utility conflicts, right-of-way acquisition, maintenance of traffic, and overall cost. The project was ultimately placed on hold, then issued to the Office of Louisiana Highway Construction for completion.
- **H.015424.5, LA 67: Plank Rd. @ Airline Girder Repair, Baton Rouge, LA** – Final design for steel and concrete girder repairs, cleaning & painting. Associated work included the removal and repair of an overhead sign, repair of reinforced concrete beams with FRP, and repairs to the steel girder which consisted of heart straightening and installing repair plates to strengthen the fractured lower flange to restore capacity. A temporary shoring and jacking scheme were developed and incorporated into the steel girder repair scheme to monitor girder deflection and removed dead load moment during the repair to restore the original girder capacity.
- **H.015424.6, LA 67: Plank Rd. @ Airline Girder Repair, Baton Rouge, LA** - Construction services consisting of responding to RFI's, reviewing shop drawings, erection schemes and corresponding calculations and other submittal reviews.
- **H.016046.5, US 190: Atchafalaya R @ K'Springs Repairs, St. Landry Parish, LA** – Final design for truss repairs and modular joint replacement. Repairs included concrete barrier rail repairs, in-kind replacement of false chord slide plates, deck expansion joint repair and seal replacement, and replacement of modular joints with finger joints.
- **H.011996.5, LA 182: Charenton Bridge Rehab (HBI), Route LA 182, St. Mary Parish, LA** - The Charenton Bridge was built in 1941 and is designated as a Preservation Candidate bridge for Historic Bridge Improvement (HBI). The bridge is a 2,422-foot-long structure consisting of 52 reinforced concrete girder approach spans and one 300 foot simply supported K through truss span. The work will include a Level 3 TMP and repair and rehabilitation plans.

STAFF TO BE USED IN THIS PROPOSAL: Durk Krone, Janet Crouse, Xianzhi (Sage) Liu, Michael Schrepfer, Michael Paul, Dong Wang

17. Firm Experience:

Firm name	TRC Engineers, Inc.		Discipline(s)		Bridge	
Project name	Retainer Contract for Bridge Preservation (On-System)				Firm responsibility (prime or sub?)	Prime
Project number	700-99-0429		Owner's name	Louisiana Department of Transportation and Development		
Project location	Statewide Louisiana			Owner's Project Manager	Kian Lam Yap, P.E.	
Owner's address, phone, email	1201 Capital Access Rd., Rm 405-T, Baton Rouge, LA 70802-4438 (225) 379-1330 Kian.Yap@LA.gov					
Services commenced by this firm (mm/yy)		01/08	Total consultant contract cost (\$1,000's)			\$2,400
Services completed by this firm (mm/yy)		01/14	Cost of consultant services provided by this firm (\$1,000's)			\$2,000

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Task order based contract
- Structural rehab/repair plans (fixed and movable)
- Permit tasks
- MOT plans
- Lighting

Provided engineering and related services under a retainer contract that included roadway design, roadway lighting design, fixed and movable bridge design, permit sketches, drafting, and construction related services at proposed bridge sites throughout Louisiana. A sampling of the Task Orders completed under the contract includes:

- Rehabilitation of I-10 Mississippi River Bridge at Baton Rouge - False chord expansion devise modifications and drainage system modifications; floor beam and floor beam connection distortional crack retrofit repairs; crack treatment and 1-3/8" epoxy-urethane co-polymer overlay system for bridge decks; overall maintenance of traffic scheme; and construction engineering related services.
- Little Caillou Bayou Bridge (movable), Bayou Lacarpe Bridge (movable) - Structural repair engineering services, cleaning and painting, construction cost estimate
- Union Pacific Railroad near Greenwood - Complex structural analysis and plan preparation for a heavily-skewed, 345-foot shallow steel plate girder superstructure (110', 125', 110') using MDX software)
- LA 77 & 78 Left-Turn Lanes (design of 285', 3-span continuous prestressed concrete girder bridge on prestressed concrete pile trestles)
- Bayou Queue De Tortue Spot Replacement on LA 705, Route LA 705, Vermilion Parish
- West Choudrant Creek Relief Bridge Scour Repairs, Route 1-20, Lincoln Parish
- Beaver Creek Scour Repairs, Route LA 1051, Tangipahoa Parish
- Scour Repair at Pier 2 and 3 Middle Pearl River, Route US 90, St. Tammany Parish
- Bear Creek Relief Bridges Scour Repair, Route 1-20, Bienville Parish
- Bear Creek, Young's Bayou, Dugdemonia River and Flagon Bayou Scour Repairs, Routes US 165 and LA 6, Grant, Natchitoches, Winn and Rapides Parishes
- Coulee De Manuel, Anselm Coulee and Long Point Gully Scour Repairs, Routes LA 29, LA 733 and LA 13, Evangeline, Lafayette and Acadia Parishes

STAFF TO BE USED IN THIS PROPOSAL: Durk Krone, Michael Paul, Xianzhi (Sage) Liu

17. Firm Experience:

Firm name	TRC Engineers, Inc.		Discipline(s)		Bridge	
Project name	Retainer Contract for Bridge Preservation (On-System)			Firm responsibility (prime or sub?)	Prime	
Project number	700-99-0429		Owner's name	Louisiana Department of Transportation and Development		
Project location	Statewide Louisiana			Owner's Project Manager	Kian Lam Yap, P.E.	
Owner's address, phone, email	1201 Capital Access Rd., Rm 405-T, Baton Rouge, LA 70802 (225) 379-1330 Kian.Yap@LA.gov					
Services commenced by this firm (mm/yy)		08/12	Total consultant contract cost (\$1,000's)			\$11,300
Services completed by this firm (mm/yy)		08/17	Cost of consultant services provided by this firm (\$1,000's)			\$8,441

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Structural rehab/repair plans (fixed and movable)
- Task order based contract
- Permit tasks
- Mechanical and electrical rehabilitation (movable)
- Load ratings
- Bridge inspection
- Lighting
- Instrumentation & load testing

Provided engineering and related services under a retainer contract that includes roadway design, roadway lighting design, fixed and movable bridge design, preliminary and final bridge designs, topographic surveying, bridge structural inspections and evaluations and load ratings, testing and sampling, instrumentation and non-destructive load testing, environmental permit services, drafting, and construction related services to include shop drawing reviews at proposed bridge sites throughout Louisiana.

TRC was assigned a total of eight (8) Task Orders under this contract, the most relevant of which consists of the following:

- H.003866.5, I-49 North / I-220 interchange - ramp structures, new bridge design
- H.002133.5, Bayou Queue De Tortue - roadway and bridge replacement design
- H.002562.5, Bayou LaLoutre Vertical Lift Bridge - condition assessment, rehabilitation design, electrical system design, operator house design and foundation
- H.001234.5, LA 1 Port Allen Canal Bridge - preliminary design and roadway design, including traffic studies and counts
- H.003495.6, I-49 North, Segment K, Phase 1 - construction services, RFI and submittal reviews
- H.011111.6, I-49 North, Segment K, Phase 2 - construction services, RFI and submittal reviews
- H.009106.5, US 90 over Bayou Ramos - live load testing and bridge monitoring
- H.009859.5, US 90 over Bayou Ramos and US 61 over Bonnet Carre Spillway - bridge load monitoring and maintenance

STAFF TO BE USED IN THIS PROPOSAL: Durk Krone, Michael Paul, Xianzhi (Sage) Liu, Michael Schrepfer

17. Firm Experience:

Firm name	TRC Engineers, Inc.	Discipline(s)	Bridge
Project name	IDIQ Contract for Complex Bridge Rating On-System Trusses and other Complex Bridges		Firm responsibility (prime or sub?) Prime
Project number	400004920	Owner's name	Louisiana Department of Transportation and Development
Project location	Statewide	Owner's Project Manager	William Metcalf, P.E.
Owner's address, phone, email	1201 Capital Access Rd., Rm 405-T, Baton Rouge, LA 70802 (225) 379-1741 William.Metcalf@LA.gov		
Services commenced by this firm (mm/yy)	03/15	Total consultant contract cost (\$1,000's)	\$4,784
Services completed by this firm (mm/yy)	03/20	Cost of consultant services provided by this firm (\$1,000's)	\$3,532

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

TRC performed engineering services associated with the completion of complex bridge rating (on-system trusses and movable bridges per MBE) for statewide projects covered by a Retainer Contract under separate Task Orders. Services being completed under this 5-year contract include: **Plan and Document Retrieval and Review; Bridge Inspection** for the purpose of producing the most accurate rating by accounting for field conditions and gathering field measurements to assist with load rating and record recovery; performance of a **System Structural Modeling and Analysis** of each assigned bridge to determine dead load and live load effects in the members, including the use of a three-dimensional structural model for complex bridges when required; **Load Rating** of each assigned bridge based on present condition, capacity and loading using AASHTOWare BrR software, with all structures being rated using the load rating provisions in the Current AASHTO Manual for Bridge Evaluation and the DOTD Policies and Guidelines for Bridge Rating and Evaluation; **Peer Review Ratings**, other reviews of ratings performed by others; Quality Assurance reviews of all load ratings; generation of **Repair Strategies and Plan Documents** for bridges when needed; and the **Sampling, Instrumentation and Non-destructive Testing** of existing materials for evaluation as needed. The bridges assigned to TRC under the two Task Orders to date included the following:



Project Relevance:

- Task order based contract
- Complex bridge structures
- Load rating
- Development of repair strategies
- Bridge inspections

- Bridge over Bayou Teche at Adeline (movable)
- LA 47 Gulf Intracoastal Waterway (tied arch/deck truss)
- LA 27 over Intracoastal Waterway Bridge (movable)
- LA 657 over Bayou LaFourche (movable)
- LA 319 Intracoastal Canal Bridge (movable)
- LA 1 Bridge over Atchafalaya River (truss)
- US 90 Riverbound Expressway (deck truss)
- LA 654 over Bayou LaFourche (movable)
- LA 83 over Patout Bayou (movable)
- Local Road over Bayou Terrebonne (movable)

TRC also coordinated work on the following bridges which were completed on behalf of the TRC team by our sub-consultants under the two assigned Task Orders: Charenton Bridge, Jackson Street Bridge, West Middle Pearl River Bridge, and LA 2 Millers Bluff bridge.

STAFF TO BE USED IN THIS PROPOSAL: Durk Krone, Xianzhi (Sage) Liu, Michael Paul, Dong Wang, Michael Schrepfer, Nichole Caiazzo

17. Firm Experience:

Firm name	TRC Engineers, Inc.		Discipline(s)		Bridge	
Project name	LA 47: IWGO Bridge Rehabilitation			Firm responsibility (prime or sub?)	Prime	
Project number	H.011965.5 H.011965.5-2	Owner's name	Louisiana Department of Transportation and Development			
Project location	Orleans Parish		Owner's Project Manager	Kelly Kemp		
Owner's address, phone, email	1201 Capital Access Road, Baton Rouge, LA 70802-4438 (225) 379-1809					Kelly.Kemp@LA.gov
Services commenced by this firm (mm/yy)		03/17	Total consultant contract cost (\$1,000's)			\$2,382
Services completed by this firm (mm/yy)		Ongoing	Cost of consultant services provided by this firm (\$1,000's)			\$1,955

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

TRC has been responsible for the development of preliminary and final plans to address the repair and rehabilitation of all substructure and superstructure elements of this historically designated bridge consisting of 1,248 feet of steel main spans with cantilevered arms and tied-arch (main span); 3,304 feet of welded steel girder approaches; 1,590 feet of prestressed girder approach spans; and 480 feet of concrete slab spans. Work items associated with the repair, cleaning and painting of the structure were defined using on-site inspections supplemented with previous LaDOTD and consultant developed inspection reports, non-destructive testing reports, load rating reports, and as-built and widening plans. Resulting deliverables included preliminary and final plans, pay items, and quantities.



Project Relevance:

- Complex Bridge Structure (network-tied arch)
- In-depth Bridge inspection
- Structural rehabilitation plans
- Coating study
- Load rating

Prior to development of Final Plans, TRC conducted an in-depth inspection to include deficient elements in the final rehabilitation plans. A part of this in-depth inspection, TRC performed bridge washing and mechanical removal of debris from key areas of the superstructure and substructure. The purpose of the washing and debris removal was to remove debris that had historically prevented a hands-on or visual inspection of key members. In an effort to get a better understanding of the current conditions related to abnormal bridge movements at the main truss spans and provide a baseline for future monitoring of the bridge, TRC subcontracted a 3D scanning survey of the truss and adjacent approach spans using NTB Associates.

As a separate Task Order during preliminary engineering, TRC managed the completion of a study to identify and conduct testing on various coating systems to determine their potential to provide 50 years of maintenance-free service life. TRC managed and coordinated with a paint consultant to carry out the study which identified a coating manufactured by TNEMEC Company, Inc. as being superior to the other 13 systems evaluated.

Engineering support is presently being provided during construction which includes responding to RFI's and Contractor Proposals. Additionally, TRC is responsible for reviewing shop drawings, calculations and working drawings and other submittals. As part of the construction support, TRC is assisting the La DOTD with reviewing an inspection and repair report done by a separate consultant for

the tie girder T1 steel butt welds. This report included testing at the weld locations and identifying rejectable areas and additionally repair recommendations and load rating.

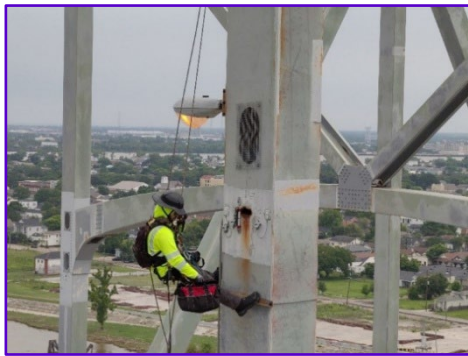
Notably, TRC first became involved with work on this bridge when we conducted a complete hands-on in-depth inspection in 2006 on all components of the bridge. A coating evaluation was also conducted at the time to determine the condition of the existing coatings and recommend alternatives for coating rehabilitation. Additionally, acoustic emissions and strain gauge inspection and monitoring was used to evaluate the retrofit of cracks in the lower chord member between panel points L15-L16 to determine the condition and status of the cracks under the current traffic loads. In 2016, TRC also conducted a special load rating inspection that focused on the visible defects and deterioration of the primary and secondary load carrying members in the approach and main truss spans. AASHTOWare BrR Version 6.7 was used for the load rating for all structural elements that could be modeled and load rated by the software which included the PPC girders, straight steel girders, truss, floorbeams and stringers.

STAFF TO BE USED IN THIS PROPOSAL: Durk Krone, Michael Paul, Michael Schrepfer, Xianzhi (Sage) Liu

17. Firm Experience:

Firm name	Moffatt & Nichol, Inc.		Discipline(s)		Bridge	
Project name	IDIQ for Complex Bridge Inspections, Statewide			Firm responsibility (prime or sub?)		Sub
Project number	H.009730.5, TO #03	Owner's name	Louisiana Department of Transportation and Development			
Project location	Statewide Louisiana			Owner's Project Manager	Stephanie Doolittle, P.E.	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70802 (225) 379-1329 stephanie.doolittle@la.gov					
Services commenced by this firm (mm/yy)	02/23	Total consultant contract cost (\$1,000's)				\$470
Services completed by this firm (mm/yy)	12/24	Cost of consultant services provided by this firm (\$1,000's)				\$260

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Retainer contract
- In-depth inspections
- Load rating
- Acoustic Imaging
- Rope access inspections
- TTC and Work Zone Safety

B&N was part of a team responsible for performing bridge inspections of complex structures statewide using an IDIQ contract. Structure types included cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges. Tasks included the provision of bridge inspections, SPRAT/rope access, underwater inspections, bridge ratings, categorization and documentation of bridge assets, and development of the LaDOTD BIM and Coding & Field Guide. All statewide inspections of in-service bridges throughout Louisiana were performed in accordance with FHWA guidelines. Representative tasks included comprehensive in-depth reports that included a detailed summary of the rope access inspection methodology, inspection findings of current conditions and noted deficiencies, field notes, and photographs.

M&N also developed major updates to the BIM and Coding & Field Guide manual, including off-system directives to support the creation of a new Bridge Load Rating Manual and a new Coding & Field Guide. A team of subject matter experts contributed to the development and reviews at periodic milestones. M&N collaborated with the LaDOTD staff throughout the development to manage expectations and maintain direction. In-person progress meetings occurred monthly, which included facilitating various District Bridge Engineers throughout the state. The manual is compliant with the NBIP (23 metrics and the three new metrics). It is thoughtfully organized systematically and interactively, with an appendix to store all vital updated forms for the Bridge Inspection Program. The Load Rating Manual will be the final development task and complement the other documents in content and format. The Coding & Field Guide is uniquely designed for a seamless navigation experience. Following delivery, acceptance, and publishing, a training module will be designed and delivered to all LaDOTD District personnel. M&N has been retained for five years to provide annual updates as needed.



STAFF TO BE USED IN THIS PROPOSAL: Chace Hulon, Bryan Tyson, Chip Eschenbach, Jeffrey Gazarek, Herodotos Pentas

17. Firm Experience:

Firm name	Moffatt & Nichol, Inc.	Discipline(s)	Bridge
Project name	LADOTD Underwater Bridge Inspections	Firm responsibility (prime or sub?)	Prime
Project number	H.009730.5, TO #2	Owner's name	Louisiana Department of Transportation and Development
Project location	Statewide Louisiana	Owner's Project Manager	Stephanie Doolittle, P.E.
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70802 (225) 379-1329 stephanie.doolittle@la.gov		
Services commenced by this firm (mm/yy)	06/22	Total consultant contract cost (\$1,000's)	\$2,402
Services completed by this firm (mm/yy)	08/25	Cost of consultant services provided by this firm (\$1,000's)	\$1,419

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Retainer Contract
- NBIS Underwater Bridge Inspections
- Underwater Acoustic Imaging and Hydrographic Surveying
- TTC and Work Zone Safety
- InspectX Submittals

As part of a five-year retainer contract, M&N has been tasked with performing underwater bridge inspections for over 500 bridges throughout the state of Louisiana through Task Order 2 and over 800 bridges across all three task orders on this contract. The bridges consist of small to mid-sized waterways along with nine bridges passing through large swamps and bayous that vary between 3 and 14 miles long, 15 culverts, and four bridges crossing over large waterways (the Mississippi River, Prien Lake, and Whiskey Bay Channel). Many of the bridges crossed over waterways inhabited by alligators, which posed a potential hazard to the inspectors. To mitigate the probability of an incident, M&N implemented a Louisiana Department of Wildlife and Fisheries-approved nuisance alligator trapper during inspections at specific locations. M&N has safely performed Level I, II, and III underwater dive inspections and emergency damage assessments while augmenting 2D and 3D sonar technologies per the NBIS.

The M&N dive team captures images and bathymetric data utilizing high-resolution side scan sonar units and multibeam sonar technology. High-resolution images and point cloud data of bridge piers/bents are collected to identify channel bottom conditions and structural deterioration. Underwater acoustic imaging services were provided over large navigable waterways with high-risk diving conditions such as fast currents, low visibility, heavy debris, extreme depths, cold water, and vessel traffic.

Scour evaluations (inherent to underwater bridge inspections) are vital to the inspection and report process. All inspector-divers are trained to observe soundings near submerged substructure units, channel migration/alignment, bank erosion, channel bed material, condition of scour protection structures and channel training devices, flow velocity, timber debris quantity and location, major changes in watershed and hydraulic capacities from upstream development and construction; and to review all conditions in real-time on-site to establish a rate of scour and erosion for effective prioritization of repairs and development of scour plan of actions for monitoring.

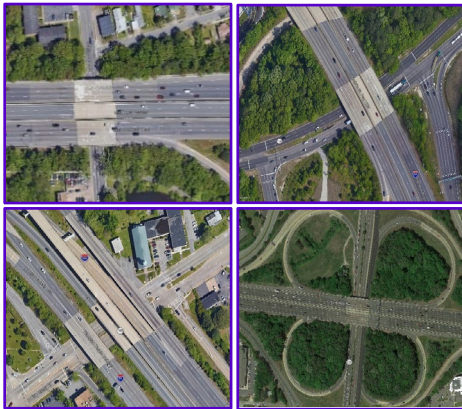
STAFF TO BE USED IN THIS PROPOSAL: Chace Hulon, Jeffrey Gazarek, Chip Eschenbach, Bryan Tyson, Herodotos Pentas



17. Firm Experience:

Firm name	Moffatt & Nichol, Inc.	Discipline(s)	Bridge
Project name	I-64/I-264 Steel Beam Repairs		Firm responsibility (prime or sub?) Prime
Project number	N/A	Owner's name	Virginia Department of Transportation
Project location	Norfolk & Virginia Beach, Virginia	Owner's Project Manager	Matthew Shaver, P.E.
Owner's address, phone, email	1401 East Broad Street, Richmond, Virginia 23219 (540) 654-3182 matthew.shaver@vdot.virginia.gov		
Services commenced by this firm (mm/yy)	09/20	Total consultant contract cost (\$1,000's)	\$578
Services completed by this firm (mm/yy)	07/21	Cost of consultant services provided by this firm (\$1,000's)	\$521

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Five bridges carrying I-64 in the City of Norfolk and one bridge carrying I 264 in the City of Virginia Beach were earmarked by the Virginia Department of Transportation for repairs to the steel superstructure, bearings and substructure elements local to the bearing seats. M&N was tasked to provide Preliminary Design Services for the repairs, as well as Final Design Services, Construction Phase Services and As-Repaired Load Ratings for the six structures.

During Preliminary Design, M&N performed an in-depth, hands-on inspection of deficiencies to develop rehabilitation strategies that would be implemented during Final Design. Beam end repairs via steel plating and partial beam replacement were recommended to address section losses due to corrosion. Nondestructive testing, grinding of nicks and gouges, crack arrest holes, diaphragm replacement and heat straightening targeted beam damage from vehicular impact. Anchor bolt replacement, partial or full bearing replacement, and shim plate installation were used for bearings with significant section losses or excessive movement under live load. Cracks, spalls and delamination that could potentially affect bearing performance were also repaired.

As a result of the rehabilitation, SI&A condition ratings for the superstructure were generally expected to increase from 5 (Fair) to 6 (Satisfactory).

Minimizing lane closures on the interstate and local roadways, providing cost-effective rehabilitation design details, and coordinating multiple personnel under remote work conditions and a very aggressive project schedule were critical to the project's success.

Project Relevance:

- Bridge Repair Design
- Multiple Bridges per TO
- As-Repaired Load Rating
- In-Depth Inspection
- Nondestructive Testing
- MOT Design Efficiencies

STAFF TO BE USED IN THIS PROPOSAL: Eric Vugteveen

17. Firm Experience:

Firm name	Conсор North America, Inc.		Discipline(s)	Bridge
Project name	Statewide Retainer for Underwater Bridge Inspection		Firm responsibility (prime or sub?)	Prime
Project number	4400029206	Owner's name	Louisiana Department of Transportation & Development	
Project location	Statewide Louisiana		Owner's Project Manager	Heather Deare
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70804 (225) 349-1200 heather.deare@la.gov			
Services commenced by this firm (mm/yy)	08/24	Total consultant contract cost (\$1,000's)		\$3,360 (to date)
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm (\$1,000's)		\$3,360 (to date)

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Underwater bridge inspections
- Level I, II, and III inspections
- 2D and 3D Acoustic imaging

Under **four consecutive contracts since 2013**, Consor has performed **1,707 underwater bridge inspections** statewide. Inspections have included challenging aspects specifically related to wildlife, fast currents, difficult access, as well as culvert structures requiring penetration dives through extensive silt and debris buildup. This project has included Level I, II, and III inspections utilizing surface-supplied air and commercial SCUBA diving systems for concrete, steel, and timber bridges from small one-span bridges to larger bridges over major waterways such as I-10 Eastbound/Westbound bridges and US 11 over Lake Pontchartrain, I-10 Eastbound/Westbound over the Bonnett Carre Spillway, the Huey P. Long Bridge over the Mississippi River, and multiple bridges over the Red River. Acoustic imaging, 2D and 3D, has also been performed on select bridges, including Mississippi River crossings.

NBIS, element-level condition ratings, and SNBI ratings are reported in LADOTD's bridge management database. CADD inspection drawings, stream bed cross sections comparing previous to current soundings, repair recommendations, and photo documentation are included as part of each inspection submittal.

STAFF TO BE USED IN THIS PROPOSAL: Heath Pope, Sebastien Templeton, Michael Dukes, Andrew Young

17. Firm Experience:

Firm name	Wiss, Janney, Elstner Associates, Inc.		Discipline(s)		Bridge	
Project name	Danziger Lift Bridge Repair			Firm responsibility (prime or sub?)		Prime
Project number	Contract 4400009424, H.000303.6; 44-21594, H.000303.6,	Owner's name	Louisiana Department of Transportation and Development			
Project location	New Orleans, LA			Owner's Project Manager	Mark Bucci	
Owner's address, phone, email	1201 Capitol Access Rd., Baton Rouge, LA 70802 (225) 379-1076 mark.bucci@la.gov					
Services commenced by this firm (mm/yy)		07/19	Total consultant contract cost (\$1,000's)			\$1,662
Services completed by this firm (mm/yy)		07/25	Cost of consultant services provided by this firm (\$1,000's)			\$1,464

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Movable bridge (vertical lift)
- In-depth inspection
- Rehabilitation design of electrical and mechanical systems
- Construction phase support and testing

The is an electro-mechanical, tower drive vertical lift bridge that opened to vehicular traffic in 1984. The bridge was reportedly experiencing operational issues, which included the movable span no longer fitting into the available space between the towers as well as one corner of the bridge not seating properly. WJE was tasked with performing an inspection of relevant portions of the main span contributing to the reported operational issues, an in-depth inspection of the lift bridge machinery and electrical systems, and development of repairs to restore the long-term functionality and reliability of the bridge. WJE installed instrumentation and monitoring equipment during the field investigation to evaluate the bridge's operations over an extended period. Based on the findings from our investigation, WJE prepared emergency repair plans and specifications to address some of the operational issues with the bridge. Significant findings and the associated remedies included the following.

- Improving the lift span riding surface on the steel orthotropic deck with the installation of polyester polymer concrete repairs.
- Identification of pinion shaft bearing damage and the subsequent restoration of the pinion shafts and bearings.
- Addressing the contact of the lift span during warm temperatures with the approach spans by monitoring the joint movements and identifying that daily thermal movements of the approach spans were causing the issue, and that by cleaning the expansion joints, the issue was alleviated.
- Design of a new lift span skew control system after components were removed from the bridge and could not be relocated or replaced in kind.
- Design of electrical controls for the clutches associated with the span drive differentials.
- Strain gage testing to measure span balance and implementation of counterweight changes to improve seating of the span.
- Strain gage testing also showed that the span drive differentials on both towers were not functioning properly requiring coordination with the manufacturer to properly adjust the clutches in the differentials.
- Repairs to the air buffer system to eliminate excessive demands on the span drive system when seating the bridge.
- Inspection of trunnion bearings and installation of automated acoustic monitoring system to assess bearing performance until scheduled replacements are required.
- Preparation of rehabilitation cost estimates.

STAFF TO BE USED IN THIS PROPOSAL: Jonathan McGormley, John Williams, Gareth Rees

17. Firm Experience:

Firm name	Wiss, Janney, Elstner Associates, Inc.	Discipline(s)	Bridge
Project name	East Roundbunch over Cow Bayou	Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	Texas Department of Transportation - Bridge Division
Project location	Orange County, TX	Owner's Project Manager	Courtney Holle
Owner's address, phone, email	7901 N Interstate Hwy 35, Austin, TX 78753 (512) 416-2717 Courtney.Holle@txdot.gov		
Services commenced by this firm (mm/yy)	06/14	Total consultant contract cost (\$1,000's)	\$3,409
Services completed by this firm (mm/yy)	06/16	Cost of consultant services provided by this firm (\$1,000's)	\$1,048

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Movable bridge (swing span)
- Historic structure
- Scoping inspection
- Rehabilitation design of electrical and mechanical systems
- Construction phase support and testing

Wiss, Janney Elstner Associates provided the mechanical and electrical engineering for the replacement of all machinery on this center bearing swing span bridge and the structural engineering for rehabilitation of the movable swing span and fixed approach spans.

Movable bridge services included a scoping inspection, bridge design report, preparation of plans, specifications, and cost estimates for all machinery, as well as provisions for construction services. The intent of the project was to rehabilitate this historic structure to provide long-term reliable service. Essential design objectives were to replace the deteriorated and outmoded machinery systems with current state-of-the-art systems that would require less maintenance and be more reliable and efficient than the existing drive which had experienced failures and was in a state of advanced wear.

The **mechanical design** provided complete details for new span drive machinery and span support machinery in accordance with the current AASHTO requirements. The span drive machinery was comprised of components with a proven history of use on movable bridges and was powered by an electric motor. The span support machinery included a new bronze plain center bearing, balance wheels, and a wedge at each corner driven by an electro-mechanical drive train. The design also included center pier live load support rollers. The machinery and structure were protected from risks due to over-travel with energy absorbing end of travel bumpers at the full-open and the full-closed positions. Elastomeric bumpers were provided as a simple low-cost solution with minimal maintenance requirements. The **electrical design** included the provision of new drives, motors, control system, and field devices for the span drive machinery and the end wedge machinery. Electrical design details also included design and integration of new traffic control features, bridge and maintenance lighting, and a CCTV system.

WJE services also included a review of existing coating systems, specifications of new coatings, metalizing and galvanizing, and construction administration and consulting during installation of new coatings.

STAFF TO BE USED IN THIS PROPOSAL: Gareth Rees, John Williams

17. Firm Experience:

Firm name	NTB Associates, Inc.		Discipline(s)		Survey	
Project name	Rural Bridge Replacement Initiative Phase II			Firm responsibility (prime or sub?)		Sub
Project number	4400019337	Owner's name	LA DOTD (Burk-Kleinpeter, Inc.)			
Project location	LA DOTD Districts 05, 08, and 58			Owner's Project Manager	Nicholas Matherne (BKI)	
Owner's address, phone, email	4176 Canal Street, New Orleans, LA 70119 (504) 486-5901 nmatherne@bkiusa.com					
Services commenced by this firm (mm/yy)	09/20	Total consultant contract cost (\$1,000's)				N/A
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm (\$1,000's)				\$1,935

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Topographic surveys
- Property surveys
- Right-of-way maps
- Subsurface utility engineering

NTBA is performing GPS Control surveys, **topographic surveys**, **property surveys**, **title take-offs**, **legal description preparation**, **preliminary and final right-of-way mapping**, and **QL C & D subsurface utility services** for 34 bridge and culvert replacements throughout Central Louisiana. **Topographic surveying** utilizing **HDS 3D Terrestrial Laser Scanning methods** includes surveying of all sub-surface drainage structures, 200 feet upstream and downstream with cross-sections every 50 feet along channels, deck gutter lines, centerline of joints, low chord elevations, bent locations, and right-of-way 800 feet either side of structure. **Subsurface utility engineering** services include **QL C and D utility mapping**. NTBA produced electronic topographic drawings in MicroStation depicting all utility and topographic information. Data was provided to the engineering consultant for incorporation into their hydraulic model being utilized to evaluate the system.

Boundary surveying has been performed for 73 parcels at 18 different bridge locations. This includes surveying each parcel affected by either construction servitude or additional right-of-way requirements as well as production of property survey submittal, preliminary and final right-of-way maps, and parcel descriptions. All services are being completed in accordance with the Location and Survey Manual Addendum 1 and all currently accepted Location and Survey Automated procedures.

STAFF TO BE USED IN THIS PROPOSAL: Bryan Bunch, Patrick Staiano, Michael King, Captayn Chapman, Belton Davis

17. Firm Experience:

Firm name	NTB Associates, Inc.		Discipline(s)		Survey	
Project name	IDIQ Contract for Professional Hydrographic Surveying Services			Firm responsibility (prime or sub?)		Prime
Project number	4400027686	Owner's name	Louisiana Department of Transportation and Development			
Project location	Southern Districts			Owner's Project Manager	Carl Hultgren, PLS, CH	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70804 (225) 379-1723 carl.hultgren@la.gov					
Services commenced by this firm (mm/yy)	02/24	Total consultant contract cost (\$1,000's)				\$1,000
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm (\$1,000's)				\$558 (to date)

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

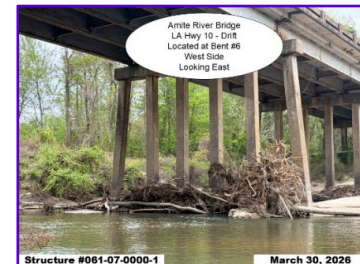


Project Relevance:

- Hydrographic Surveys

NTBA performed single beam and multibeam hydrographic surveying services and the development of surface models from LiDAR data at scheduled intervals upstream and downstream under an IDIQ Contract for existing bridges throughout the State totaling 185 sites to date. Hydrographic survey duties included training crews in methods consisting of running range lines at predetermined stations over the water and on the banks and recovering baseline and pre-determined range lines utilizing LaDOTD benchmarks, determining water elevations, performing fathometer bar check to ensure correct speed of sound, running and charting predetermined range lines, obtaining marks at predetermined distances along the range lines, and obtaining photographs of the bridge and any debris or adverse conditions.

Duties also included the preparation of sketches of the water body surveyed, reduction of chart data from depths to elevations, preparation of a data chart with the depths, elevations, and locations of the data obtained, and preparation of written reports on each survey noting field conditions and findings. All charts, field notes, photographs, data charts, sketches, and reports are submitted electronically to the State's ProjectWise site.



STAFF TO BE USED IN THIS PROPOSAL: Bryan Bunch, Mike King

17. Firm Experience:

Firm name	GeoEngineers, Inc.		Discipline(s)	Geotech
Project name	Retainer Contract for Geotechnical Engineering Services, Statewide		Firm responsibility (prime or sub?)	Prime
Project number	700-99-0508	Owner's name	Louisiana Department of Transportation and Development	
Project location	Statewide, Louisiana		Owner's Project Manager	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70804 225.379.1387 Kristy.Smith@la.gov			
Services commenced by this firm (mm/yy)	1993	Total consultant contract cost (\$1,000's)		N/A
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm (\$1,000's)		N/A

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

GeoEngineers has been awarded more than five (5) retainer contracts with the LA DOTD since 1993 which have involved their execution of geotechnical investigations for more than 200 bridges in Louisiana. Although each task order was different, the GeoEngineers team made sure to provide quality services that fulfilled LA DOTD expectations related to the scope, schedule, and budget.

Some of the typical services provided under these contracts included:

- Conducting subsurface investigations that included soil borings, cone penetration testing (CPT), test pits, groundwater measurements, and over-water drilling operations.
- Coordination of field exploration with utility clearances, traffic control, and site access
- Soil logging in accordance with ASTM, AASHTO, and LA DOTD standards
- Laboratory testing, including moisture content, Atterberg limits, consolidation, shear strength, compaction, and permeability
- Preparation of geotechnical data reports (GDRs), boring logs, and recommendations
- Performance of settlement analyses, embankment stability evaluations, and bearing capacity analyses
- Analysis of deep foundation systems, including driven piles and drilled shafts
- Monitoring of pile installation and evaluated pile capacity using Pile Driving Analyzer (PDA) testing and wave equation analyses
- Development of ground improvement recommendations including wick drains, surcharge loading, undercutting, and soil stabilization
- Management of multiple drill rigs and field crews
- Provision of construction monitoring services

STAFF TO BE USED IN THIS PROPOSAL: Larry Sant, James Aronstein, Brenda Novoa, Anthony (Chien-An) Ju, Kyle Kilfian

17. Firm Experience:

Firm name	GeoEngineers, Inc.		Discipline(s)		Geotech	
Project name	Loyola Drive/I-10 Interchange to New Airport Terminal Design-Build			Firm responsibility (prime or sub?)		Sub
Project number	H.011670	Owner's name	Louisiana Department of Transportation and Development			
Project location	Jefferson Parish, LA			Owner's Project Manager	Tim Nickel, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70804 225.379.1110 Timothy.Nickel@la.gov					
Services commenced by this firm (mm/yy)		01/19	Total consultant contract cost (\$1,000's)			~\$125,000
Services completed by this firm (mm/yy)		11/24	Cost of consultant services provided by this firm (\$1,000's)			\$1,100

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



GeoEngineers completed the geotechnical exploration, testing, and engineering for this high-profile design build project that will ultimately improve the Loyola Drive interchange to increase operational efficiency and traffic capacity. The pre-existing I-10 interchange was a multi-level, controlled access interchange consisting of two overpass bridges. The LANOIA Airport had plans to build a new terminal and subsequently move the I-10 exit from Williams Boulevard to Loyola Drive. To do this, LA DOTD hired a design-build team to:

- Modify the existing ramps and construct a new multi-level interchange, including two one-way elevated flyovers and a diverging diamond on at-grade interchange Loyola Drive.
- Add auxiliary lanes along I-10, including over Duncan Canal.
- Construct noise barriers at various locations throughout the project corridor.
- Upgrade Loyola Drive north and south of I-10 and tie it into the LANOIA corridor Airport Access Road.
- Improve drainage and lighting, relocate utilities, and provide pier protection.

As part of the design build procurement process, GeoEngineers developed a preliminary subsurface conditions evaluation describing local geology, available geotechnical information, and plotted preliminary design standards to help refine the team's design approach. GeoEngineers worked with the contractor and design team to provide the geotechnical investigations, analyses, design, and construction (provided PDA/CAPWAP evaluation of the piles during installation). Geotechnical design services included the provision of foundation, embankment, pile, and pavement design recommendations.

Project Relevance:

- Geotechnical investigation and recommendations
- Construction support

STAFF TO BE USED IN THIS PROPOSAL: James Aronstein, Larry Sant, Kyle Kilfian

17. Firm Experience:

Firm name	KTA-Tator, Inc.		Discipline(s)	Bridge
Project name	Krotz Springs Bridge		Firm responsibility (prime or sub?)	Sub
Project number	4400025311	Owner's name	LADOTD (Hardesty & Hanover, LLP – prime consultant)	
Project location	St. Landry Parish, LA		Owner's Project Manager	Babak “Bobby” Naghavi, PE, PH, PhD (Hardesty & Hanover)
Owner's address, phone, email	3850 N. Causeway Blvd., Suite 1625, Metairie, LA 70002 (504) 605-7940 bnaghavi@hardestyhanover.com			
Services commenced by this firm (mm/yy)	09/23	Total consultant contract cost (\$1,000's)		\$5,000
Services completed by this firm (mm/yy)	02/24	Cost of consultant services provided by this firm (\$1,000's)		\$12

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Coatings condition assessment
- Maintenance strategy development

The Krotz Springs Bridge is owned and operated by LADOTD. The bridge was constructed in 1973 and consists of eastbound and westbound structures. Each bridge carries two lanes of vehicle traffic over the Atchafalaya River in Krotz Springs, Louisiana. The bridges consist of a 3-span truss main span that measures 780 ft. The coating history indicated that the westbound bridge was last coated in December of 2017 while the eastbound bridge was last coated in May of 2016, both with a coating system consisting of a zinc epoxy primer, epoxy intermediate, and urethane finish.

In September 2023, as a subconsultant to Hardesty & Hanover, KTA performed a coating condition assessment on both structures. The purpose of this assessment was to determine the coating of the existing coatings on the structure in order to develop a maintenance painting strategy for the bridge.

A visual assessment of the coated surfaces was conducted to determine the type, extent, and location of coating breakdown and corrosion on the structure. Coating thickness, number of coats, and adhesion were determined using appropriate instrumentation. Samples were removed for further laboratory examination to determine if toxic metal concentrations were present in the existing coatings and to generically identify the coating type. Photographs of typical coating conditions were taken. The results of the field and laboratory testing, a discussion of those results, and photographs were included in a report prepared and submitted to Hardesty & Hanover.

STAFF TO BE USED IN THIS PROPOSAL: Robert Lanterman

17. Firm Experience:

Firm name	Bridge Diagnostics, Inc.		Discipline(s)		Bridge	
Project name	Non-Destructive Testing and Evaluation IDIQ			Firm responsibility (prime or sub?)		Prime
Project number	H.009730	Owner's name	Louisiana Department of Transportation and Development			
Project location	Statewide Louisiana			Owner's Project Manager	Bradley Mistich	
Owner's address, phone, email	Office of Engineering PO Box 94245 Baton Rouge, LA 70804-9245 225-379-1200 Bradley.Mistich@la.gov					
Services commenced by this firm (mm/yy)	05/23	Total consultant contract cost (\$1,000's)				\$5,000
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm (\$1,000's)				\$4,607

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Instrumentation
- Nondestructive testing
- Bridge deck assessment

BDI is performing nondestructive testing and evaluation of bridge structures across the state of Louisiana under this IDIQ retainer contract. Representative Task Orders have included the following:

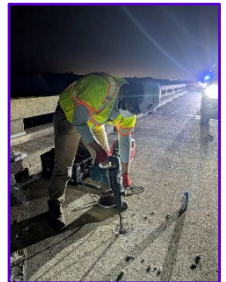
Task Order II Twin Span and 6-mile Deck Evaluation: BDI performed deck assessments involving various NDT-E methods, including SounDAR, Ground Penetrating Radar (GPR), High Resolution Imaging (HRI), Infrared Thermography (IR), and concrete material sampling on bridge recall numbers 204140, 204150, 020467, and 020468 for the purpose of assessing reinforced concrete condition, cover, location, and diameter; detections of voids and delaminations in concrete; and concrete material sampling.

Task Orders III and VI Interstate 20 Deck Evaluation and Pin and Hanger Testing: To assist with bridge preservation efforts, BDI is performing deck assessments for 273 structures on the Interstate 20 corridor in Louisiana involving various NDT-E methods, including SounDAR, GPR, HRI, and IR for the purpose of assessing reinforced concrete condition, cover, location, and diameter and detection of voids and delaminations in concrete. BDI is also performing steel member condition assessments via ultrasonic testing (UT) on 39 structures statewide.

Task Order IV US-11 over Lake Pontchartrain Deck Evaluation and NBIS Inspection: BDI performed deck assessments involving various NDT-E methods, including SounDAR, GPR, HRI, and IR for the purpose of assessment of reinforced concrete condition, cover, location, and diameter and detection of voids and delaminations in concrete on bridge recall numbers 001525, 001545, 001552, and 200830. BDI also performed the NBIS Routine inspections on these structures which included detailed in-depth field inspections.

Task Order V Bayou Ramos: BDI is performing instrumentation and testing of bridge recall numbers 030115 and 030185 over Bayou Ramos, including design of instrumentation plans, installation of sensors, maintenance of sensors, and analysis and evaluation of the accumulated data.

Task Order X Bonnet Carre Spillway Deck Assessment: The objective of this project is to provide a quantitative assessment of the condition of the ten (10) mile bridge deck to determine the overall change in deterioration over time between the bridges' inspections. This multi-phase evaluation included: **Phase I:** Deck nondestructive evaluation (NDE) to include Deck Acoustic Response (SounDAR) and Ground Penetrating Radar (GPR) to investigate rebar cover depth and potential delamination through acoustic sounding and changes in dielectric properties. This data is verified physically by drilling to the rebar and manually measuring the cover depth at several locations. **Phase II:** High Resolution Imaging (HRI) and Infrared Thermography (IR) is also used to probe for delaminations, spalling and general defects in the bridge's deck.



STAFF TO BE USED IN THIS PROPOSAL: Steven Fall, Brice Carpenter, Brett Commander, Charles Young

17. Firm Experience:

Firm name	Gulf South Research Corporation		Discipline(s)	Environmental
Project name	Strategic Biofuels EA for New Construction and Operation of the LA Green Fuels Bio-Refinery		Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	Strategic Biofuels, LLC	
Project location	Caldwell Parish, LA		Owner's Project Manager	Paul Oestermeich
Owner's address, phone, email	303 Wall Street, Columbia, LA 71418 (314) 250-7157 pauloesterreich@strategicbiofuels.net			
Services commenced by this firm (mm/yy)	03/24	Total consultant contract cost (\$1,000's)		\$35
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)		\$35

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Cultural resources survey
- Wetlands survey
- Endangered species surveys
- Section 106 consultation
- Environmental Assessment

GSRC was contracted by Strategic Biofuels (Strategic), LLC to prepare an EA for the construction, operation, and maintenance of the proposed Louisiana Green Fuels (LGF) refinery, including one natural gas pipeline right-of-way (ROW), two carbon dioxide pipeline ROWs, and two injection well pads. The project area is approximately 420 acres. As part of the EA process, GSRC was responsible for conducting **wetland surveys** on six individual tracts of land that comprise the refinery facility site as well as the natural gas pipeline ROW, carbon dioxide pipeline ROWs, and well pads. GSRC was responsible for coordinating with the U.S. Army Corps of Engineers (USACE) to obtain a Preliminary Jurisdiction Determination for four of the tracts of land that comprise the refinery facility site. GSRC also conducted **vegetation and protected species surveys**. There is one endangered species (Northern long-eared bat), one proposed endangered species (Tricolored bat), one proposed threatened species (Alligator snapping turtle) and a candidate species (Monarch butterfly) known to occur in the area. In accordance with the Endangered Species Act (ESA), critical habitat was researched, however was not found within the project site. GSRC was also responsible for conducting **Phase I Cultural Resources surveys** for the same areas in which the wetland delineation surveys were performed. GSRC was responsible for conducting **Section 106 consultation with the Louisiana State Historic Preservation Officer (SHPO)** to obtain concurrence on GSRC findings. The associated studies were performed under separate work orders.

GSRC prepared the Draft EA in compliance with the National Environmental Protection Act (NEPA) and current Council on Environmental Quality's (CEQ) guidelines. As part of the EA process, GSRC was responsible for submitting the coordination letters to federal, state, and local agencies and affected Native American tribes. The purpose of these letters was to obtain any information or data these groups may have on potentially affected resources in the project's Region of Influence.

STAFF TO BE USED IN THIS PROPOSAL: John Lindemuth, Mark Hawthorn, Howard Nas, Beau Rapier, Ross Hackbarth

17. Firm Experience:

Firm name	Marrero, Couvillon & Associates, LLC		Discipline(s)		Road
Project name	I-10 Widening, LA73 to LA30			Firm responsibility (prime or sub?)	Sub
Project number	DOT22009.801	Owner's name	Louisiana Department of Transportation and Development		
Project location	Baton Rouge, LA		Owner's Project Manager	John Raymond (Shread-Kuyrkendall)	
Owner's address, phone, email	1201 Capital Access Road, Baton Rouge, LA (225) 296-1335 jraymond@skaengr.com				
Services commenced by this firm (mm/yy)	09/22	Total consultant contract cost (\$1,000's)			N/A
Services completed by this firm (mm/yy)	01/24	Cost of consultant services provided by this firm (\$1,000's)			\$186

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)

Project Relevance:

- Lighting design
- Photometric analysis

MCA's scope of services was to modify the existing high mast lighting at the LA73 interchange to accommodate the widening of I-10. This required a photometric analysis to be performed on the existing conditions, and again on the proposed relocation for the high mast poles to accommodate the added travel lanes and new bridge construction over LA73. The high mast poles shall be re-used, with new LED light fixtures and lowering devices provided. The Project is currently awaiting bid by the LA DOTD.

STAFF TO BE USED IN THIS PROPOSAL: Kimbal Schlafly

17. Firm Experience:

Firm name	Vectura Consulting Services, LLC		Discipline(s)		Traffic	
Project name	Belle Chasse Bridge & Tunnel Replacement PPP				Firm responsibility (prime or sub?)	Sub
Project number	H.004791	Owner's name	Louisiana Department of Transportation & Development			
Project location	Belle Chasse, LA			Owner's Project Manager	Nickolas Olivier, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 (225) 379-1133 Nicholas.olivier@la.gov					
Services commenced by this firm (mm/yy)		04/19	Total consultant contract cost (\$1,000's)			Unknown
Services completed by this firm (mm/yy)		Ongoing	Cost of consultant services provided by this firm (\$1,000's)			\$211,890

Describe the project including the firm's role and members involved. (Highlight staff to be used in this proposal.)



Project Relevance:

- Traffic Management Plan
- Traffic Study

Vectura has been serving as a traffic subconsultant responsible for providing various traffic engineering services for the \$169 million Belle Chasse Bridge and Tunnel Replacement P3 Project associated with improvements along LA 23. The bridge will replace an existing bridge and tunnel with two lanes of travel in each direction. The new structure, with a 73-foot vertical clearance and 150-foot wide horizontal clearance, will be located between the existing vertical lift bridge and tunnel. This is the first Public Private Partnership (PPP) awarded by DOTD.

Vectura's responsibilities on the Project have included the following:

- Preliminary and final traffic studies
 - Forecast volumes were based on expected growth consistent with local zoning and planning efforts as well as the Regional Planning Commission travel demand model
- Temporary and final traffic signal plans.
- Assisting the Prime with development of the project's Traffic Management Plan (TMP).
- Provision of responses to Requests for Information (RFI's).
- Development of as-built plans for the traffic signals.

BELLE CHASSE BRIDGE AND TUNNEL REPLACEMENT PROJECT UPDATE

Phase 1c - November 2022



STAFF TO BE USED IN THIS PROPOSAL: Sheelagh Brin Ferlito, Laurence Lambert, Reece Rodrigue

18. Approach and Methodology:

PROJECT UNDERSTANDING

TRC understands the LADOTD Bridge Preservation Program is designed to maintain, rehabilitate, and extend the useful life of the State's bridge assets in a safe, cost-effective, and sustainable manner. Through proactive inspection, maintenance, repair, and targeted rehabilitation, this program seeks to delay deterioration, mitigate safety risks, and preserve structural integrity while optimizing the investment of public funds.

Based on the goals and objectives of the bridge preservation program and our past experience working with the LADOTD, we expect a variety of different project types that may include inspection, testing, evaluation, rehabilitation, and, when required, replacement. Additionally, we understand the importance of historic bridge preservation and complying with environmental and historical requirements. Based upon the advertisement's specifying the Consultant shall assume that at least three (3) task orders may be active concurrently, we have assembled a team and developed an approach to accommodate the expected work demand.

TRC TEAM EXPERIENCE

Having **worked successfully on previous LADOTD Bridge Preservation IDIQ and Retainer contracts** along with other LADOTD transportation projects, TRC has the experience to successfully perform similar bridge preservation projects as outlined in Attachment A of the advertisement. Each subconsultant team member was primarily selected based on our previous working relationships as a team, their LADOTD transportation project success, and their availability and depth of staffing resources to support a contract of this nature. Our team's staff are very familiar with the preferences and expectations of the Department and the approach discussed here will guide us in exceeding those expectations in every aspect of our work.

TECHNICAL APPROACH

PROJECT EXECUTION AND MANAGEMENT

TRC understands that our management approach will be critical to the successful execution and completion of assigned Task Orders. We understand the workload may be intense with the possibility of being assigned multiple concurrent Task Orders.

TRC's Project Manager for this IDIQ will be Mike Paul, PE who has served as Project Manager and Deputy Project Manager on multiple LADOTD projects, including bridge rehabilitation projects, complex bridge designs, multidiscipline projects, and projects on an accelerated design schedule. Mr. Paul will be our primary point of contact, and oversee and facilitate project scoping, contract execution, development, and delivery of all work.

PROJECT SCOPING & KICKOFF

A clearly defined scope is critical for successful task order delivery. Upon assignment,

TRC will conduct preliminary investigations that include reviewing as-built plans, inspection and load rating reports, and other relevant documents. This will be supplemented by site visits and consultation with the LADOTD and in-house subject-matter experts. Using this information, TRC will prepare a draft scope and manhour estimate for LADOTD's review, leading to scope approval, contract execution, and issuance of NTP.

Following NTP, TRC will hold a kickoff meeting with the DOTD's Project Manager and key staff to confirm project objectives, design criteria, coordination needs, and deliverable schedules. This meeting will establish communication protocols, determine the frequency of coordination meetings, and address questions arising from document reviews. TRC will then develop a Critical Path baseline schedule and Project Work Plan, incorporating design criteria, the pre-approved QA/QC plan, and input from stakeholders such as USCG, DOTD Districts, and local agencies. These steps ensure the project scope, schedule, and deliverables are aligned, efficient, and sensitive to cost, construction time, and public impact.

EVALUATION, DESIGN & PLAN DEVELOPMENT

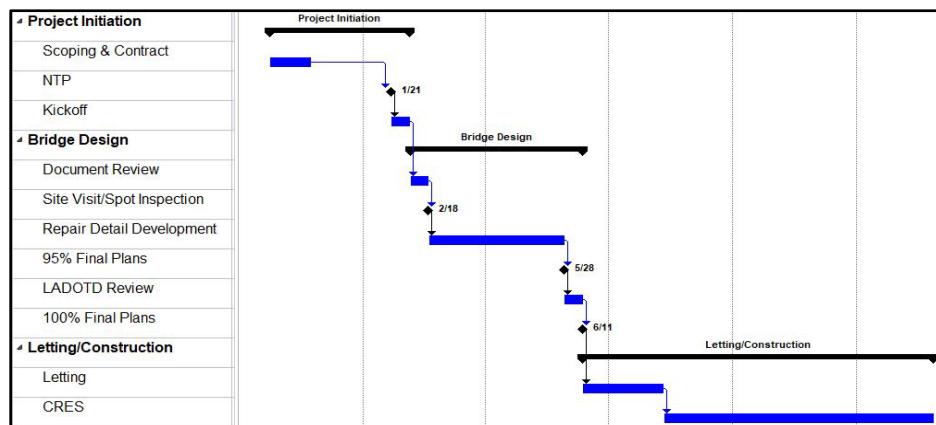
Based on our previous Bridge Preservation IDIQ and Retainer Contract work, TRC understands there can be many different types of projects assigned as Task Orders. However, based on our experience, there are a few types of projects that are typically assigned under Bridge Preservation IDIQ Contracts. Below are the types of projects we expect and our approach to conduct the work.

Feasibility Type Studies – This type of project typically consists of investigating rehabilitation and replacement alternates, as was done for the LA 1 Port Allen Canal Bridge project, or conducting alternate alignment studies as was done for the recent Bayou Plaquemine Brule project for the purpose of developing a report with recommendations for LADOTD to make a final decision. The schedule for this type of project consists of working with the Department to define the objectives, develop a work plan, collect the required information, conduct a desktop study, and submit a report.

This type of project may require any number of disciplines to gather information for conducting the study and may include bridge inspection, topographic survey, laser scanning, instrumentation, NDT, and geotechnical exploration and design. Once the required data is collected, TRC will work closely with LADOTD to conduct the study.

Bridge Repair Projects – This type of project consists of spot repairs or replacements of damaged or deteriorated members. Examples of this type of project include the Plank Road Girder Repair and US 190 Atchafalaya River Bridge Repair projects TRC recently conducted under our current Bridge Preservation IDIQ contract.

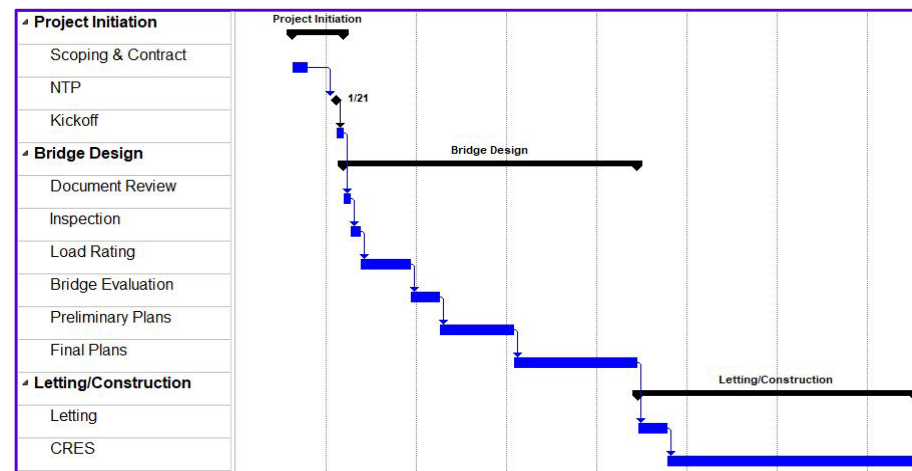
Initially, all available as-built plans and shop drawings will be reviewed, and a site visit will take place to assess the bridge condition and take measurements. Repair details will then be developed. The scope for repair projects is relatively clear and simple, and TRC will be in close communication with the DOTD during repair detail development. Consequently, the submittal schedule can be significantly reduced to save time and resources.



Typical Bridge Repair Schedule

Bridge Rehabilitation Projects - This type of project consists of rehabilitating an existing bridge for a variety of reasons that typically include repairing damaged and deteriorated members, prolonging bridge service life, improving the load rating, and eliminating a load posting. An example of this type of project is the LA 47 IWGO Rehabilitation project TRC recently completed (*project description enclosed in Part 17*).

Bridge rehabilitation will generally be conducted in accordance with BDEM Part 1 Chapter 6. Initially, TRC will gather and review all existing project documents that typically include as-built plans, shop drawings, repair plans, load rating reports and inspection reports. Next, a field investigation will be conducted which can be a general site assessment, full NBIS and fracture critical inspection, or a member focused inspection as needed. The inspection will include a coatings assessment for steel bridges. Sampling, instrumentation and NTD information will be collected as required to achieve the rehabilitation objectives. Bridge washing and cleaning can be conducted as needed to provide better visibility for deteriorated members. A bathymetric survey and underwater inspection will be conducted to evaluate underwater structure and scour as required. A comprehensive inspection report will be developed and issued to LADOTD. TRC will then conduct a current condition bridge load rating and submit a load rating report.



Typical Bridge Rehabilitation Schedule

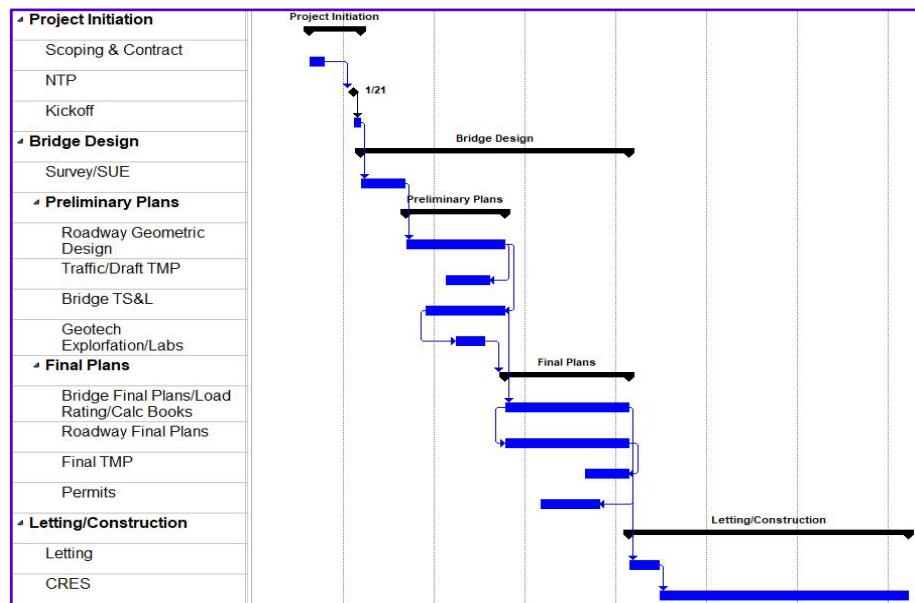
TRC will prepare an Evaluation Report in accordance with the BDEM that summarizes the inspection and load rating, and include recommendations for rehabilitation that will address all identified deficiencies. TRC will work with the LADOTD to identify all repairs and rehabilitation work that will be included in the bid documents.

TRC will develop the repair plans in accordance with the BDEM, which typically consist of preliminary and final design stages, and deliver the final PS&E documents. Depending on environmental and agency requirements, TRC will identify opportunities to expedite the project schedule. Based on experience, it is expected that several milestone submittals can be omitted to expedite project delivery.

Bridge Replacement or Widening Projects – If the determination has been made to replace or widen a bridge, the standard protocols as outlined in the LADOTD design and management manuals will be used.

Initially, a feasibility type study for determination of an alignment and structure type or a Bridge Evaluation Study to determine if replacement is the best option, may be required. During the Preliminary Design Phase, TRC will develop 30% through 100% Preliminary Plans, including proposed roadway alignments and other geometric information, as well as bridge type, size and location information in accordance with the BDEM. We will determine viable bridge structure types and construction sequencing to consider during project development. Topographic, SUE and geotechnical information will also be collected. Maintaining traffic during construction will be crucial to project success and rely on the implementation of a traffic management plan that evaluates phased bridge construction vs. single bridge closures with temporary roadway crossovers; maintaining access control for adjacent

detours; and maximizing safety of vehicle, railroad, and marine traffic. General bridge plans will be developed to show the horizontal configuration of the bridge, along with vertical profiles featuring the top of rail/water and required height clearances and freeboard to the superstructure of the proposed bridge. We will coordinate horizontal and vertical alignments through DOTD, USCG and railroads as needed for their approval to ensure that project design criteria are met. A preliminary hydraulics design report will be included with the 60% Preliminary Plans. TRC will prepare any required railroad or environmental clearance permit sketches and begin developing any SWPPP plans.



Typical Bridge Replacement Schedule

The Final Plans stages, for preliminary as well as rehabilitation plans, include the following submittals: 30%, 60%, 90%, 95%, 98%, and 100%. TRC will work with the DOTD's PM to finalize roadway typical sections, roadway alignments, and access tie-ins to confirm ROW design needs. Detailed bridge construction plans will be developed for superstructures and substructures, along with a suggested sequence of construction phasing presented in the Preliminary Plans. Hydraulic design will also be finalized. After receiving 60% Final Plan comments, TRC will develop the 90% Final Plans, Summary of Quantities sheets, finalized bridge plans, and as-designed bridge load rating report. A 95% Final Plan Review meeting will be held before the 98% Final Plans submittal, including construction cost estimates and special

provisions. We will work with the DOTD's PM to ensure all submittals are made to prepare for 100% Final Plans.

METHODOLOGY BY DISCIPLINE

To deliver the needed site inspections, load ratings, repair, rehabilitation and design work, TRC will undertake the following methodologies with respect to each of the required work disciplines.

Bridge Inspection: TRC will perform LADOTD required bridge inspections to gather detailed information on the condition of load carrying members that will be used to conduct the current condition load rating and determine the repairs needed due to deterioration and damage. All inspection work will be conducted in accordance with all relevant DOTD, FHWA, and AASHTO codes/standards. All inspection reports will be developed and submitted in InspectX. TRC will leverage our previous experiences with inspecting and load rating a number of Louisiana's complex bridges that have included five cantilever trusses, four vertical lifts, one bascule, and three swing spans, as well as other complex (truss, cable stayed, box girders and movable) fixed bridges in California, Ohio, Virginia, West Virginia.

As part of the inspection activities, TRC recommends bridge washing to expose hidden deficiencies and reduce the risk of costly change orders. Our team has experience performing these services, including for the LA 47 IWGO Rehabilitation Project where we used pressure washers, vacuums, and other equipment to clear debris and provide clear access for evaluating structural components.

Due to the complexity of the expected structures under this project, including high ADT, railroad and waterway crossings, TRC employs the most efficient and least traffic impeding inspection access techniques which include rope access climbers, boats, aerial access equipment, 3D scanning, and acoustic imaging. A structural analysis and load-carrying capacity rating, if required, will be provided for all superstructure and substructure structural components.

Subconsultants will support specialty needs: **Consor** for underwater/rope access, **Wiss, Janney, Elstner (WJE)** for mechanical/electrical components of movable bridges, and **Moffat & Nichol** for supplemental inspection staff.

Load Rating: The TRC team has extensive load rating experience with LADOTD and will perform the load ratings in conformance with the BDEM, MBE, AASHTO and LADOTD standard practices. We will use AASHTOWare BrR as the primary rating software and, when needed, approved alternative analysis software to evaluate specialized structures.

Bridge Design Services: As presented in Section 17 of this Form 24-102, TRC has successfully led the completion of several bridge repair and rehabilitation projects, including LA 47 over IWGO, along with several movable bridges as well as bridge replacement projects. TRC has teamed with **Moffat & Nichol** for structural bridge

design services. Both firms have extensive experience with rehabilitation and new bridge design bridges. TRC has also teamed with **WJE** for their movable bridge design expertise which encompasses extensive structural bridge design and repair experience along with electrical and mechanical design expertise.

TRC and its team members are well-versed with implementing non-traditional approaches to evaluate and develop the most economical replacement/rehabilitation/repair solutions while adhering to best practices and constructability constraints. It is through this approach that we can provide aesthetically appealing and cost-effective solutions to each bridge, including the preservation of a structure's historical significance and character where applicable.

Sampling, Instrumentation, and Non-destructive Testing: In partnership with *Bridge Diagnostics, Inc.* (BDI), TRC provides advanced sampling, instrumentation, and NDT tailored to each project's objectives. Techniques may include ground penetrating radar, ultrasonic testing, acoustic methods, and UAV-based assessments..

Paint and Coating Assessment: TRC and subconsultant KTA-Tator provide protective coating expertise, including long-life, low-maintenance paint systems. Our experience includes specifying 50-year coatings and full containment removal methods, as successfully implemented on the LA 47 IWGO project.

Surveying, SUE, ROW Services: *NTB & Associates* will provide surveying, scanning, SUE, and ROW/title services. Their proven performance with TRC on past LADOTD projects, including 3D scanning for the LA 47 IWGO rehabilitation, ensures accurate site data and efficient project delivery.

Roadway Design Services: TRC will use local staff for any roadway design services that are required to facilitate bridge preservation work.

Traffic Engineering and MOT Services: TRC has teamed with *Vectura Consulting* to conduct any traffic engineering services. TRC staff will develop the Maintenance of Traffic (MOT) plans as required. Bridge preservation projects typically require detour routes, lane closures and other alterations to traffic patterns to facilitate the bridge work. TRC will take the lead in developing the MOT plans and work with Vectura for their development of the Transportation Management Plans (TMP) in accordance with DOTD EDSM VI.1.1.8. Vectura has qualified staff that can conduct other traffic services which may include data collection, traffic analysis, and safety and accident studies.

Environmental & Permitting Services: Should the need arise for environmental services or to obtain project permits, TRC has teamed with GSRC to conduct this work. Both TRC and GSRC employ local staff who have an in-depth knowledge of the NEPA process and obtaining the types of permits that may be required from such agencies as the LADNR, US Army Corps of Engineers, LADEQ, LADWF, US Coast Guard, and various Levee Boards. Such documents may include Coastal Use Permits, Wetland Permits, Scenic Stream Permits, Levee Permits, and Bridge Permits.

Archaeological and Historic Bridge Obligations: For projects involving bridges listed on or eligible for the National Register of Historic Places, TRC has teamed with GSRC to conduct cultural and historic surveys for bridge preservation projects in compliance with Section 106 of the National Historic Preservation Act and Louisiana Division of Archaeology and Historic Preservation guidelines.

Our team includes specialists experienced in working on historically significant structures who will ensure that all preservation activities respect the bridge's historical integrity while meeting the project's safety and functional requirements. Several of our Team members have also completed the DOTD's "Maintenance and Rehabilitation of Historic Bridges" training and are familiar with procedures outlined in the Programmatic Agreement Regarding Management of Historic Bridges in Louisiana.

Construction Services: Key members of the TRC team will attend preconstruction meetings as well as complete all required construction-related engineering services including: pre-bid and on-call support; shop drawing review; responding to RFIs; change order development; review of working drawings, erection plans, installation procedures and associated calculations; factory testing of completed electrical control and hydraulic circuits; and commissioning and start-up to include initial testing of individual components/systems (mechanical, hydraulic and electrical).

Commitment to Safety: TRC is committed to providing superior safety performance and is confident that our safety culture, management, and oversight will allow for a working environment that identifies and eliminates unsafe conditions. TRC team members have completed the most up-to-date safety training programs, including Louisiana "Safety Practices", ATSSA TCS/TCT/flagging, and federal (OSHA) specific training requirements. TRC also has specific tracking mechanisms to ensure that all subcontractors have current health and safety training and certifications.

For each inspection project, the project manager and senior team leader will develop a Site-Specific Health and Safety Plan (HASP) and Job Safety Analyses (JSAs) which address medical service locations/emergency procedures, aerial access/working at heights, confined space, traffic control, and equipment use. Each day of the inspection will involve detailed pre-job safety meetings to identify potential safety hazards and include all DOTD, TRC and subconsultant employees. The potential, yet manageable, hazards associated with bridge inspections may include, but not be limited to marine, pedestrian, and vehicular traffic; environmental (animals, chemical, vegetation, and weather); and interaction with mechanical systems (bridge components, equipment, and vehicles). TRC has a **proven safety track record of no lost workday injuries or reportable accidents while performing all types of bridge inspections with traffic control** while using multiple means of access throughout Louisiana and the U.S.

19. Workload:

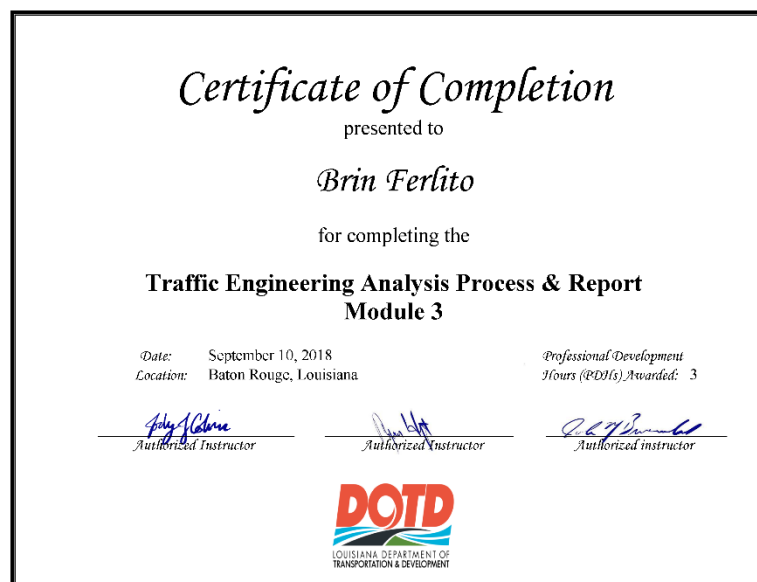
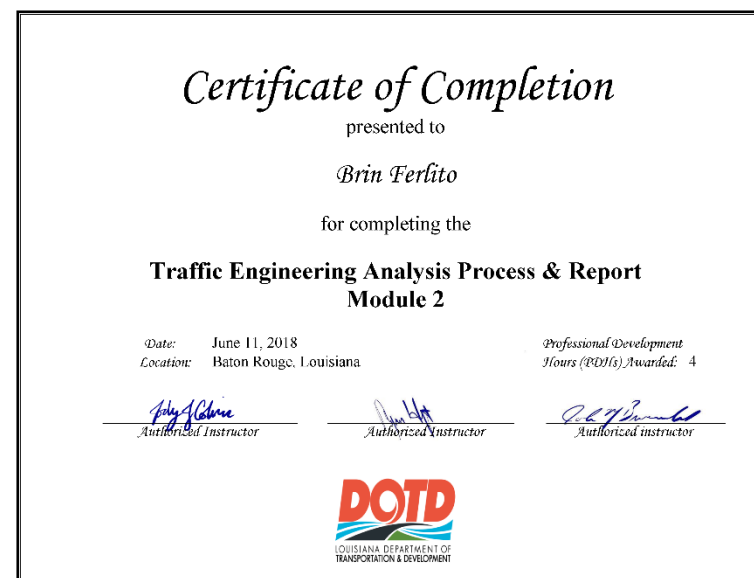
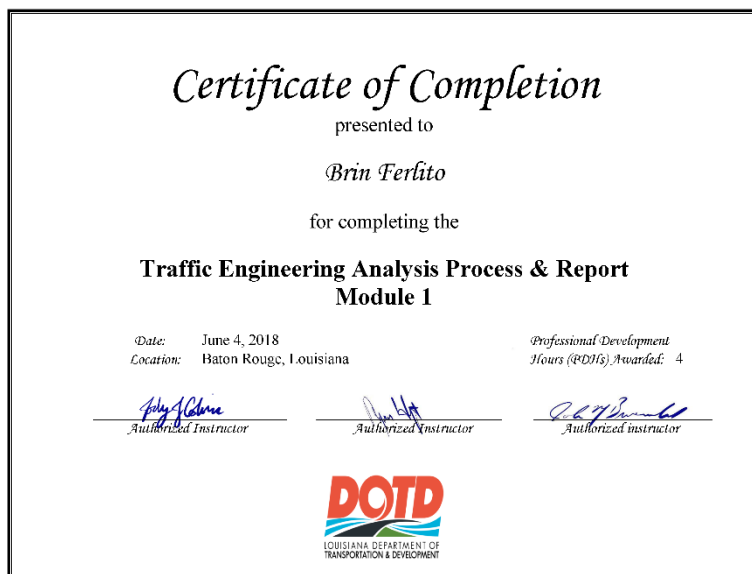
Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Discipline(s)	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance
TRC Engineers, Inc.	Bridge	44-24185, H.016046.5	US 190: Atchafalaya River @ K'Springs Repairs	\$320
	Bridge	44-24185, H.011996.5	LA 182: Charenton Bridge Rehab (HBI)	\$541,604
	Bridge	44-24185, H.016046.6	US 190: Atchafalaya River @ K'Springs Repairs	\$102,317
	Bridge	44-21128, H.014258.6	LA 1 Construction Engineering Services	\$393,686
	Bridge	44-17033, H.005121	LA 1 / LA 415 Connector	\$3,111,987
	Road	44-17033, H.005121	LA 1 / LA 415 Connector	\$626,060
	Other (Project Management)	44-17033, H.005121	LA 1 / LA 415 Connector	\$329,345
	Bridge	44-27652, H.009859.5 (H.009859.5)	Bridge Load Rating Services	\$1,436,469
	Bridge	44-21515, H.010004.5	Contract 3 for Movable Bridges – Olivier	\$133,952
	Bridge	44-21515, H.011974.5	Contract 3 for Movable Bridges – Dulac	\$72,098
	Bridge	44-21515, H.011991.5	Contract 3 for Movable Bridges – Daspit	\$149,721
	Bridge	44-21515, H.012738.5	Contract 3 for Movable Bridges – Morbihan	\$204,190
	Bridge	44-21515, H.014191.5	Contract 3 for Movable Bridges – Nelson	\$208,076
Moffit & Nichol Inc.	Bridge	4400029207; H.009730.5	LaDOTD IDIQ Contract for Underwater Inspections – Task Order 1	\$1,730,605
	Bridge	4400029683; H.009730.5	LaDOTD IDIQ Contract for Complex Bridge Inspections – Task Order 1	\$396,506
	Bridge	4400024187; H.014609.1	LaDOTD IDIQ Contract for Bridge Preservation – Task Order 14 Cameron Ferry Landing Replacement	\$36,453
	Other (Rail)	4400011834; H.012811.1	LaDOTD Railroad Inventory Systems Railroad Inventory Upgrade – Supplemental Agreement 1	\$21,602
Consort North America, Inc.	Bridge	Co. #4400029206 SP #: H.009730.5	Statewide Underwater Bridge Inspections – Task Order 1	\$2,875,919
Wiss, Janney, Elstner Associates, Inc.	Bridge	4400001762, H.014899.6	I-10/310 Bonnet Carré Fire Damage Repair	\$37,618
	Bridge	44-21594, H.009730.4	T-1 Steel Weld Assessment	\$13,816
	Bridge	44-25003, H.009730.5-TO1	NDE for Testing/Evaluation of Structures, TO 1	\$350,108
	Bridge	44-25003 H.009730.5-TO2	Testing/Eval of Structures, TO 2, In-Depth Bridge Inspection, UT	\$297,432

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Discipline(s)	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance
	Bridge	44-25003, H.009730.5-TO3	Testing/Eval of Structures, TO 3 , Service Life Estimates	\$115,448
	Bridge	44-25003, H.009730.5-TO4	Testing/Eval of Structures, TO 4 , Deck Scans	\$2,223,956
	Bridge	4400023923, H.014283	Danziger Bridge Electrical Repairs	\$507,231
	Bridge	DOTLT 1000428	Skew Detection Replacement on Vertical Lift	\$204,793
	Bridge	44-21515, H.012738	Movable Bridge Rehabilitation – Morbihan	\$20,438
	Bridge	44-21515, H.010004	Movable Bridge Rehabilitation – Olivier	\$32,550
	Bridge	44-21515, H.011974.5	Movable Bridge Rehabilitation – Dulac	\$1,620
	Bridge	44-21515, H.011991.5	Movable Bridge Rehabilitation – Daspit	\$32,650
	Bridge	44-21515, H.014191	Movable Bridge Rehabilitation – Nelson	\$30,256
	Bridge	4400023923, H.016537.5	West Larose Skew System Repairs	\$90,552
	Bridge	44-21513, H.012737	Bayou Bonfouca Inspection	\$14,501
	Bridge	44-21513, H.012044.5	Grand Lake Rehabilitation	\$18,866
NTB Associates, Inc.	Survey	4400019338, Multiple SP Nos. Per Bridge	Contract for Rural Bridge Replacement Initiative Phase II, Districts 05, 08, & 58 (Sub to Waggoner)	\$48,739
	Survey	4400019337, Multiple SP Nos. Per Bridge	Contract for Rural Bridge Replacement Initiative Phase II, Districts 02, 03, 07, 61, & 62 (Sub to BKI)	\$34,577
	Other (SUE)	4400026587, H.001779	Jimmie Davis Bridge (LA 511) (HBI) Design Build Project, Bossier Parish (Sub to James Construction/ Huval & Associates, Inc.)	N/A
	Survey	4400027918, H.012869.5	IDIQ Contract for Professional Boundary Surveying Services – Task Order 3 – LA 182 (Univ) @ LA 723 (Renaud) Roundabout, Lafayette Parish	\$27,332
	Survey	4400027918, H.011310	IDIQ Contract for Professional Boundary Surveying Services – Task Order 4 – Ford Street Extension, District 61	\$8,603
	Survey	4400027918, H.015721	IDIQ Contract for Professional Boundary Surveying Services – Task Order 5 – LA 30 Roundabout, Ascension Parish	\$23,592
	Survey	4400027918, H.015568	IDIQ Contract for Professional Boundary Surveying Services – Task Order 6 – LA 44 Pelican Point Roundabout & Widening, Ascension Parish	\$44,108

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Discipline(s)	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance
	Survey	4400027918, H.014059	IDIQ Contract for Professional Boundary Surveying Services – Task Order 7 – US 80: Bridges Near Minden, Webster Parish	\$10,024
	Survey	4400027918, H.014059	IDIQ Contract for Professional Boundary Surveying Services – Task Order 8 – US 80: Bridges Near Minden, Addt'l Site, Webster Parish	\$842
	Survey	4400027918, H.011970.5	IDIQ Contract for Professional Boundary Surveying Services – Task Order 9 – LA 182: Bayou Terrebonne Bridges, Terrebonne Parish	\$30,452
	Survey	4400027918, H.016325.5	IDIQ Contract for Professional Boundary Surveying Services – Task Order 10 – LA 358: Creek Bridge, St. Landry & Acadia Parishes	\$13,467
	Survey	4400027918, H.010795.5	IDIQ Contract for Professional Boundary Surveying Services – Task Order 11 – LA 42: Roundabout @ Joe Sevario Road, Ascension Parish	\$27,774
	Survey	4400027678, H.008768.5	IDIQ Contract for Hydrographic Surveying Services – Task Order 8 – Summer Bridges	87,843
	Other (SUE)/ Survey	4400030630, H.015724.5	Kings Hwy: Healthcare & Dev. Corridor, Caddo Parish (Sub to AFJ&M, City of Shreveport, & Forte & Tablada)	\$193,085
	Other (SUE)	Parish Proj. No. 2025, 118, H.003855	Cong Relief Winfield Road, Bossier Parish (Sub to Volkert)	\$3,566
	Survey	4400031331, H.015477.5	Shreveport Pavement Program- Task Order No. 2 – LA 1 Caddo Lake Bridge, Caddo Parish	\$3,469
GeoEngineers, Inc.	Geotech	H.003931	P3 I-10 Calcasieu River Bridge Geotechnical	\$ 2,264,579
	Geotech	440022852; H.012011, H.012029, H.012036, H.012037	8 Bridge Replacements/Geotechnical Engineering Services	\$ 719,120
	Geotech	H.016255.5	LA-1 Railroad Overpass	\$ 847,248
	Geotech	H.01649.6	LADOTD - OV for 20 Bridge Reviews	\$ 116,256
KTAT-Tator, Inc.	Bridge	Contract No. 4400021514, State Project Nos. H.012003, H.011995, H.010007, H.012568, H.012000	Contract 2 for Moveable Bridges (5)	N/A
	Bridge	Contract 4400021516	Contract for 5 Moveable Bridges (one completed)	\$81,955
	Bridge	Contract 4400021515	Contract for 5 Moveable Bridges (4 field work completed)	\$83,670

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Discipline(s)	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance
Bridge Diagnostics, Inc.	Bridge	4400025002, H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO5	\$294,799
	Bridge	4400025002, H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO7	\$5,035
	Bridge	4400025002, H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO9	\$115,918
	Bridge	4400025002, H.009730.5	IDIQ Contract for Non-Destructive Testing/Evaluation of Structures Statewide TO10	\$408,471
	Bridge	44-24187, H.004647.6	I-20 Miss. R. Bridge Geotechnical & Stru IDIQ Contract for Bridge Preservation Statewide TO 15	\$145,113
	Bridge	4400023812	Mast Plan Development for the Weigh Station Assessment, Rehabilitation, and Plan Development Statewide TO3	\$27,081
Holden Architects	Other (Architect)	4400021515	Contract 3 for Movable Bridges	\$37,638
Gulf South Research Corporation	Environmental	H013284	Mississippi River Bridge South Central	\$1,400
Marrero, Couvillon & Associates, LLC	Road	H.015218	Grand Prairie Safety Rest Area Lighting	\$29,843
	Road	H.011446.6	Mound Rest Area Renovations	\$18,450
	Bridge	H.011973	Dularge Bridge Inspection Rehabilitation	\$18,981
	Bridge	H.011969	Ted Hickey Bridge Inspection Rehabilitation	\$20,160
Vectura Consulting Services, LLC	CE&I/OV	4400020018, H.007160	EBR Computerized Traffic Signal, Ph VB	\$23,595
	Traffic	4400025299, H.01564.5	LA 47 Hayne Blvd Safety Improvements	\$9,437
	Traffic	4400018271, H.014746.5	LA 383 Stage 0 Corridor Study	\$20,146
	Traffic	4400025299, H.014305	US 61: Cardinal Dr to Bert St	\$6,203
	Traffic	4400026026, H.016037	LA 1138-1 & LA 1138-2: Corridor Improvements	\$135,150
	Traffic	4400025299, H.016437.5	US 190: Wooddale to Livingston P/L Study	\$41,905
	ITS	4400029436, H.006474.5	Shreveport Immediate ITS Phase 2B	\$27,561
	ITS	4400029436, H.013711.1	Northshore Phase 3 ITS Deployment	\$8,594
	ITS	4400029583, H.015137.5	Bonnet Carre ITS Upgrades	\$91,586

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Location: Baton Rouge, Louisiana

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Hours (PDHs) Awarded: 2

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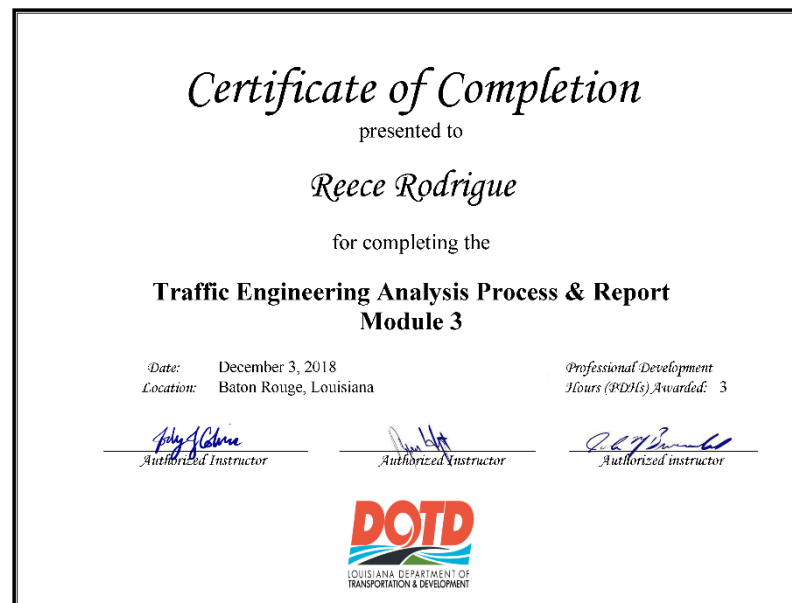
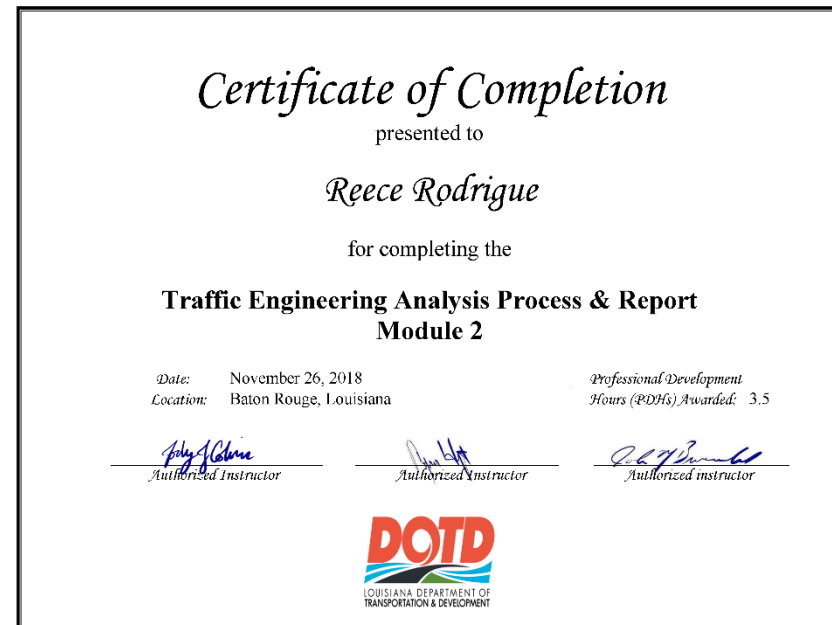
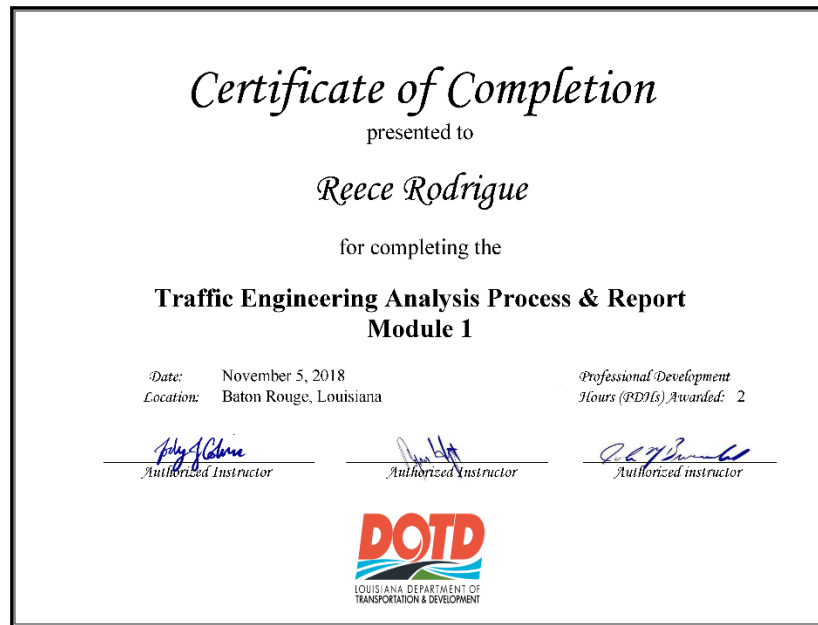
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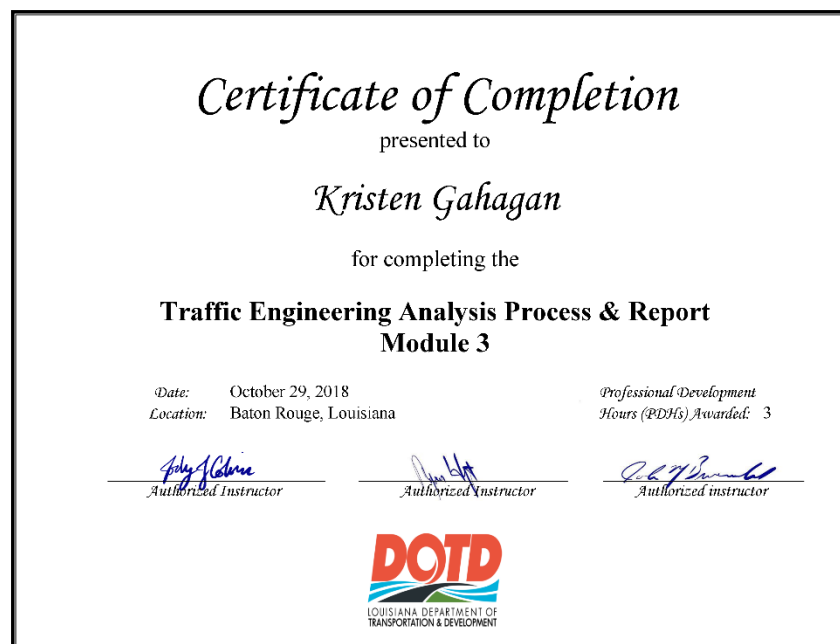
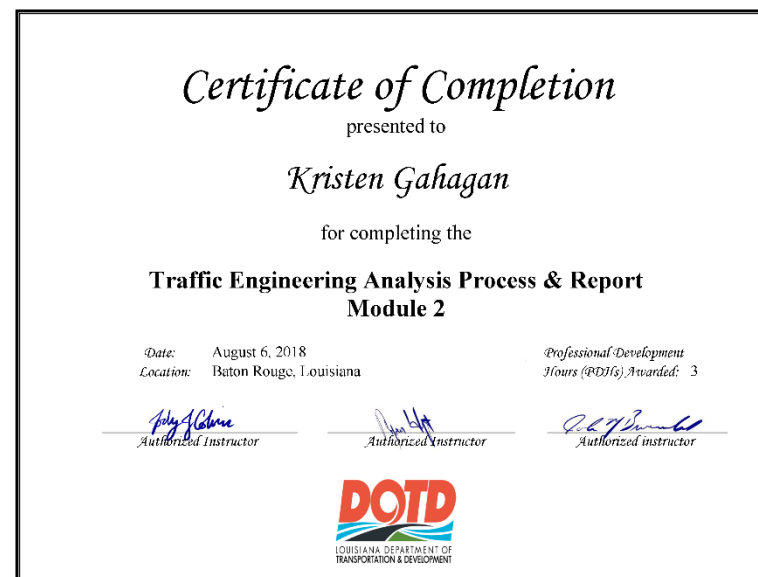
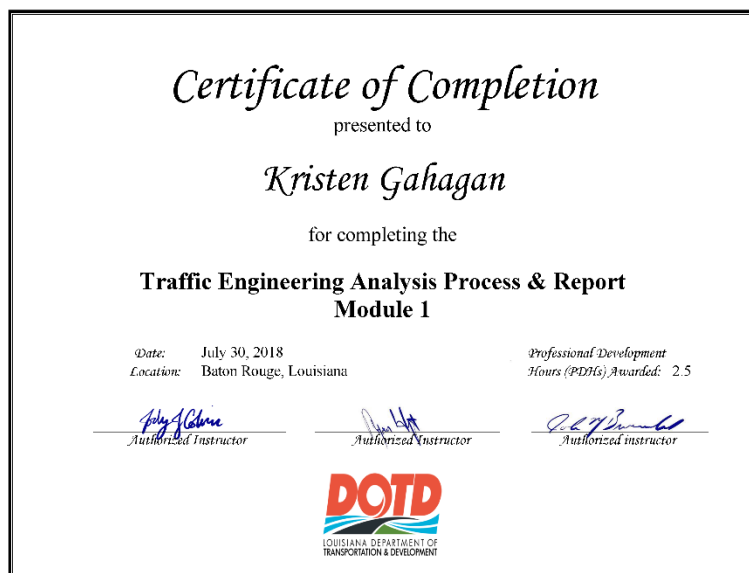
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Previous Names

Business:

TRC ENGINEERS, INC.

Charter Number:

35865842F

Registration Date:

1/27/2005

Domicile Address

1099 WALL STREET WEST
SUITE 250B
LYNDHURST, NJ 07071

Mailing Address

21 GRIFFIN ROAD NORTH
WINDSOR, CT 06095

Principal Business Office

1407 BROADWAY
STE. 3301
NEW YORK, NY 10018

Registered Office in Louisiana

3867 PLAZA TOWER DR.
BATON ROUGE, LA 70816

Principal Business Establishment in Louisiana

4545 SHERWOOD COMMON BLVD.
BUILDING 3, SUITE A
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MOFFATT & NICHOL INC.	Business Corporation (Non-Louisiana)	LONG BEACH	Active

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MOFFATT & NICHOL, ENGINEERS, INC. (Changed: 11/17/2003)

Business: MOFFATT & NICHOL INC.

Charter Number: 34527896F

Registration Date: 5/23/1996

Domicile Address

4225 E. CONANT STREET, SUITE 101
LONG BEACH, CA 90808

Mailing Address

4225 E. CONANT STREET, SUITE 101
LONG BEACH, CA 90808

Principal Business Office

4225 E. CONANT STREET, SUITE 101
LONG BEACH, CA 90808

Registered Office in Louisiana

3867 PLAZA TOWER DR.
BATON ROUGE, LA 70816

Principal Business Establishment in Louisiana

301 MAIN STREET
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NTB ASSOCIATES, INC.	Business Corporation	SHREVEPORT	Active

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NTB, INC. (Changed: 1/4/2000)

Business: NTB ASSOCIATES, INC.

Charter Number: 34216133D

Registration Date: 8/14/1986

Domicile Address

525 LOUISIANA AVE.
SHREVEPORT, LA 71101

Mailing Address

525 LOUISIANA AVE.
SHREVEPORT, LA 71101

Principal Office Address

525 LOUISIANA AVE.
SHREVEPORT, LA 71101

Status

Status: Active

Annual Report Status: In Good Standing

File Date: 8/14/1986

Last Report Filed: 7/25/2025

Type: Business Corporation

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GEOENGINEERS, INC.	Business Corporation (Non-Louisiana)	REDMOND	Active

Previous Names

GEOENGINEERS OF WASHINGTON, INC. (Changed: 1/12/2009)

Business: GEOENGINEERS, INC.

Charter Number: 36479804F

Registration Date: 6/22/2007

Domicile Address

17425 NE UNION HILL RD STE 250
REDMOND, WA 980523375

Mailing Address

17425 NE UNION HILL RD STE 250
REDMOND, WA 98052

Principal Business Office

17425 NE UNION HILL RD STE 250
REDMOND, WA 98052

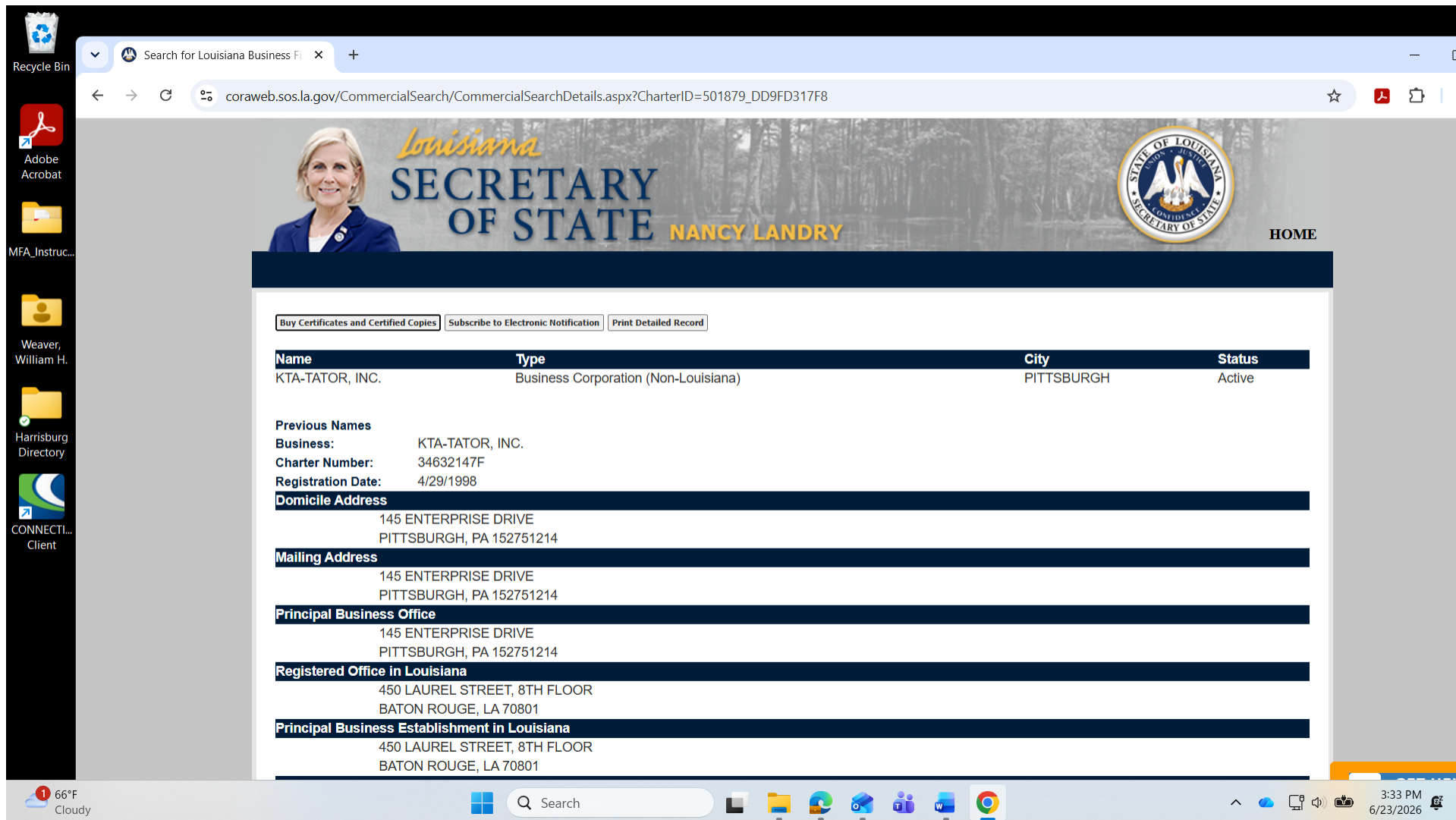
Registered Office in Louisiana

201 RUE BEAUREGARD, STE. 202
LAFAYETTE, LA 70508

Principal Business Establishment in Louisiana

4459B BLUEBONNET BLVD.
BATON ROUGE, LA 70809

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Name	Type	City	Status
KTA-TATOR, INC.	Business Corporation (Non-Louisiana)	PITTSBURGH	Active

Previous Names

Business: KTA-TATOR, INC.

Charter Number: 34632147F

Registration Date: 4/29/1998

Domicile Address

145 ENTERPRISE DRIVE
PITTSBURGH, PA 152751214

Mailing Address

145 ENTERPRISE DRIVE
PITTSBURGH, PA 152751214

Principal Business Office

145 ENTERPRISE DRIVE
PITTSBURGH, PA 152751214

Registered Office in Louisiana

450 LAUREL STREET, 8TH FLOOR
BATON ROUGE, LA 70801

Principal Business Establishment in Louisiana

450 LAUREL STREET, 8TH FLOOR
BATON ROUGE, LA 70801

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TRC Engineers, Inc. Page 198 of 205

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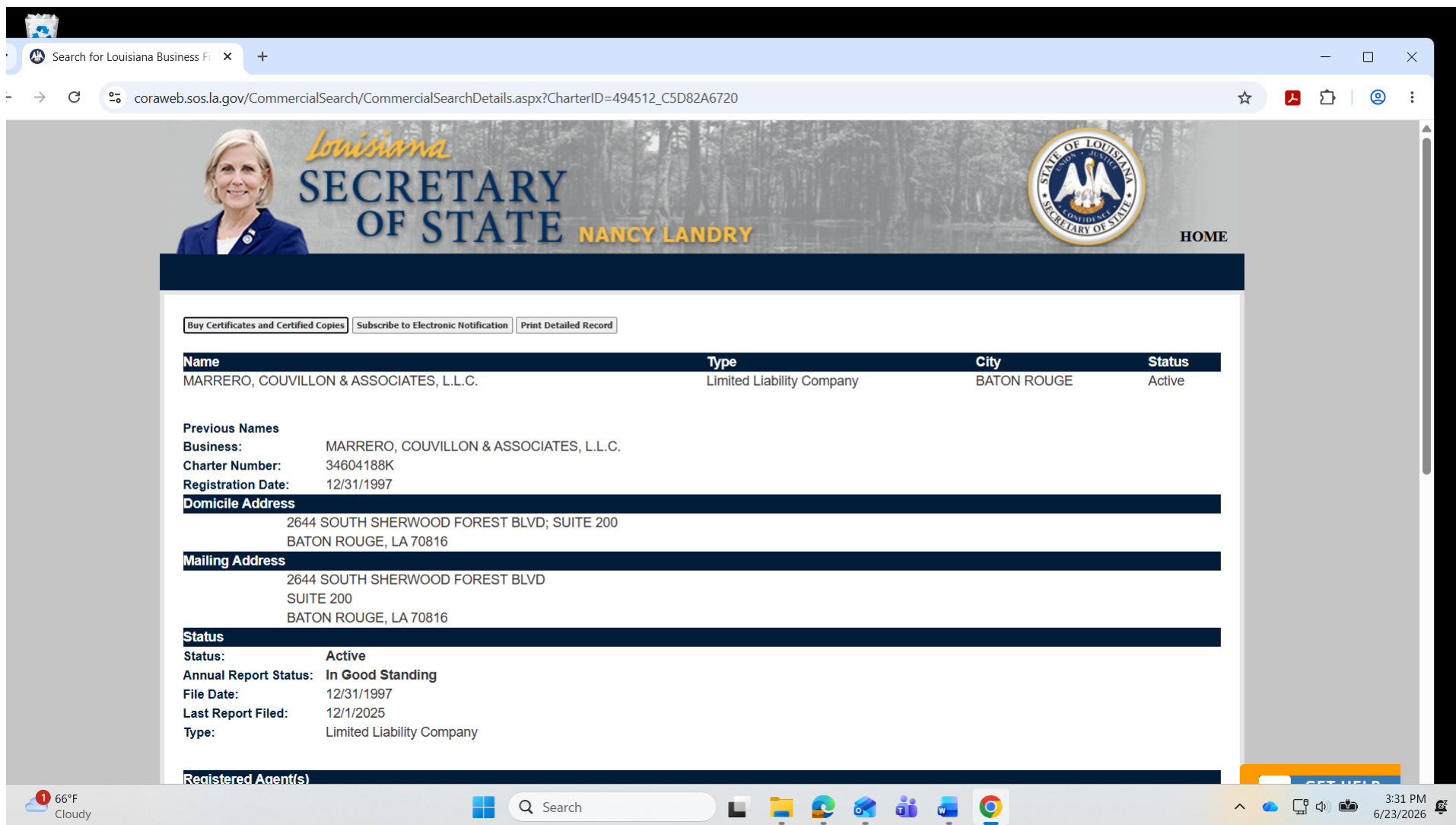
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MARRERO, COUVILLON & ASSOCIATES, L.L.C.	Limited Liability Company	BATON ROUGE	Active

Previous Names

Business: MARRERO, COUVILLON & ASSOCIATES, L.L.C.

Charter Number: 34604188K

Registration Date: 12/31/1997

Domicile Address

2644 SOUTH SHERWOOD FOREST BLVD; SUITE 200
BATON ROUGE, LA 70816

Mailing Address

2644 SOUTH SHERWOOD FOREST BLVD
SUITE 200
BATON ROUGE, LA 70816

Status

Status: Active

Annual Report Status: In Good Standing

File Date: 12/31/1997

Last Report Filed: 12/1/2025

Type: Limited Liability Company

Registered Agent(s)

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TRC Engineers, Inc. Page 202 of 205

21. QA/QC Plan:

See Attached.

BRIDGE DESIGN QUALITY ASSURANCE / QUALITY CONTROL PLAN

Contract Nos. 4400035420, 4400035421 & 4400035422

**IDIQ Contracts for Bridge Preservation Services
Statewide**

Prepared For



Louisiana Department of
Transportation and Development
Baton Rouge, Louisiana

**Revision No. 00
June 30, 2026**



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1.0 INTRODUCTION AND QA/QC PLAN OVERVIEW

This Project Quality Assurance/Quality Control Plan establishes the minimum requirements for the Quality Assurance (QA) and Quality Control (QC) for the assigned task orders under these IDIQ Contracts for Bridge Preservation Services and provides guidance to the project team regarding responsibilities and procedures for the QA/QC process. Any individual who performs work on this project shall comply with these minimum requirements. The QA/QC requirements shall be implemented for all design activities in both the design phase and construction support phase of the project. The QA/QC requirements shall be implemented for all load rating activities of any task order.

This Project QA/QC Plan is consistent with and also meets or exceeds the requirements of the State of Louisiana Department of Transportation and Development (LA DOTD) *Bridge Design and Evaluation Manual* (Revision No. 9) and the FHWA/AASHTO *Guidance on QC/QA in Bridge Design In Response to NTSB Recommendation (H-08-17)* (August 2011) documents.

The main objective of a Project QA/QC Plan is to provide a mechanism by which the design, rating and plan development can be subject to a systematic and consistent review process. The QA/QC process does not solely consist of a review after a product is completed, but is a process that occurs throughout the design development.

Any questions about this Project QA/QC Plan should be directed to the Project Manager (PM). The PM is to be contacted if there are quality-related issues or concerns that aspects of the project appear to be inconsistent with the quality principles and procedures described in this Project QA/QC Plan.

1.1 Defining Project Quality

The following six characteristics, as defined below, will be used as a guide to focus the quality of engineering services provided to the LA DOTD by the TRC Team on this Contract.

Complete: Design documents, load rating documents and plans will be an accurate and thorough representation of the existing project features. Construction plans will be an accurate and thorough representation of the proposed project features and details to be constructed. The design and load rating documents will be developed with the active involvement of all affected parties throughout all stages of development.

Consistent: Design documents, load rating documents and plans will be consistent in format and in content and will comply with all standards and guidelines set by the LA DOTD design manuals, AASHTO guidelines and electronic standards.

Clear: Information provided in the design documents, load rating documents and plans will leave little room for subjectivity.

Correct: Design documents, load rating documents and plans will not contain errors or omissions.

Constructible: The TRC Team will implement this Project Quality Control Plan to minimize and/or mitigate the occurrence and magnitude of design errors or omissions which would require a significant number of change orders during the construction phase or would result in a significant increase in the contract bid award amount, or would significantly affect the time of the construction contract period.

Timely: All submittals will be completed and delivered in the allotted timeframe.

1.2 Definitions of QA and QC

The definitions of QA and QC in bridge design, as defined in the LA DOTD Bridge Design Section *Policy on Quality Control and Quality Assurance*, are shown below.

- Quality Assurance (QA) – Procedures of reviewing the work to ensure the quality control procedures are in place and effective in preventing mistakes, and consistency in the development of bridge design, plans, load ratings and specifications that meets LADOTD policies and FHWA requirements.
- Quality Control (QC) – Procedures of checking the accuracy and consistency of the calculations and drawings, detecting and correcting design and load rating omissions and errors before the design plans and rating reports are finalized, and verifying the specifications for the load-carrying members are adequate for the service and operation loads. Furthermore, quality control consists of procedures for ensuring that the management of the bridge inventory ratings meets LADOTD policies and FHWA requirements.

1.3 Consultant Responsibilities

TRC is fully responsible for the QA/QC of its work and the work of its sub-consultants and is also responsible for all expenses incurred from omissions, ignorance or errors. The LA DOTD is not responsible for the QA/QC of their consultant's work. The individual roles, responsibilities and requirements of the TRC design team and the LA DOTD Bridge Task Manager are described in Section 3.0. All personnel working on any task order shall follow the design policies and procedures described herein.

1.4 Summary of Project Scope of Work

The selected Consultant shall provide the following scope of engineering services. The selected Consultant should expect to perform task orders for individual services for specialized work.

Bridge Design Services

General Bridge Engineering Services

Provide bridge engineering services for fixed and movable bridges. Bridge project types may include, but are not limited to, new bridges, bridge replacements, bridge rehabilitation, bridge preventive maintenance and repair, and roadway lighting. Bridge engineering services include, but are not limited to, structural, mechanical, electrical, and architectural feasibility, design, and plan development and the following:

- Bridge/structural inspection and evaluation of existing bridges or other structures (sign trusses, fender systems, etc.). Associated reports shall be provided as required
- As-designed, as-built, and condition bridge ratings
- Design peer review of developed plans or conceptual designs to verify concept, constructability, and accuracy of designs along with associated reports, conclusions, calculations, and recommendations as needed
- Construction engineering support including construction drawing review, shop drawing review, request for information support, contractor proposals, etc.

Sampling, Instrumentation, and Non-destructive Testing

Provide sampling, instrumentation, and non-destructive testing services. These services may include, but are not limited to, collection of samples of materials from existing structures for evaluation, diagnostic and/or proof testing to determine specific structure response characteristics and/or to determine the causation of observed distresses, instrumentation, and the following:

Sampling

- Collection of samples
- Evaluation of protective coating material samples for determination of compatibility with proposed coatings, analysis for heavy metals, proper procedures for treatment, handling, disposal of waste, etc.

Instrumentation

- Design of instrumentation plans. Installation of instrumentation, data acquisition, analysis, and evaluation of structure based on instrumentation plan
- Provision and installation of instrumentation, including all materials required to mount the instrumentation provision of data acquisition systems, software updates, power supplies, communication to data servers, data hosting services, maintenance, and data access to DOTD
- Calibration services for instrumentation systems and sensors
- Maintenance services to repair and/or replace sensors, data acquisition systems, and power supplies
- Analysis and evaluation of accumulated data and final assessments and development of corresponding reports based on data and associated calculations

Non-destructive Testing

- Proof loading
- Estimation of concrete strength
- Assessment of reinforcement condition, cover, location, and diameter
- Detection of cracks, voids, and delamination in concrete
- Assessment of steel member condition

Geotechnical Services

Provide all geotechnical services necessary to perform geotechnical investigations, analysis, and design. These services may include, but are not limited to, the following:

- Geotechnical field investigations including both shallow and deep soil borings
- Geotechnical laboratory testing and analysis
- Preparation of soil boring logs
- Geotechnical analysis and design based on obtained data or data furnished by the DOTD
- Construction related engineering services

Road Design and Traffic Services

Provide all services necessary to perform hydraulic, road, and traffic investigation, analysis, and design. These services may include, but are not limited to, the following:

- Preliminary and final roadway design and plan development
- Hydraulic analysis and design
- Traffic engineering, traffic control design, and data collection
- Transportation Management Plan (TMP) development

Surveying and Title Work Services

Provide all surveying and title work services necessary to perform topographic, and boundary surveying, develop right-of-way maps, and provide other existing site data. These services may include, but are not limited to, the following:

- Topographic surveying, 3D laser scanning, and underwater acoustical imaging including both multi-beam and side scan hydrographic surveys
- Property and boundary surveying
- Property title work including title research and reports
- Construction related surveying services

Bridge Inspection Services

Provide all services required to perform Statewide NBIS In-Depth Inspections of complex structures. These services may include, but are not limited to, the following:

- Detailed in-depth field inspection on all bridge components, including an element level inspection. An NBIS underwater bridge inspection may be required for submerged elements.
- Assessment of the coating system, conducted by a certified SSPC Protective Coating Specialist or a certified NACE Bridge Coating Inspector
- In-depth inspection report outlining recommended repairs, rehabilitation, and corrections.

Environmental and Permitting Services

Provide all environmental and permitting services necessary to obtain project permits. Required permits may include, but are not limited to, the following:

- Coastal Use permits (CUP) from the LA Department of Natural Resources
- Wetland permits (404 and Nationwide) and Section 10 permits from the US Army Corps of Engineers
- Water Quality Certification from the LA Department of Environmental Quality
- Scenic Stream permits from the LA Department of Wildlife and Fisheries
- Bridge permits from the US Coast Guard
- Levee permits from various levee boards

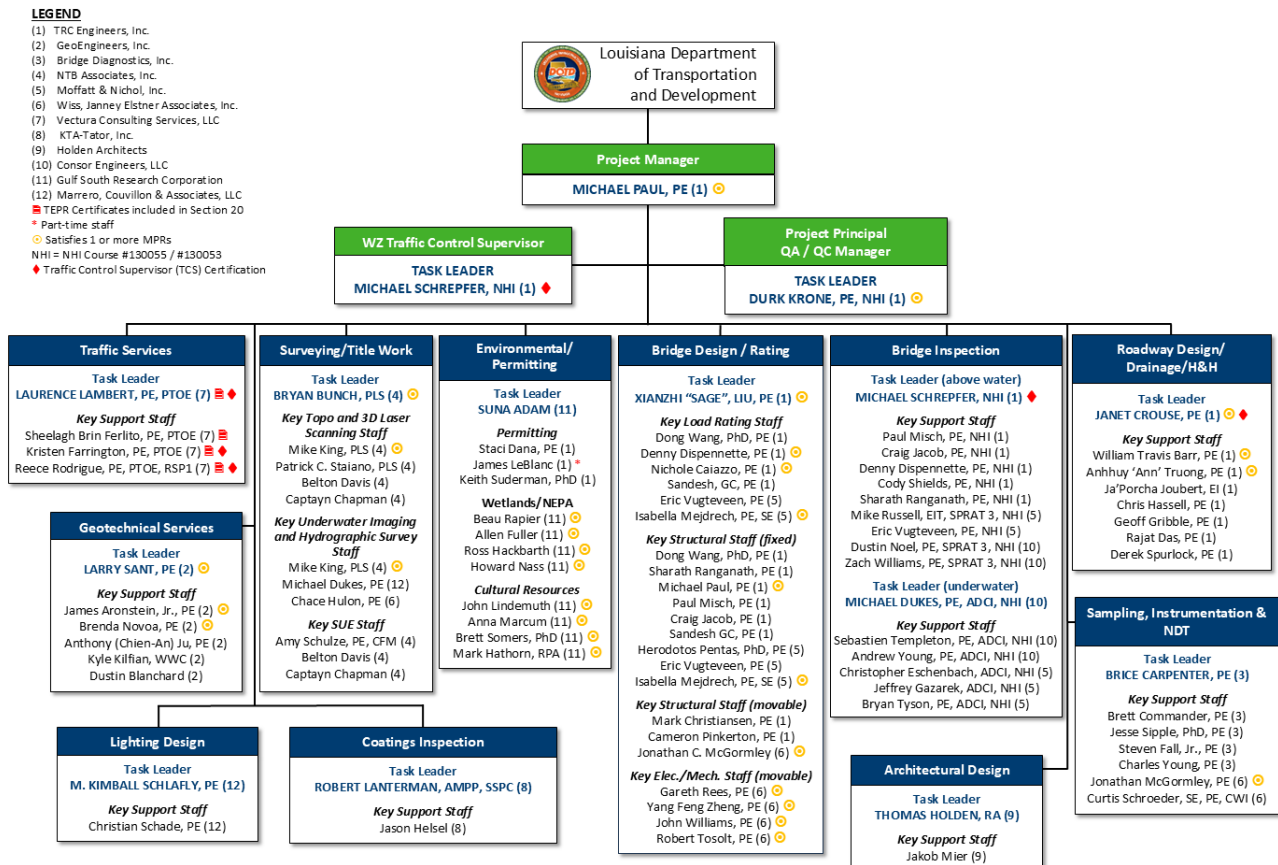
All work shall be performed in accordance with all applicable DOTD policies, procedures, and manuals. Design criteria shall be developed and submitted to the Bridge Task Manager for review and approval prior to proceeding with design.

Project submittals, associated schedule, and format shall be established in each Task Order. At minimum, all bridge plan submittals shall be submitted in pdf format and the 100% signed final plans shall be submitted both in full size paper and in pdf format. Design and rating calculations shall be submitted in pdf format no later than 30 days after the 100% final plan submittal.

Unless waived by the Task Order Project Manager, ProjectWise shall be utilized for all pdf submittals and electronic plan delivery will be required. See the following website for details on electronic plan delivery: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Electronic_Plans_Delivery/Pages/default.aspx

2.0 PROJECT TEAM

TRC recognizes that the selection of a qualified project team is an essential element of a successful project. The chart below provides a summary breakdown of the project team in terms of primary roles and points of contact for key project personnel. A preliminary outline is presented in this Section for the purposes of showing the team hierarchy and anticipated work distribution.



3.0 QUALITY ROLES, RESPONSIBILITIES AND REQUIREMENTS

All individuals working on this contract will contribute directly to the overall quality of the final deliverables. As such, each individual is responsible and accountable for the quality of his or her work products, whether for internal or external use. Individuals must not rely on others to catch mistakes or omissions. Before a work product is submitted to someone else for review or to be used as part of the program, the individual preparing the work is responsible for making sure it is complete, and its quality is acceptable by personally back-checking the work for correctness and completeness.

Overall project quality requirements will be met if each team member takes responsibility for the quality of their portion of the work.

While all project team members are responsible for quality, certain key team members also have specific responsibilities for implementing the QC process on this project. The following sections summarize those responsibilities.

3.1 LADOTD Bridge Task Manager

The responsibilities of the LADOTD Bridge Task Manager are as follows:

- Develop the scope of work, man-hour estimate, minimum personnel requirements, and evaluation criteria, and obtain agreement from the direct supervisor on these items. Provide the information required for the project manager to prepare the advertisement and review the draft advertisement to ensure that all bridge design requirements are included.
- Serve as a member of the proposal evaluation committee and select the most qualified consultant team. Evaluate DOTD Form 24-102 and QA/QC plan document in accordance with the policies and procedures established by CCS and the instructions included in Appendix A. The final rating for DOTD Form 24-102 and the QA/QC plan document shall be reviewed by the direct supervisor and the Bridge Design Engineer Administrator. DOTD Form 24-102 for the selected consultant shall be retained for the duration of the Project.
- Initiate a kick-off meeting with the consultant as soon as the project is awarded to meet key bridge design team members (supervisor or team leader, designers, design checkers, and reviewers); discuss staffing plan and implementation of QA/QC plan document; determine submittal schedules; share expectations and consultant rating criteria; discuss bridge design criteria; and discuss bridge design budget, supplemental requests, invoices, and the importance of avoiding claims. Reach an early agreement regarding bridge type, size and location (TS&L). A bridge design kick-off meeting agenda checklist is included in Appendix B.
- Review and approve design criteria and TS&L and ensure the design criteria is updated as the project progresses.
- Monitor consultant's implementation of the QA/QC plan document. Ensure each consultant submittal includes a Consultant Project Interim Submittal QA/QC certification included in Appendix K.
- Keep a project log sheet to record all major project activities such as project meetings, consultant submittals, DOTD review comments, major decisions made, etc. A project log sheet template is included in Appendix C.
- Review consultant's submittals. Selectively check dimensions and details as a cursory review of the plans for constructability, consistency, and clarity but not as QA/QC of consultants' work. Communicate with consultants any concerns and schedule a face-to-face meeting if required to

resolve differences in a timely manner. A consultant submittal review checklist is included in Appendix D.

- Monitor project schedule and ensure on time delivery of project submittals.
- Monitor budget, process supplemental agreements in a timely manner, and avoid claims. Ensure the consultant performs work with a signed contract in place.
- Review and approve invoices. Ensure the original staff proposed in DOTD Form 24-102 is reflected in the invoices. If personnel changes are required, the credentials of replacement staff must be equal to or exceed the qualifications of the original staff. The resumes of replacement staff must be approved by LA DOTD.
- Perform a consultant rating for each major submittal for the quality of work. The major project submittals include, but not limited to, the following items:
 - Design Criteria
 - Bridge Type, Size and Location (TS&L)
 - 30%, 60%, 90%, 100% Preliminary Plans
 - 30%, 60%, 90%, 100% Final Plans
 - Design Calculation Book(s)
 - Consultant ratings performed by the bridge task managers must be reviewed and approved by their direct supervisor; a copy of the rating must be sent to the Consultant.
- Archive final bridge design files in accordance with Bridge Design Section record retention policy (Appendix E).

3.2 TRC Project Manager

The Project Manager (PM) is the individual responsible for the planning, coordination and controlling of the project from inception to completion, meeting the project's requirements and ensuring that each project is completed on time, within budget and to the required quality standards. The PM is responsible for the distribution of review prints at the interim QA plan reviews prior to the milestone submittals. The PM has the responsibility to review plans for general quality, appearance, accuracy and completeness. The PM confirms that interim QA plan reviews for milestone submittals are included in the project schedule and confirms that all have occurred and have been completed, that all comments have been satisfactorily addressed and that all forms and checklists have been completed by the appropriate personnel. The PM is responsible for selecting the Team Leaders and Reviewers. The PM is ultimately responsible for adherence of the Project to this Project QA/QC Plan. The PM will lead the effort of preparing written bridge design criteria described in Section 4.3.

The Project Manager is responsible for delivering all bridge design files to the LA DOTD Bridge Project Manager no later than 30 calendar days after the stamped final plans are delivered.

3.3 Team Leaders

Team Leaders are the individuals that are responsible for a specific portion of the project. They have the primary responsibility for producing high quality deliverables on schedule and within the budget. Specific quality-related responsibilities include the following:

- Assigning design, rating, detailing and QC activities to individual team members. The assigned activities need to be specific and definable portions of the project.
- Assembling the design calculations and development of the calculation books and any other required design documentation.

- Assembling the load rating calculations and development of the load rating report.
- Confirmation that all calculations, and plan sheets are prepared, checked and reviewed in accordance with the guidelines in Section 4.0.
- Meeting or talking with the Reviewer at the QA review stage for each milestone submittal. Especially in the early phases of the project, Team Leaders are expected to be proactive in soliciting Reviewer input on advance copies or summaries of the design approach (as appropriate) and when making critical design decisions.
- Meeting or talking with the Reviewer after each milestone QA review to discuss major comments and come to a consensus as to how they will be addressed.
- Coordination with the other Team Leaders and the PM. Team Leaders are expected to communicate as frequently as needed to ensure that each team has the information needed to perform their designated work.
- Preparing and providing the QA Information Package (Appendix F) to the Reviewer.

3.4 Designers

A Designer is an individual directly responsible for the development of design calculations, drawings, special provisions including Non-Standard items, and cost estimate for the particular elements he/she has been assigned. The Designer is responsible for supervising the Detailer in development of the plans. Designers must be licensed by the State of Louisiana as a professional engineer or certified as an engineer intern.

3.5 Raters

A Rater is an individual directly responsible for the development of the load rating calculations. Raters must be licensed by the State of Louisiana as a professional engineer or certified as an engineer intern.

3.6 Checkers

A Checker is an individual responsible for performing a full technical review of the design calculations, load rating calculations, load rating report, special provisions including Non-Standard items, and cost estimating for the particular elements he/she has been assigned. The Checker shall ensure that the load rating calculations accurately represent the actual bridge condition. The Checker is responsible for conducting the QC check of the calculations as described in Section 4.0. Checkers must be licensed by the State of Louisiana as a professional engineer or certified as an engineer intern; if the Designer or Rater is an engineer intern, the Checker must be a professional engineer. The Checker shall not be the same individual who performed the original design or load rating.

3.7 Detailers

The Detailer is the individual directly responsible for the creation of plan CAD drawings. It is the responsibility of Detailers to work with the Designer and Detail Checker to prepare CAD drawings that accurately reflect the design and are consistent with all applicable LA DOTD CAD standards and any designated TRC project-specific CAD templates and/or base files except when LA DOTD has permitted an alternate standard.

3.8 Detail Checkers

A Detail Checker is the individual responsible for performing a full review of the plan sheets he/she has been assigned to check as described in Section 4.0. The Detail Checker shall ensure that the drawings

adequately and accurately present the design information. The Detail Checker should either be the Designer or Design Checker. The Detail Checker shall not be the same individual who performed the original detailing.

3.9 Detail Back-Checkers

A Detail Back-Checker is the individual responsible for verifying the Detail Checkers plan sheet mark-ups are correct.

3.10 Reviewers

The Reviewer is the engineer responsible for performing the QA Review. Reviewers must be licensed by the State of Louisiana as a professional engineer and must have substantial experience in the design of similar structures. For load rating projects, the Reviewer must have at least 2 years of experience in bridge rating.

Reviewers have the following responsibilities:

- Being familiar with the project scope and project personnel.
- Confirm that the QC process is being implemented and the design calculations, load rating calculations, drawings, special provisions, and cost estimate are in accordance with LA DOTD Bridge Design Practices, policies and procedures and this Project Quality Control / Quality Assurance Plan.
- Providing periodic input to the design process by providing the Team Leaders and PM with review comments on proposed design concepts and the evaluation of design alternatives, especially in the early phases of the project.
- Performing thorough and timely reviews in accordance with the project schedule. Reviewers are expected to present clearly written review comments which are succinct and within the project schedule.
- Verify with the Team Leader that all required calculations and plans have been prepared and checked in accordance with the guidelines in Section 4.0.
- Verify with the Team Leader that all applicable codes and standards have been followed in performing the tasks.
- Meeting with the Team Leader to discuss major review comments, confirming that the Team Leader understands the comments and that a consensus as to how to address them is reached. Verifying that all major review comments are adjudicated, and their resolution is documented and implemented.

3.11 Peer Reviewer

The Peer Reviewer is an independent engineering entity, with no prior involvement in the project, who performs a check of the designs by producing an independent set of calculations based on the drawings or performs a review as specified in the scope of work.

The Peer Reviewer shall not be employed by the same consultant with whom the Designer or Checker is employed. The Peer Reviewer must be licensed by the State of Louisiana as a Professional Engineer and must have substantial experience in the design of similar structures.

3.12 Engineer of Record

An Engineer of Record (EOR) is the individual designated to be responsible for accuracy and completeness of the plans and related designs prepared by their designated team. For load rating task orders, the EOR is responsible for the accuracy of the load rating and completeness of the load rating report. The EOR shall have responsible charge of the portion of work he/she is designated to be responsible for. The EOR must be licensed by the State of Louisiana as a Professional Engineer and must have commensurate experience in the design of similar structures. The EOR is typically the Team Leader, but can be the Designer, Rater, Checker or Reviewer who is most directly involved in the project design/rating activities.

Responsibilities of the EOR include the following:

- Confirming that the QA/QC certification is signed by all responsible parties.
- Confirming that the geotechnical design information shown on bridge plans is co-stamped by a Geotechnical Engineer and the hydraulic information shown on bridge plans is co-stamped by a Hydraulic Engineer. If practical, the hydraulic information and geotechnical information should be presented on separate sheets to reduce the engineering stamps on a sheet.
- Confirming that when more than one engineering stamp is required on a sheet, the responsibilities for each engineering stamp shall be clearly defined.
- Working with the Team Leader to ensure the calculation book and rating report are correct and complete and include the final geotechnical analysis report and the hydraulic report from the geotechnical engineer and the hydraulic engineer, respectively.
- Reviewing the load rating report for conformance with the Load Rating Report Checklist (Appendix P).
- Verifying that the names of the Designer, Design Checker, Detailer, Detail Checker, and Reviewer are correctly shown on the title block of each plan sheet.
- Confirming all special provisions are accurately shown in the construction proposal. The special provisions are typically stamped by the Specification Engineer as part of the construction proposal; however, if the Specification Engineer is not qualified to stamp the special provisions, the EOR must stamp these provisions.
- Sealing all plan sheets or designate a Designer, Checker or Reviewer to seal the sheets developed under their supervision. Sealing the general notes sheets, calculation book, load rating report and special provisions (if required).

4.0 PROCEDURAL REQUIREMENTS

4.1 Selection of a Qualified Design Team

The PM will select a Team Leader for each discipline of each Task Order. The PM will select a Reviewer for each of discipline of each Task Order. With concurrence from the PM, each Team Leader will select a team (Designers, Raters, Checkers, Detailers, Detail Checkers and EOR) with qualifications and experience that are adequate for the complexity of the bridge to be designed and/or load rated. The PM will work with the LA DOTD in selecting a Peer Reviewer if a peer review is required.

4.2 Project Kick-Off Meeting

A kick-off meeting will be initiated soon after the notice to proceed date for the LA DOTD to meet key bridge design team members (Team Leader, Designers, Raters, and Reviewers); discuss a staffing plan and implementation of a QA/QC plan document; determine submittal schedules; share expectations and

consultant rating criteria; discuss bridge design criteria; and discuss bridge design budget, supplemental requests, invoices, and the importance of avoiding claims. Reach an early agreement regarding bridge type, size and location (TS&L). A bridge design kick-off meeting agenda checklist is included in Appendix B.

4.3 Development of Bridge Design and Load Rating Criteria

The Project Manager will take the lead in development of the Bridge Design Criteria will work with the project design team and the LA DOTD Bridge Task Manager in the preparation of this document. The Bridge Design Criteria will include the required criteria for Load Rating. A copy will be submitted to the Task Leaders, Reviewers and EOR's for review and comment at the onset of work for the project. Once the Bridge Design Criteria has been finalized, it will be submitted to the LA DOTD for review, comment and acceptance. Bridge Design Criteria accepted by the LA DOTD will be distributed to all team members and will serve as the basis for design, load rating, and plan sheet development.

Though the Bridge Design Criteria may change throughout the project, an up-to-date version shall be maintained at all times and available to the design teams. The Bridge Design Criteria checklist used to guide the development process is included in Appendix G.

4.4 Plan Development and Conformance to CAD Standards

The Designer will work with the Detailer to develop the plans. All plan drawings will be developed in MicroStation and will comply with LA DOTD CAD standards and will be certified through a CAD standardization package as described in the LA DOTD document titled "Electronic Standards for Plans" found on the LA DOTD web site.

TRC is responsible for ensuring that sub-consultants submit their electronic deliverables in conformance with the same standards. The DOTD Software and Deliverable Standards for Electronic Plans document and DOTD CAD Standards Downloads are available via links on the LA DOTD web site.

Patches shall be applied to CAD Standard Resources and incremental updates installed to the CAD software as needed or required. Major updates shall be installed to software versions and CAD Standard Resources in a timely manner and shall be applied per directive or approval of the LA DOTD Design Automation Manager. Prior to proceeding with plan development, the PM shall contact the Bridge Design Manager for any special instructions regarding project-specific requirements.

In the event that any electronic standard conflicts with written documentation, including DOTD plan-development Manuals, the electronic standard typically governs. The Consultant is responsible for contacting the PM should questions arise.

Electronic deliverables shall be uploaded (or checked-in) directly into the DOTD ProjectWise repository at each plan delivery milestone. The following operations are to be performed at each milestone including, but not limited to, the following:

- Upload (or check in) CAD plan deliverables to the discipline "Plans" folder
- Apply and maintain indexing attributes to CAD plans (and other deliverables as needed)
- Publish PDF format plan submittals in ProjectWise using automated publishing tools

- Digitally sign PDF format plan submittals in ProjectWise according to DOTD standards and procedures (Final Plans, Revisions and Change Orders). Signatures shall be applied in signature blocks provided with electronic seals and Title Sheets.

Additionally, after reviewing deliverables for each submittal milestone, the LA DOTD Project Manager shall notify TRC regarding the availability of two automatically generated informational reports in ProjectWise. These reports document the completion status and other information regarding indexing attributes and CAD standards. Consultants shall take these reports into account and make any necessary adjustments to plans before the next submittal milestone; or sooner, if directed by the LA DOTD Project Manager.

4.5 Calculation Development

Calculations are essential to the design and load rating process and have two purposes:

- To act as a tool to obtain an answer to a design or load rating task.
- To serve as a permanent record of the objective and/or a statement of purpose (i.e., overview of what the calculation is trying to determine), assumptions, the steps performed to obtain the answer, and the conclusion.

In general, the design and load rating documentation packages need to articulate the process and computations using notes and/or references regarding:

- Objective of the Analysis
- Assumptions
- Design/Load Rating Criteria
- Code Requirements
- Specifications
- LA DOTD Policies and FHWA requirements
- Other Aspects/Elements Important to the Design

Bridge type, size and location (T, S &L) must be developed first and approved by the Team Leader and PM prior to proceeding with the design of structural components.

The Designer is the individual responsible for development of the design, geometric and quantity calculations. The Rater is the individual responsible for development of the load rating calculations. The Designers and Raters shall check his/her own work to minimize errors and must follow the Design Criteria established for the project. Design and calculations shall be conducted for all load carrying members and shall show good engineering judgment and be in conformance with the specified code requirements. Rating calculations shall be conducted for the load carrying members as specified by LA DOTD. Geometric calculations or CAD sketches shall be developed to verify the geometry shown on the plans. Quantity calculations shall be developed for all bridge quantities shown on the plans. Calculations shall be organized and maintained in a standard calculation book format. Hand calculations will be documented on a standardized engineering calculation pad. The calculation book checklist is included in Appendix H.

4.6 Quality Control

The quality control (QC) process includes a full technical review of the calculations, plan sheets, special provisions including non-standard items, and cost estimates. The main objective of the QC process is to

provide a mechanism for design work to receive a systematic and consistent review. A secondary objective of the QC process is to provide a well-documented trail of the design process.

The Checker is responsible for verifying the accuracy by conducting a QC check of the design calculations, load rating calculations, load rating report, quantity calculations, geometric calculations, pay items, special provisions including NS items and cost estimate. The Checker is required to perform a redline check of the calculations (as described in Section 4.6.2) or produce an independent set of calculations and compare the results (as described in Section 4.6.1). The Team Leader and EOR will determine the QC checking method that will be used depending on the complexity of the design/rating task. Regardless of the checking method employed, the Designer's/Rater's calculations are the calculations of record and must be updated to correct any errors or omissions discovered by the Checker. Calculations of the Checker should also become a part of the calculation of record when independent checking calculations are produced. The Checker should also ensure that the drawings adequately and accurately represent the design information.

During the QC plan sheet check process, the Detail Checker must ensure the drawings are in accordance with the design information and CAD standards as described in Section 4.6.3. All information on the plan sheets shall be checked and all necessary information shall be shown.

The Checkers may begin the QC checking process at the completion of the entire design/detail/rating process or may check components of the work as it is completed. Any discrepancies that arise shall be resolved between the Designer, Rater, Checker and Detailer, and the calculations and plan details shall be corrected accordingly. If a resolution cannot be reached, the issue shall be brought to the attention of the Team Leader.

After the Designer, Checker, Detailer, and Detail Checker are satisfied with the state of the design calculations, drawings, special provisions, and cost estimate as appropriate, and all QC checks have been completed, the design and detail QC check shall be considered complete and the final submittal QA Review will be conducted for the design documents.

For milestone plan submittals, the QC check of the plan sheets should be completed for those sheets that are indicated to be completed in the Plan Payment Milestone Tables in the LA DOTD Bridge Design Manual. Other sheets that are under development are to undergo a cursory check prior to milestone plan submittals. All plan sheets are to be QC checked prior to the 95% Final Bridge Plan Submittal.

If design revisions are required after the QA information package has been submitted, the Reviewer shall be notified of such revisions and supplied with the revised information.

After the Rater, Checker and Team Leader are satisfied with the state of the load rating calculations and the Load Rating Report and all QC checks have been completed, the load rating QC check shall be considered complete and the final submittal QA Review will be conducted for the load rating.

The Team Leader is required to maintain the status of the Internal Submittal Tracking Checklist (Appendix J). The Team Leader shall modify the list as needed to include all required design and rating tasks.

4.6.1 Independent Calculation Method of Checking Design Calculations

Calculations that are to be checked using the independent calculation method shall be done in accordance with this Section. Using Plans that contain the required amount of design information, the Checker will prepare independent design calculations for the selected bridge element. Next, the Checker marks-up the plans and compares the independent design calculation results with the information shown in the plans. If the difference in results is in excess of 5%, the original calculations will be resolved with the Designer as to method and accuracy. Once resolved, if necessary, the design calculations and plans will be revised to reduce or eliminate the difference in design results and the Design Checker will sign the original design calculations. The independent design calculations and plan marks shall be archived.

It is at the discretion of the Team Leader to determine the necessity of utilizing different means and design tools for developing independent calculations.

4.6.2 Redline Method of Checking Design Calculations

Calculations that are to be checked using the redline method shall be done in accordance with the following procedure.

1. The Designer/Rater develops calculations on engineer paper using pencil. The Designer/Rater initials and dates each sheet of the calculations. If spreadsheets, MathCAD or other software is used to develop calculations, these documents shall be formatted similar to handwritten calculations. If a software design program is used, the input/output shall be printed and the Designer/Rater shall initial and date the input/output cover sheet.
2. Once the calculations are complete, the Designer/Rater provides photocopies of the original calculations to the Checker. The photocopies are considered to be the checkprints. The Checker uses a red pencil or pen and yellow pencil or highlighter during their initial check of the calculations. Items and values found to be correct are to be highlighted in yellow to indicate that they have been checked and are correct. If an item or value is incorrect, a red line is drawn through it such that the original data is legible and the correct data is written in red nearby. The Checker initials and dates each sheet of the checkprints using red pen or pencil.
3. Upon completion of the checking procedure, the Designer/Rater reviews the red marks made by the Checker and works with the Checker to reconcile disagreements. Upon agreement, the Designer/Rater revises the original calculations. For significant changes, entire sheets of the original calculations may need to be redrafted in order to keep the set of calculations neat and legible.
4. Once the calculations are revised, the Designer/Rater provides the original calculations and checkprints to the Checker. The Checker verifies the changes have been made and that the calculations are complete.
5. If additional revisions are required, photocopies of the revised calculations shall be made and the redline check shall be repeated until complete.
6. Once the calculations are correct and complete, the Checker will initial and date each sheet of the original calculations. The signature and date of the Checker are to be handwritten; electronic signatures for the Checker are not acceptable. For design software input/output documents, the Checker need only initial and date the input/output cover sheet.

The Designer/Rater shall provide the calculations and checkprints to the Team Leader and EOR upon completion. The Team Leader will assemble and organize all calculations and checkprints and provide

them to the EOR who will be responsible for archiving these documents (electronic and hard copies) as evidence the QC check was conducted.

4.6.3 Redline Method of Checking Plan Sheets

Plan sheets shall be checked using the red-line procedure described below. Plan sheets shall be red-line checked for compliance with internal and project CAD standards and detailing practices, compliance with design requirements and dimensional checks. The redline check is considered the QC check of the plan sheets.

Plan Checking QC Procedure:

1. The Designer works with the Detailer to develop the plan sheets as described in Section 4.4. Once the plan development is at a satisfactory completion level, the detailer plots the sheet and adds the Check Print seal (electronically or rubber stamp) shown below to each sheet. The Detailer initials and dates the “DRAWN” row in the Check Print seal. These sheets are considered to be the checkprints.

CHECK PRINT		
DRAWN	by: _____	date: _____
CHECKED	by: _____	date: _____
BACKCHECKED	by: _____	date: _____
CHANGED	by: _____	date: _____
COMPLETE	by: _____	date: _____

2. The Detail Checker checks the sheet. All information shown on the sheet shall be checked. The Detail Checker should be the Designer or Checker. A yellow pencil or highlighter is used to indicate information that is correct. If an item or value is correct, a yellow line is struck-through that item or value. A red pencil is used to indicate a correction or addition is required. If an item or value is incorrect, a red line is drawn through it, such that the original data is legible and the correct data is written in red nearby. Notes and comments to the Detailer are clouded. The Detail Checker initials and dates the “CHECKED” row in the Check Print seal.
 - a. The Detail Checker shall reference Chapter 1 of the LA DOTD Bridge Design Manual and the LA DOTD Plan Constructability/Bidability Review form and also use their judgment to ensure the minimum amount of information is shown for bidability/constructible plans. The detail checker shall verify the details shown are consistent with the information shown in the design calculations and quantity calculations.
3. Upon completion of detail checking, the checkprint(s) are provided to the Back-Checker. The Back-Checker checks all red-lines made by the Checker. The Back checker places a green checkmark next to the red-lines made by the Detail Checker to indicate agreement. If there is a disagreement, the Back-Checker shall work with the Detail Checker to reconcile the disagreement. The Back-Checker initials and dates the “BACKCHECKED” row in the check print seal.
4. Upon completion of back-checking, the checkprints(s) are provided to the Detailer. The Detailer makes changes to the CAD file for the items marked in red and with a green checkmark. The Detailer places a blue checkmark next to the red-lines to indicate the change was made. The Detailer shall only make changes indicated with red marks; no other items are to be modified. If the Detailer has questions or believes there are unmarked errors, it shall be brought to the

attention of the Checker. The Detailer initials and dates the “CHANGED” row in the Check Print seal.

5. The Detailer provides both the original checkprint and revised sheet to the Detail Checker. The Detail Checker verifies all changes have been made using red and yellow as described in Step 2.
6. If additional revisions are required, the process (Steps 2-5) continues until complete. Once complete, the Detail Checker initials and dates the “COMPLETE” row in the Check Print seal.

The Detail Checker shall provide the checkprints to the Team Leader and EOR upon completion. The Team Leader will assemble and organize all checkprints and provide them to the EOR who will be responsible for archiving these documents (electronic and hard copies) as evidence the QC check was conducted.

Once the plan sheet QC check is complete, the sheet title block will be populated for the Designer, Design Checker, Detailer and Detail Checker.

All bridge plan sheets must include the names of the Designer, Design Checker, Detailer, Detail Checker and Reviewer. The names shown on the bridge plans must be consistent with those shown on the QA/QC Certification, design calculations and plan check prints.

4.6.4 Document Reviews

Project documents (e.g., reports, specifications, design criteria, etc.) will, at a minimum, be reviewed by a second individual appropriately qualified to understand the subject matter of the document and familiar with the scope and requirements of the project. The document originator is responsible for incorporating review comments into the final document. Any differences between the originator and reviewer will be discussed and a consensus achieved prior to submittal of the document to the LA DOTD.

4.6.5 Construction Related Engineering Services Reviews

The construction submittals are typically reviewed by the Designer to ensure conformance with the contract documents. The Contractor is responsible for the correctness of their submittals.

The DOTD PM or appropriate Task Manager shall direct the TRC PM to review each construction submittal. The TRC PM will review the assigned construction submittals to ensure that TRC and/or their subconsultants are responsible for review of the submittal. The TRC PM will assign the construction submittal review to the responsible party. The Engineer or EIT who prepared the engineering drawings shall generally be responsible for reviewing and responding to the corresponding construction submittal. Responses to reviewed construction submittals shall be provided to the TRC PM for review. The TRC PM will submit the construction submittal response or designate an engineer to do so.

Reviews for specific construction submittals shall be as follows:

- Shop drawings – Review of drawings shall be done in a similar manner as Section 4.6.3 Step 2. The submittal review need only verify correctness of pertinent design information such as plate sizes, material strengths, number of bolts, bolt diameter, splice locations, weld sizes, number and size of P/S strands, etc.
- RFI’s – The RFI response shall be provided by the designer most directly responsible for the design of the corresponding RFI. The RFI response shall be reviewed by the Team Leader or an

Engineer or EIT designated by the Team Leader. The engineer providing the response shall sign the RFI response.

- Design documents (Contractor design calculations, erection calculations, erection plans, temporary works, etc.) – Review of drawings shall be done in a similar manner as Section 4.6.3 Step 2. Review of calculations shall be done in a similar manner as Section 4.6.2 Step 2. The checking of contractor design documents is to be cursory in nature and focusing on areas of critical importance.
- Document submittals (O&M manuals, material submittals) – Reviews for document submittals shall be done in a similar manner to Section 4.6.4.

Engineers and Engineer Interns reviewing construction submittals shall review and comply with 2016 LSSRB Subsections 101.03, 105.02 and 801.05. Procedural requirements for Working Drawing review shall be in accordance with BDTM 75 unless the DOTD PM indicates otherwise.

Responses to contractor submittals shall be stamped with one of the following designations:

- Returned for correction
- Accepted in accordance with LSSRB 105.02

4.7 Quality Assurance

Every phase or milestone of the project will undergo a QA review prior to submittal to the LA DOTD. The Reviewer is responsible for conducting the QA Review.

QA reviews consist of the following:

- QC Audit - Ensuring that the QC process was performed (e.g., calculation sheets have been checked and initialed) and the calculations, load rating report, drawings, special provisions and cost estimate are in accordance with DOTD Bridge Design practices, policies and procedures.
- QA Review - Conducting a cursory review of all documents in the package submitted by the design team. This review should focus on the constructability of the plan details; areas of critical structural importance; areas where, based on the Reviewer's experience, mistakes may be typically found; and areas that may be new to the design practice. The Reviewer may, but need not, produce independent calculations to verify submitted information.
- Providing feedback and working with the design/rating teams to resolve all issues.

The Reviewer has the option to provide their comments on the standard review form included in Appendix I. Alternately, Reviewers can mark (hardcopy) or electronically insert (if a track changes feature is available and activated) their review comments on deliverables including reports, drawings, and specifications. If this option is used to communicate review comments, the standard review form should be used to direct the Team Leader to where the review comments can be viewed.

Inter-discipline reviews will be performed at every milestone to confirm that any design conflicts are resolved prior to the Final Submittal.

4.7.1 Interim Submittal QA Review

Interim submittal QA Reviews will be conducted for all milestone submittals prior to the 100% final submittal. Prior to each milestone submittal, the Team Leader will provide the Internal Tracking Submittal Checklist (Appendix J) to the Reviewer and PM.

The Reviewer will conduct a cursory review of the deliverables (plans, load rating reports, etc.) and check the Internal Tracking Submittal Checklist (Appendix J) to ensure the QC process is being implemented. The Reviewer will also check the Consultant Submittal Review Checklist (Appendix D) to ensure the level of completion and amount of information shown on the plans is consistent with that required for each milestone submittal.

The Team Leader will confirm that calculations, checkprints and other applicable documentation (such as code reviews and design checklists) are archived and will be available to the Reviewer if requested. The Reviewer will provide comments to Team Leader and once a resolution is reached, the appropriate plan changes will be made and the Reviewer will sign the Interim Tracking Submittal Checklist and provide to the PM.

The Project Manager will utilize the Internal Tracking Submittal Checklist (Appendix J) to verify the project will meet the submittal schedule requirements, the QA/QC has been conducted and the information in the submittal was prepared in accordance with this Project QA/QC Plan and the applicable LA DOTD standards prior to each submittal. Each interim plan submittal is required to include a Consultant Project Submittal QA/QC Certification (see Appendix K) signed by the PM.

4.7.2 Final Submittal QA Review

Upon completion of all design and detail QC checks, which shall be no later than the 95% Final Plans stage, the Team Leader is responsible for preparing the QA information package, which includes the documents listed in below, and providing the package to the PM and the Reviewer.

QA information package checklist for design projects (see Appendix F):

- Calculation book
- Plans
- Special provisions including Non-Standard items
- Cost estimate
- Any relevant documents, such as checklists, review comments, etc. utilized by the Designer, Design Checker, Detailer, and Detail Checker.

The Team Leader will also provide the QA/QC Certification (Appendix L) signed by the Designer, Checker, Detailer and Detail Checker to the Reviewer. The Reviewer will conduct a review of all documents in the QA Information Package. The Reviewer will provide feedback to the Team Leader and resolve all issues. Once all issues have been resolved, the QA/QC Certification will be signed by the Reviewer and EOR.

The final plan and calculation submittal is required to include a Consultant Project Submittal QA/QC Certification (see Appendix K) signed by the PM and the Final Plan and Calculation QA/QC Certification (Appendix L) signed by the appropriate team members.

Upon completion of the load rating check, the Team Leader is responsible for delivering the Load Rating QA Package to the Reviewer and the PM.

QA information package checklist for load rating projects (see Appendix F):

- Scope of work required per contract
- Load rating report
- Electronic design files and influence line files
- Load Rating Checklist signed by the EOR (Appendix P)

The final Load Rating Report submittal is required to include a Consultant Project Submittal QA/QC Certification (see Appendix K) signed by the PM.

4.8 Peer Review

A peer review will be performed at the request of the LA DOTD Bridge Design Engineering Administrator for complex projects. A peer review will be performed by an independent engineering firm. The peer review will include a check of the design by producing an independent set of calculations based on the 95% drawings. Independent peer review calculations will not be formally checked, unless a discrepancy is discovered. Peer review comments will be documented and provided to the LA DOTD and TRC design team for evaluation. Resolutions agreed upon by all parties shall be incorporated into the final design. A Peer Review Resolution Agreement (Appendix M) must be signed by the Peer Reviewer, Team Leader or Project Manager of the design team and the LA DOTD Bridge Task Manager. The Peer Reviewer will also sign the Final Plan and Calculation Book QA/QC Certification.

4.9 QA/QC for Design Activities after Final Plans are signed by the Chief Engineer

The same QA/QC process shall apply to all design activities after the final plans are signed by the Chief Engineer.

Plan Revisions and Change Orders shall conform to LA DOTD EDSM No. I.1.1.28.

4.10 Documentation Requirements

4.10.1 Design Calculation Books

The Team Leader is responsible for assembling design calculations from all Designers (including the final geotechnical analysis report and the hydraulic report from the geotechnical engineer and the hydraulic engineer) and finalizing the calculation book in accordance with Appendix H. The EOR is responsible for archiving all design calculation, CAD files and checkprints. The EOR is responsible for sealing the cover sheet of the calculation book.

4.10.2 Load Rating Reports

The Team Leader is responsible for assembling load rating calculations from all Raters and finalizing the Load Rating Report. The EOR is responsible for archiving all rating calculation and checkprints. The EOR is responsible for sealing the Load Rating Report.

4.10.3 Review Comments and Responses

All comments made by DOTD phase reviewers will be recorded either by copy of memos, e-mail, letters and/or marked plans received from the reviewers. In the event that comments are received through meetings with reviewers the meeting minutes prepared will include a summary of the comments received.

The TRC PM will be responsible for addressing all comments and providing responses. The response will be in writing and will be formatted in a manner that identifies the document review date, reviewer's comments and responses to the comments. All comments received will be copied to the Team and forwarded to the applicable team members. The TRC PM will be responsible for submittal of comment responses to the reviewing entity.

Where it is necessary and prudent to discuss the comments with the Team Leader or other team members prior to making a response, the PM will arrange for the meeting.

Copies of all comments and responses will be kept in the project files.

4.10.4 Requests for Changes in the Scope of Work

The LA DOTD Bridge Task Manager and the TRC PM will evaluate comments or requests that are not covered in the project scope. Additions to the scope usually increase the project costs (a.k.a., Scope Creep). These requests should be evaluated on a case by case basis. The LA DOTD Bridge task Manager may recommend changes to the scope of a project, but only the LA DOTD Chief Engineer (or his designee) has the authority for the approval/denial of a scope change

4.11 QA/QC Certification

All project submittals must include a QA/QC Certification that indicates the submittals meet the requirements of this Project Quality Control / Quality Assurance Plan.

- QA/QC Certification for Interim Plan Submittals - The Project Manager will utilize the Internal Tracking Submittal Checklist to verify that the QA/QC has been conducted and the information in the submittal was prepared in accordance with this Project QA/QC Plan and the applicable LA DOTD and FHWA standards prior to each submittal. Each milestone plan submittal will include a Consultant Project Submittal QA/QC Certification (Appendix K) signed by the TRC PM.
- QA/QC Certification for Final Submittals - Upon completion of the design work (design and detail development, QC checks, QA review and Peer Review if required), the Final Plan and Calculation Book QA/QC Certification (Appendix L) will be signed by the Designer, Design Checker, Detailer, Detail Checker, Reviewer, EOR and Peer Reviewer. The final plan and calculation book submittal shall also include a Consultant Project Submittal QA/QC Certification (Appendix K) signed by the TRC PM. The load rating report submittal shall include a Consultant Project Submittal QA/QC Certification (Appendix K) signed by the TRC PM.

4.12 Sealing of Calculation Books, Plans and Rating Report by the EOR

The EOR shall seal all plan sheets or designate a Designer, Checker or Reviewer to seal the sheets developed under their supervision. The EOR must seal the general notes sheets, calculation book, load rating report and special provisions (if required).

4.13 Archiving Bridge Design and Rating Documents

The EOR is responsible for archiving all bridge design and rating files including calculation books, load rating reports, plans, CAD files, special provisions, cost estimate, electronic analysis and design files and other pertinent documents in accordance with the Bridge Design Section records retention policy (Appendix E). The PM is responsible for delivering all bridge design files to the LA DOTD Bridge Task Manager no later than 30 calendar days after the stamped and final plans are delivered. Any revisions

made to these documents due to plan revisions or change orders must be delivered in accordance with LA DOTD EDSM No I.1.1.28

4.14 Software

A pre-approved list of software is posted on the Bridge Design Section website under downloads (Appendix N). If any other software is required for unique applications for which pre-approved software cannot be used, a synopsis of the software shall be submitted to the Bridge Design Engineer Administrator for approval prior to use. The synopsis shall include the name of the software and the developer, a general description of the functions, a certification from the software developer stating that it is maintained in accordance with the latest AASHTO LRFD Bridge Design Specifications, and an account of the requester's experience and the experience of other organizations or agencies that use the software. Data/results from in-house software will not be accepted as part of the deliverable.

APPENDIX A
EVALUATION INSTRUCTIONS FOR CONSULTANT'S
QA/QC PLAN DOCUMENT

Instructions for Grading the QA/QC Plan Document

The Bridge Task Manager for the project is responsible for evaluating the QA/QC plan document in accordance with the QA/QC plan document rating matrix. A score shall be given for each of the six evaluation criteria. An average score of the six evaluation criteria will be calculated. If the average score is above or equal to 3.5, an overall rating of “Excellent” shall be given. If the average score is above or equal to 3 and below 3.5, an overall rating of “Good” shall be given. If the average score is above or equal to 2.0 and below 3, the overall rating of “Acceptable” shall be given. If the average score is below 2.0, the overall rating of “Not Acceptable” shall be given. If an overall rating of “Not Acceptable” is given, justifications must be provided. The grading sheet shall be filled out by the Bridge Task Manager and signed by both the bridge task manager and his or her direct supervisor. The grading sheet for the QA/QC plan document, along with justifications when required, must be transmitted to the Project Manager in writing through a transmittal letter. The overall rating for the QA/QC plan document for each consultant team will be presented to the Secretary in addition to the shortlist.

Prior to performing the evaluation, the Bridge Task Manager must review the FHWA/AASHTO “Guidance on QA/QC in Bridge Design In Response to NTSB Recommendations (H-08-17)” and LADOTD Bridge Design Section QA/QC policies, which are the references for the Consultant to develop their QA/QC plan document. These documents can be downloaded from DOTD Bridge Design website.

Evaluation Criteria	QC/QA Plan Document Rating Matrix			
	4 - Excellent	3 - Good	2 - Acceptable	1 - Not Acceptable
A. Understanding of Consultant's and DOTD's role in QC/QA of Consultant's work	Demonstrate clear understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.	Demonstrate good understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.	Demonstrate basic understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.	Demonstrate poor understanding that the Consultant is fully responsible for QC/QA of their work and DOTD is not responsible for performing QC/QA of consultant's work.
B. Understanding of the QC/QA concepts in Bridge Design	Demonstrate clear understanding of QC/QA concepts in bridge design. Definitions of QC/QA are clearly defined.	Demonstrate good understanding of QC/QA concepts in bridge design. Definitions of QC/QA are clearly defined.	Demonstrate basic understanding of QC/QA concepts in bridge design. The definitions of QC/QA are defined.	Demonstrate poor understanding of QC/QA concepts in bridge design. The definitions of QC/QA are not clearly defined.
C. Responsibilities of Designer, Checker, Reviewer, and Engineer of Record	Responsibilities of Designer, Checkers, Reviewer, and Engineer of Record are clearly defined.	Responsibilities of Designer, Checker, Reviewer, and Engineer of Record are well defined.	Responsibilities of Designer, Checker, Reviewer, and Engineer of Record are defined.	Responsibilities of Designer, Checker, Reviewer, and Engineer of Record are not clearly defined.
D. Description of the QC and QA processes and its effectiveness to ensure the accuracy of the design and the plan details	QC/QA processes are clearly described and should be very effective to ensure the accuracy of the design and the plan details.	QC/QA processes are clearly described and should be effective to ensure the accuracy of the design and plan details.	QC/QA processes are described and should be effective to ensure the accuracy of the design and the construction plan details.	QC/QA processes are not clearly described and do not seem to be effective to ensure the accuracy of the design and the construction plan details.
E. Identification of personnel qualified to perform the bridge design and QC/QA of the design and plan details	The designers and QC/QA personnel are clearly identified and are exceedingly qualified to perform the work.	The designers and QC/QA personnel are clearly identified and are qualified to perform the work.	The designers and QC/QA personnel are identified and are qualified to perform the work.	The designers and QC/QA personnel are not clearly identified or not identified and the qualifications of the personnel identified are questionable.
F. Use of QC/QA tools, such as Checklists, Standard Forms, Training materials, etc.	QC/QA tools, such as checklists, standard forms, training materials, etc., have been developed and well documented. These tools are well suited for the scope and the complexity of the project.	QC/QA tools, such as checklists, standard forms, training materials, etc., have been developed and documented. These tools are suitable for the scope and the complexity of the project.	QC/QA tools, such as checklists, standard forms, training materials, etc., have been developed and are acceptable to be used for this project.	QC/QA tools, such as checklists, standard forms, training materials, etc., have not been developed or the developed ones are not suitable for this project.

Grading Sheet for the QA/QC Plan Document

Project No.:

Project Description:

Prime Consultant	Evaluation Criteria	Score	Overall Rating	Justifications/Comments
Consultant 1	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 2	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 3	A			
	B			
	C			
	D			
	E			
	F			
	Average			
Consultant 4	A			
	B			
	C			
	D			
	E			
	F			
	Average			

Prepared by: _____
Name Signature Date

Approved by: _____
Name Signature Date

APPENDIX B
CONSULTANT KICK-OFF MEETING AGENDA CHECKLIST

Consultant Project Kick-Off Meeting Agenda Checklist

A kick-off meeting with the Consultant's bridge design team shall be initiated by the LADOTD Bridge Design Task Manager once the project is awarded. The meeting agenda shall include, but not limited to, the following items:

- Introduce LADOTD Bridge Task Manager and the Consultant's Key Team Members (The Supervisor or Team Leader and Key Designers/Design Checkers/Reviewers)
- Discuss Consultant's Staffing Plan and Implementation of QA/QC Plan Document (The staffing plan should include names and responsibilities of the designers, detailers, checkers, reviewers, and the EOR.)
- Determine Schedules for Project Submittals (Design Criteria, TS & L, 30%, 60%, 90%, 100% of Preliminary Plans and Final Plans, Final Calculations, etc.)
- Share Expectations and Consultant Rating Criteria (Consultant rating will be performed for all project submittals shown on the project submittal schedule.)
- Discuss Design Criteria
- Discuss Budget, Supplemental Requests, Invoices, and Importance of Avoiding Claims (Staff shown on invoices will be reviewed in accordance with the staffing plan.)

APPENDIX C
PROJECT ACTIVITY LOG SHEET

Project Activity Log Sheet

Project No.:

Project Name:

Bridge Task Manager:

[illegible]

APPENDIX D CONSULTANT SUBMITTAL REVIEW CHECKLIST

Consultant Submittal Review Checklist

Items	Submittals												
	Design Criteria	TS&L	30% PP	60% PP	90% PP	100% PP	30% FP	60% FP	90% FP	100% FP	Final Calculation Book	Plan Revisions	Change Orders
Consultant Submittal QC/QA Certification			R	R	R	R	R	R	R	R	R	R	R
Design Criteria	C												
TS&L		C											
Bridge Index			D	D	D	D	D	D	C	S			
General Notes			D	D	D	D	D	D	C	S			
Summary of Estimated Quantities			D	D	C	C	D	D	C	S			
General Plans			D	D	C	C	C	C	C	S			
Typical Sections			D	D	C	C							
Superelevation Diagram				D	D	C	C	C	C	S			
Construction Phasing Details				D	D	C	C	C	C	S			
Traffic Controls Details				D	D	C	C	C	C	S			
Foundation/Pile Layout				D	D	C	C	C	C	S			
Pile Loads/Details					D	D	D	C	C	S			
Pile Data Tables							D	D	C	S			
Bent Details							D	D	C	S			
Fender Details							D	D	C	S			
Girder Details							D	D	C	S			
Span Details							D	D	C	S			
Joint Details								D	C	S			
Bearing Details								D	C	S			
Approach Slab								D	C	S			
Guardrail Details								D	C	S			
Bridge Barrier/Railing Details								D	C	S			
Bridge Drainage Details								D	C	S			
Detour Bridge Details								D	C	S			
Revetment Details								D	C	S			
Signing/Lighting Details								D	C	S			
Year Plate								D	C	S			
Rebar Support								D	C	S			
Misc. Details								D	C	S			
Project Specific Standard Plans and Special Details								D	C	S			
Electrical/Lighting Details								D	C	S			
Mechanical Details								D	C	S			
As-Built Plans								D	C	C			
Special Provisions/NS-Items							D	D	C	C			
Cost Estimate					D	D	D	D	C	C			
Final Calculations											S		
Revised Plans/Calculations												S	S

Legends:

- "R" = The item is required and shall be included in the submittal.
- "C" = The item shall be complete and shall be included in the submittal.
- "D" = The item shall be in development and shall be included in the submittal.
- "S" = The item is stamped by the EOR and shall be included in the submittal.

APPENDIX E
BRIDGE DESIGN SECTION RECORDS
RETENTION POLICY

Bridge Design Section Records Retention Policy
(Updated 1/27/2012)

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (By General Files)	Archiving Instruction	Responsible Party
001	Design Manuals/Guidance and Bridge Design Technical Memoranda	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under Documents\ Reference Materials\ Bridge Design Section Archive\ Design Manuals- Guidance	Assistant Bridge Design Administrator responsible for design manuals
002	Bridge Design Standard Plans and Special Details	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under Documents\ Standard Drawings (Instructions for archiving standards are posted on bridge design website under Standards/Revising or Creating Standards)	Bridge Design Standards Manager
003	Final Plans, Revisions, and Change Orders (CAD files)	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under Project folder\ Bridge-Facilities\ Discipline\ Plans (Subfolders for each revision and change order should be created under Plans)	Bridge Task Managers
004	Final Plans, Revisions, and Change Orders (Original signed hard copies)	Life of the Agency	Life of the Agency	Transmit to General Files and archive electronically in DOTD Network Plan Room by General Files	Bridge Task Managers
005	Final Plans, Revisions, and Change Orders (Digital signed copies in pdf format, to be implemented)	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under Project folder\ Published Submittals\ Project Drawings\ Final Plans	Bridge Task Managers
006	Shop Drawings and Erection Drawings (Final Distribution Copy in pdf format)	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under Project folder\ Published Submittals\ Project Drawings\ Construction Drawings\ Shop Drawings (See BDTM 2.6 for instructions)	Bridge Task Managers
007	Shop Drawings and Erection Drawings (Final Control Set hard copies)	Life of the Agency	Life of the Agency	Transmit to General Files and archive electronically in DOTD Network Plan Room by General Files (See BDTM 2.6 for instructions)	Bridge Task Managers

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (By General Files)	Archiving Instruction	Responsible Party
008	Final Design Calculation Files for In-House and Consultant Projects (Stamped calculation book in pdf format, stamped final reports, and final electronic design models)	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under <u>Project Folder\Published Submittals\Project Documents\Final Design Calculations & Reports</u>	Bridge Task Managers
009	Bridge Rating Reports	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under <u>Documents\Reference Materials\Bridge Design Section Archive\Bridge Rating Reports</u>	Bridge Rating Engineer
010	Truck Permits	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under <u>Documents\Reference Materials\Bridge Design Section Archive\Truck Permits</u>	Bridge Rating Engineer
011	Chief Engineer Orders (Bridge Posting)	Life of the Agency	Life of the Agency	Archive electronically in Project-wise under <u>Documents\Reference Materials\Bridge Design Section Archive\Chief Engineer Orders (Bridge Posting)</u>	Bridge Rating Engineer
012	Project Related Correspondences (Hard Copies)	Final project acceptance date + 3 years	Life of the Agency	Archive electronically in Content Manager under <u>Design Projects</u> . At the end of in office retention period, the hard copies shall be boxed, marked with project number and record item No. with description, and then transmitted to General Files for their handling.	Project Managers/Bridge Task Managers
013	Project Related Correspondences (Emails) (Note: If the email is considered as important project correspondence and needs to be kept for the life of agency, then the email should be printed and treated as item 012.	Final project acceptance date + 3 years	Final project acceptance date + 3 years	Archive electronically in Project-wise under <u>Project Folder\Published Submittals\Project Documents\Project Correspondence Emails</u>	Project Managers/Bridge Task Managers
014	Administrative or Other Types of Correspondences	Life of the Agency	Life of the Agency	Archive electronically in Content Manager under <u>Bridge Design Subject Files</u>	Everyone

APPENDIX F

QA INFORMATION PACKAGE CHECKLIST

QA Information Package Checklist

Project No.:

Project Name / Description:

QA information package checklist for design projects

_____ Calculation Book

_____ Plans

_____ Special Provisions

_____ Cost Estimate

_____ Other Documents _____

QA information package checklist for load rating projects

_____ Scope of work required per contract

_____ Load rating report

_____ Electronic design files and influence line files

_____ Load Rating Checklist signed by the EOR

APPENDIX G

BRIDGE DESIGN CRITERIA CHECKLIST

Bridge Design Criteria Checklist

The project design criteria include, but are not limited to, the following sections:

— **Cover sheet**

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- Revision date
- The Project Manager's signature and date

— **Governing Design and Construction Specifications and Other References**

A list of governing design and construction specifications and other references used for the project shall be included in this section. The edition number, interim revisions, and/or publication date must be specified for each reference.

— **Design Assumptions and Design Exceptions**

All design assumptions and design exceptions received must be included in this section along with supporting documents.

— **General Information**

The general information as listed below should be included in this section:

- Bridge information (no. of bridges, bridge clear width, length, no. of lanes, lane width, shoulder width, etc.)
- Road information (roadway classifications, design speed, traffic data, etc.)
- Vertical datum
- Vertical and horizontal clearances
- Other relevant information

— **Hydraulic Design Criteria**

All hydraulic design criteria (design year, design water elevations, scour depth and scour elevation, etc.) shall be included in this section and the information shall be provided by the Hydraulic Engineer.

— **Design Factors**

The ductility factor η_D , redundancy factor η_R , and operational importance factor η_I shall be listed in this section.

— **Design Loads**

All design loads (dead load, live load, wind load, thermal loads, vessel collision loads, seismic load, wave loads, etc.) used for the project shall be included in this section.

— **Limit States**

All applicable limit states for this project shall be listed in this section.

— **Bridge Barrier**

The design criteria, types, and test levels for bridge barriers shall be listed in this section. Standard plans and special details should be listed if they are utilized.

Guardrail

The design criteria, types, and test levels for guardrails shall be listed in this section. Standard plans and special details should be listed if they are utilized.

Approach Slab

Design criteria for approach slab shall be included in this section. Standard plans and special details should be listed if they are utilized.

Deck and Deck Drainage

All design criteria for deck and deck drainage design shall be included in this section. Standard plans and special details should be listed if they are utilized.

Bearing

All bearing types and design criteria for each bearing type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Joint

All joint types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Superstructure

All superstructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Substructure

All substructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Piles and Drilled Shafts

All pile types, sizes, and structural design criteria shall be included in this section. Standard plans and special details should be listed if they are utilized.

Geotechnical Design

All geotechnical design criteria shall be included in this section and the information shall be provided by the Geotechnical Engineer. Standard plans and special details should be listed if they are utilized.

Mechanical Design

All mechanical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

Electrical/Lighting Design

All electrical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

Bridge Load Rating Criteria

All as-designed bridge rating criteria shall be included in this section.

Software

All software used for design and check shall be included in this section.

APPENDIX H

FINAL CALCULATION BOOK CHECKLIST

Final Calculation Book Checklist

The final calculation book for each project shall include, but not limited to, the following sections:

- **Cover Sheet**
 - The following information must be included on the cover sheet:
 - LADOTD project number
 - Project name
 - The title of “Final Calculation Book”
 - The EOR’s seal with signature and date
- **Final Calculation Book Check List**
- **QA/QC Certifications**
- **Peer Review Resolution Agreement (if peer review is performed)**
- **Design Criteria**
- **Final Hydraulic Analysis Report from Hydraulic Engineer**
- **Final Geotechnical Analysis Report from Geotechnical Engineer**
- **Superstructure Design Calculations**
- **Substructure Design Calculations**
- **Quantity Calculations**
- **Special Provisions/NS-Items**
- **Construction Cost Estimate**
- **As-Designed Rating Report**
- **List of All Final Electronic Design Files and File Locations (ProjectWise directory name)**

Consultants shall submit the final calculation book to LADOTD bridge task managers; the submittal shall be on a CD or Flash Drive or placed to a designated ProjectWise folder including the following information:

- **A PDF File of the Calculation Book**
- **All Electronic Design Files**
- **A PDF File of the As-Designed Rating Report Only**

APPENDIX I
QA REVIEW COMMENT FORM

Date: _____

Sheet: _____ of _____

Task or

Team: _____

Phase: 30% 60% 90% 95% 100%
(Pick One)

Project: _____

Reviewer: _____

Yes	No	I have Review Comments to provide to the author and/or design engineer.
Yes	No	Review Comments are handwritten on the document/sheet (see attached).
Yes	No	Review Comments are recorded in the electronic file of the document/sheet (see attached).

In ALL cases, Type 1 comments and responses must be summarized or listed below.

[illegible]

2 = Minor comment that can be readily addressed or a potential improvement to deliverables.

APPENDIX J INTERNAL TRACKING SUBMITTAL CHECKLIST

Internal Submittal Status Tracking

Project:						
Team / Group:						
Items	Designer / Rater	Checker	Detailer	Detail Checker	Reviewer	Status
Consultant Submittal QC/QA Certification						
Design Criteria						
TS&L						
Bridge Index						
General Notes						
Quantity Calculations						
Construction Cost Estimate						
General Plans						
Typical Sections						
Superelevation Diagram						
Construction Phasing Details						
Traffic Controls Details						
Foundation / Pile Layout						
Pile Loads / Details						
Pile Data Tables						
Bent Design/Details						
Fender Design/Details						
Girder Design/Details						
Span Design/Details						
Joint Design/Details						
Bearing Design/Details						
Approach Slab						
Guardrail Design/Details						
Bridge Barrier / Railing Design/Details						
Bridge Drainage Design/Details						
Detour Bridge Details						
Revetment Details						
Signing / Lighting						
Misc. Details						
Project Specific Standard Plans and Special Details						
Electrical/Lighting Details						
Mechanical Details						
As-Built Plans						
Special Provisions / NS-Items						
Cost Estimate						
Final Calculations						
Load Rating Report						
Load Rating Calculations						
Revised Plans / Calculations						

Notes:

- 1) This sheet is intended to be used for internal status and QC/QA tracking.
- 2) Initials indicate the individual responsible for the task.

APPENDIX K
CONSULTANT PROJECT SUBMITTAL QA/QC CERTIFICATION

Consultant Project Submittal QA/QC Certification

Project No.:

Project Name:

Submittal Description:

I, the undersigned Project Manager for this project, certify that the information included in this submittal has been prepared in accordance with the approved TRC Project Quality Control / Quality Assurance Plan and LADOTD Bridge Design Section policy on QA/QC and the information presented is accurate and meets the requirements of this submittal. All CAD drawings meet LADOTD CAD standards.

Submittal Description

Project Manager Name

Signature

Date

APPENDIX L
FINAL PLAN AND CALCULATION BOOK QA/QC CERTIFICATION

Final Plan and Calculation Book QA/QC Certification

Project No.:

Project Name / Description:

We, the undersigned designers, detailers, checkers and reviewers for this project, have reviewed and accepted the calculations, plans, quantities, special provisions, and cost estimate prepared for the project. We certify that the work for which we are responsible has been completed in accordance with the approved TRC Project Quality Control / Quality Assurance Plan and the LADOTD Bridge Design Section policy on QA/QC.

Bridge:						
Segment:						
Team Members	Name	Louisiana PE Registration No.	Responsible Plan Sheets	Responsible Special Provisions	Construction Cost Estimate	Signature
Designers						
Design Checkers						
Detailers						
Detail Checkers						
Reviewers						
Peer Reviewer						
EOR						

APPENDIX M

PEER REVIEW RESOLUTION AGREEMENT

Peer Review Resolution Agreement

Project No.:

Project Name:

We, the undersigned Peer Reviewer, Supervisor or Team Leader of the design team, and LADOTD Representative for this project, have reviewed and accepted the attached peer review resolutions. We certify that the peer review has been performed in accordance with the LADOTD Bridge Design Section policy on QA/QC.

Team Members	Name	Signature
Peer Reviewer		
Team Leader		
LADOTD Representative		

APPENDIX N
LA DOTD PRE-APPROVED SOFTWARE LIST

Louisiana Department of Transportation and Development
Bridge Design Approved Software List
Updated: June 4, 2025

Developer	Website	Software Name	Production Version
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare Bridge Design	7.6.1
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare Bridge Rating	7.6.1
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare PS Design Tool	7.6.1
AASHTO, Inc.	https://www.aashtoware.org/	AASHTOWare Steel Design Tool	7.6.1
Acuity Brands Lighting, Inc.	https://www.visual-3d.com/	Visual	2020 R2
AutoDesk	https://www.autodesk.com/	AutoCAD LT	AutoCAD LT 2024
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	LEAP Bridge Concrete	22.0.4.24
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	LEAP Bridge Steel	22.0.4.24
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	Microstation Connect Edition	10.16.00.080
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	Microstation v8i	08.11.09.883
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	Open Roads Designer	10.10.13
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	OpenBridge Designer	10.10.1.73
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	OpenBridge Modeler	10.12.183
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	RM Bridge	11.16.031
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	STAAD	22.12.00.142
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	STAAD Beava	22.12.00.142
Bentley Systems, Inc.	https://softwaredownloads.bentley.com/en/	STAAD Section Wizard	22.12.00.142
Bridge Software Institute	http://bsi-web.ce.ufl.edu	FB-Pier	v5.8.31
Computers and Structures, Inc.	https://www.csiamerica.com/	CSiBridge	CSiBridge 2016 v1820
Computers and Structures, Inc.	https://www.csiamerica.com/	CSICOL	CSiCol 9 v901
Computers and Structures, Inc.	https://www.csiamerica.com/	SAP 2000	SAP 2000 v1820
CSI, Ltd.	https://www.csi-europe.com/	DDM	DDM 2023
Elite Software	https://www.elitesoft.com/	CHVAC 8	CHVAC 8
Ensoft, Inc.	https://www.ensoftinc.com/	L-Pile	2022-09
Finite Element Analysis, Ltd.	https://www.lusas.com/	LUSAS	LUSAS 19.1-3
Informer Technologies, Inc.	https://powergear.software.informer.com/	Power Gear	4.0.64
LARSA, Inc.	https://www.larsa4d.com/	LARSA 4D Bridge Plus	LARSA 4D_8.00.9016
Lighting Analysts, Inc.	https://www.lightinganalysts.com/catalog/login.php	AGI32	AGI32-20.11.0.12
MIDASoft	https://www.midasoft.com/	Midas Civil	Civil 2023(v1.1)
Operating Technology, Inc.	https://www.etap.com/	ETAP	ETAP 2023 (22.5.0)
PTC, Inc.	https://www.ptc.com/en/support	MathCAD Prime	Prime 9.0
Smart Bridge Technology	http://www.smartbridgetech.com/	Smart Bridge Suites	4.0
SolidWorks Corporation	https://www.solidworks.com/	SOLIDWORKS	2023 SP02.1
Structure Point, LLC	https://structurepoint.org/	spColumn	spColumn 10.00
University of Maryland	https://best.umd.edu/sabre/	Sabre	6.2

Note:

1. If any other software is required for unique applications for which pre-approved software cannot be used, a synopsis of the software shall be submitted to the Bridge Design Engineer Administrator for approval prior to use. The synopsis shall include the name of the software and the developer, a general description of the functions, a certification from the software developer stating that it is maintained in accordance with the latest AASHTO LRFD Bridge Design Specifications, and an account of the requester's experience and the experience of other organizations or agencies that use the software, Data/results from in-house software will not be accepted as part of the deliverable.
2. The cost of software shall be included in the overhead cost of the firm and not a direct expense for the projects.

APPENDIX O
BRIDGE LOAD RATING SUMMARY SHEET

Bridge Load Rating Summary Sheet

Bridge Data

District	Recall Number	Inspection Date
Parish	Bridge Name	Deck
Route	Year Built	Super
Bridge Posting	Design Load	Sub
Bridge Type	Roadway Width	Culvert
Bridge Length	Plan Location	Channel
Standard Plan	Std Plan Yr Rev	- -

Bridge/Culvert Load Rating Summary

Dead Load		LRFR Evaluation Factors				Traffic			
Wearing Surface Thickness (in)	-	Condition Factor, super (ϕ_c)				ADT			
Wearing Surface Type		Condition Factor, sub (ϕ_c)				Functional Class			
Non-Structural Attachments	-	System Factor, super (ϕ_s)				Truck% Dir.%			
Fill Thickness (in)		System Factor, sub (ϕ_s)				ADTT (one way)			

Vehicle Type	GVW (kips)	Superstructure/Deck/Culvert				Substructure			
		Rating Factor	Posting Weight (tons)	Controlling Member	Controlling Load Effect	Rating Factor	Posting Weight (tons)	Controlling Member	Controlling Load Effect
HL-93 (INV)	N/A								
HL-93 (OPR)	N/A								
LADV-11(INV)	N/A								
Type 3	50.0								
LA Type 3S2	73.0								
Type 3-3	80.0								
LA Type 6	80.0								
LA Type 8	88.0								
SU4	54.0								
SU5	62.0								
SU6	69.5								
SU7	77.5								
Lane-Type I	N/A								
Lane Type II	N/A								
EV2	57.5								
EV3	86.0								

* Informational purposes only

Posting Analysis Summary

	PV-Single	PV-Comb	
Superstructure			As-Design Rating: ☐
Substructure			
Recommended Legal Posting Load:	No Limit		
Recommended EV Posting Load:	No Limit		
Controlling Legal Load Rating Factor:	-		

QC/QA

Rated By:	Date Rated:
Checked By:	Design Project Number:
QA By:	Rating Software:

NOTES

APPENDIX P
BRIDGE LOAD RATING CHECKLIST

LOAD RATING REPORT CHECKLIST (LADOTD)

Page 1 of 2

Project No. _____ Bridge _____

Submittals:

An Electronic Version of the Load rating Report including any computer models used in analysis

N/A*

Hard Copy (one) [for each bridge]	☐	☐	_____
PDF Copy (one) [for each bridge] On removable storage: CD, Flashdrive, Projectwise, large file transfer	☐	☐	_____
All bridge plans on separate CD (or flashdrive if too large) to be included with rating documents	☐	☐	_____
Rating Report prepared for each bridge (this maybe each structure number)	☐	☐	_____
One AASHTOWare BrR/BrD model for each bridge Bridge span numbers shall follow the inspection report (NBI Inventory)	☐	☐	_____

Rating Report:

Cover sheet	☐	☐	_____
Recall Number on Cover Sheet	☐	☐	_____
Stamped and Signed Bridge Load Rating Summary Sheet with Engineering Seal and signature	☐	☐	_____
Rater Initials	☐	☐	_____
Checker Initials	☐	☐	_____
Reviewer Initials	☐	☐	_____
List all assumptions	☐	☐	_____
List all material values	☐	☐	_____
Discussion of current condition of bridge and any assumptions based on that	☐	☐	_____
Critical rating values	☐	☐	_____
Rating Output of every rated member	☐	☐	_____
Influence line (if applicable, see refined methods below)	☐	☐	_____
Hand calculations, sample calculations	☐	☐	_____

see next page for additional items

LOAD RATING REPORT CHECKLIST (LADOTD) (continued)

Page 2 of 2

Project No. _____ Bridge _____

Rating Report (cont):

To be incorporated into Rating Report:

		N/A*
Structure Description	☐	☐
Vicinity Map	☐	☐
Bridge Layout Plans	☐	☐
Load Rating Inspection Reports	☐	☐
Material and Load Test Data	☐	☐
Supporting Calculations	☐	☐
Clear Statement of all assumptions made for calculations	☐	☐
Sketches to document section loss used in Analysis	☐	☐
Previous Inspection Reports	☐	☐
Testing Reports	☐	☐
Reference Articles	☐	☐
BrR/BrD Input Data File	☐	☐

For Refined Methods:

Live Load Distribution Factors for all rated members	☐	☐
Computer model files and associated documentation	☐	☐
Influence line/surface submittal for any member not rated by BrR/BrD	☐	☐

* For items marked N/A, include the reason for not including.

Engineer of Record: _____
Print

Signature

Company: _____

22. Sub-consultant information:

Firm Name (Name must match <u>exactly</u> as registered with Louisiana's Secretary of State (SOS: including punctuation, include screenshot(s) from SOS at the end of Section 20)	Address	Point of Contact and email address	Phone Number
MOFFATT & NICHOL INC.	301 Main Street, Suite 800 Baton Rouge, LA 70801	Chace Hulon chulon@moffattnichol.com	(225) 610-1932
CONSOR NORTH AMERICA, INC.	110 West Airline Drive, Suite F Kenner, LA 70062	Michael Dukes mdukes@consoreng.com	(864) 431-0572
WISS, JANNEY, ELSTNER ASSOCIATES, INC.	330 Pfingsten Road Northbrook, IL 60062	Jonathan C. McGormley jmcgormley@wje.com	(847) 753-7234
NTB ASSOCIATES, INC.	525 Louisiana Ave. Shreveport, LA 71101	Michael J. King mking@ntbainc.com	(225) 454-8925
GEOENGINEERS, INC.	11923 Sun Belt Court Baton Rouge, LA 70809	Larry Sant LSant@geoengineers.com	(225) 663-1522
KTA-TATOR, INC.	145 Enterprise Drive Pittsburgh, PA 15275	Robert S. Lanterman rlanterman@kta.com	(412) 303-9407
BRIDGE DIAGNOSTICS, INC.	4300 S I-10 Service Road W Suite 210 Metairie, LA 70001	Steven Fall, PE stevenf@bditest.com	(504) 874-1042
HOLDEN ARCHITECTS, A PROFESSIONAL CORPORATION	9100 Bluebonnet Centre Blvd., Suite 401 Baton Rouge, LA 70809	Thomas S. Holden holden@holdarch.com	(225) 389-0077
GULF SOUTH RESEARCH CORPORATION	8081 Innovation Park Drive Baton Rouge, LA 70820	Suna Adam suna@gsrcorp.com	(225) 757-8088
MARRERO, COUVILLON & ASSOCIATES, L.L.C.	3525 Hessmer Ave, Suite 304 Metairie, LA 70002	Kimball Schlafly kschlaflly@mca-llc.com	(504) 834-3448
VECTURA CONSULTING SERVICES, LLC	PO Box 14269 Baton Rouge, LA 70898	Brin Ferlito bferlito@vecturacs.com	(225) 223-6685

23. Location:

N/A