Prepared for Louisiana Department of Transportation and Development (DOTD) February 10, 2022

Contract number 4400023434 | State Project No. H.000445 | F.A.P No. H000445

US 190 UPRR Overpass Near Opelousas Route US 190 | St. Landry Parish

AECOM



February 10, 2022

Louisiana Department of Transportation and Development (LADOTD) Attn: Ms. Darhlene Major, Contract Services Administrator 1201 Capitol Access Road, Attn. Sec 80 Baton Rouge, LA 70802

Subject: Contract for US 190: UPRR Overpass Near Opelousas; Contract No. 4400023434 State Project No. H.000445

Dear Ms. Major and Members of the Project Evaluation Team:

LADOTD has developed this project to develop construction plans related to replacement of four bridges at two sites along US 190 near Opelousas: Union Pacific Railroad Overpasses and the Little Teche Bayou bridges. Work will include services to design and develop construction for four new bridges, including structures, roadway, traffic, and hydraulic engineering, surveying, and close coordination with the railroad throughout the design process. We fully understand the significance and requirements of these projects and have committed our best talent to provide quality engineering services to LADOTD. We will apply the same energy, enthusiasm, focus on details, and attention to the schedule and budget that we have provided to LADOTD on our recently completed and ongoing LADOTD projects.

The Benefits of Our Team

- Unique Familiarity
 - AECOM brings many years of RR coordination experience and relationships, enabling the design team and LADOTD to efficiently navigate the UPRR Review process
 - With no learning curve, we are positioned for efficient project delivery
- Qualified Staff
 - We will apply our wealth of knowledge and experience to LADOTD's asset management needs
- A Team You Know and Trust
 - We bring this proven team to you
- Unparalleled Quality and Safety Management
 - Our ISO 9001-2015 certified Quality Management System exceeds the requirements of the LADOTD Bridge QA/QC Policy
 - Our team will utilize mobile LiDAR scanning to lessen general disruption to the public and significantly reduce our survey teams' exposure to potentially dangerous circumstances.

AECOM continues to be a national leader in the delivery of transportation and structural services for our clients. Like LADOTD, our clients know that they can rely on AECOM as a partner to provide quality engineering services.

Patrick and the AECOM team are supported by our subconsultant partners who will assist in meeting the expanded scope of services and delivering this project to LADOTD. These firms have successfully teamed with us on previous contracts with LADOTD.

- GEC, Inc.: Bridge and Roadway
- SJB Group, LLC: Topographic Surveying

The AECOM Advantage

AECOM brings a history of successful project delivery to LADOTD, along with proven subconsultant partners. We are committed to providing unparalleled performance on this contract as we have done in the past. In reviewing our proposal, please consider these reasons why AECOM is ideally suited for this work:

Unique Familiarity

The team assembled has a strong history of delivering transportation and structural projects, many of which have included the design of railroad overpass grade separation structures. These numerous projects have included new railroad overpasses, widening of existing railroad overpasses, and railroad bridges. The team also has a strong history in design of water crossings, from large rivers to small creeks.

AECOM also brings many years of successful railroad coordination and relationships. This experience in working with the railroads will be key during the design and construction of this project. Familiarity with the UPRR and their processes will ensure that the design team addresses the key requirements and concerns of both the railroad and LADOTD, while utilizing our experience to reduce the number of comments and negotiation needed during the project.

Qualified Staff

Our qualified staff of professionals includes specialized structural, roadway, and traffic engineers, and surveyors who have dedicated their careers to providing quality engineering services. In addition to our successful delivery of many LADOTD projects, we have performed similar projects for clients throughout the U.S. Patrick will be supported by our AECOM team that is currently working on LADOTD's I-49 Connector Project.

A Team You Know and Trust

AECOM and our subconsultants have been working successfully together to compete and deliver bridge projects for the LADOTD and other Louisiana clients.

Unparalleled Quality and Safety Management

AECOM's proven quality and safety management programs provide safe, quality bridge inspection services on time and within budget.

As the Project Manager, I will be the point of contact for this contract. I currently serve as the AECOM West Region Deputy Bridge Practice Leader and Operations Leader for our bridge services in Texas, Louisiana, Wisconsin, and Minnesota, and have more than 39 years of structural engineering experience, including multiple projects involving the design and coordination of highway and rail bridges. My task leaders are Daniel Boyd for bridge/structures design, Jonathan McDowell for roadway design, Daniel Helms for traffic, Audra Rodgers for railroad coordination, and Sarah McEwen for hydraulics. I have worked with Daniel, Jonathan, Daniel, Audra, and Sarah on numerous projects, including ones with work scopes including new design and railroad coordination. I pledge to partner with LADOTD, and specifically with your project manager.

AECOM is committed to delivering a quality design for the US 190 overpasses to LADOTD, while successfully meeting the contract challenges and exceeding the requirements of LADOTD. If you have any questions, please do not hesitate to contact me via phone at 512.479.1654 or by email at patrick.hays@aecom.com.

Sincerely,

AECOM Technical Services, Inc.

Patrick Hays, PE , SE Project Manager

Michael Paterno, PE Vice President, Business Unit Leader

AECOM

Bridge Rehabilitation Design for El Paso County's South Academy Boulevard Bridges over BNSF RR **HHHHH**

Section

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 23 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.

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

1.	Contract title as shown in the advertisement	US 190 UPRR Overpass Near Opelousas Contract number 4400023434 State Project No. H.000445 F.A.P No. H000445 Route US 190 St. Landry Parish
2.	Contract number(s) as shown in the advertisement	4400023434
3.	State Project Number(s), if shown in the advertisement	H.000445
4.	Prime consultant name (as registered with the Louisiana Secretary of State where such registration is required by law)	AECOM Technical Services, Inc.
5.	Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)	AECOM Technical Services, Inc. (AECOM) LAPELS No. EF.0002331
6.	Prime consultant mailing address	8555 United Plaza Boulevard, Suite 300 Baton Rouge, LA 70809
7.	Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	8555 United Plaza Boulevard, Suite 300 Baton Rouge, LA 70809
8.	Name, title, phone number, and email address of prime consultant's contract point of contact	Jonathan McDowell, PE Project Engineer – Meets MPR 6
9.	Name, title, phone number, and email address of the official with signing authority for this proposal	Michael D. Patorno, PE Vice President 504.218.0865 mike.patorno@aecom.com

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	Signature (shall be the sa me pe rson as #9):
commercially limiting actions. DOTD reserves the right to reject	
the response of the bidder or proposer if this certification is	- Alex o
subsequently determined to be false, and to terminate any	Date: February 10, 2022
contract awarded based on such a false response.	
11. If a Disadvantaged Business Enterprise (DBE) goal has been set	<u>Firm(s):</u> <u>Firm(s)' %:</u>
for this advertisement, indicate which firm(s) will be used to meet	N/A
the DBE goal and each firm(s)' percentage.	

12. Past Performance Evaluation Discipline Table:

As indicated in the advertisement, insert the completed table here. The percentages for the prime and sub-consultants must total 100% for **each past performance evaluation discipline**, as well as the overall total percent of the contract.

Evaluation Discipline(s)	% of Overall Contract	AECOM	GEC	SJB	Each Discipline must total to 100%			
Road	15	75	25		100%			
Bridge	67	80	20		100%			
Traffic	10	100			100%			
CE&I/OV	0	0	0	0	0			
Geotech	0	0	0	0	0			
Survey	8	0	0	100	100%			
Environmental	0				0			
Data Collection	0				0			
Planning	0				0			
Right-of-Way	0				0			
СРМ	0				0			
ITS	0				0			
Appraiser	0				0			
Other	0				0			
Identify the percentage of	Identify the percentage of work for the overall contract to be performed by the prime consultant and each sub-consultant.							
Percent of Contract	100%	75%	17%	8%				

The crosswalk from the old categories to the new categories can be found at the link below:

http://wwwsp.dotd.la.gov/Inside LaDOTD/Divisions/Engineering/CCS/General%20Information/CPPR%20Crosswalk%20to%20New%20Evaluati on%20Disciplines.pdf. (same link as in the advertisement)

13. Firm Size:

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
	Principal	1	2
	Supervisor Engineer	4	5
	Engineer	6	8
	Engineering-Intern	3	10
AECOM	Supervisor Other	2	4
	Environmental Pro	1	3
	Administrative	2	4
	CADD Technician	3	8
	Principal	1	1
GEC, Inc.	Supervisor Engineer	3	0
	Engineer	2	1
	Accountant	0	2
	Administrative	0	4
	CADD-Operator	2	2
	Computer Analyst	0	1
	Engineer	0	1
	Instrument Man	3	3
	Landscape Architect	0	1
SJB Gloup, LLC	Party Chief	6	6
	Principal	0	1
	Professional	1	1
	Senior Technician	4	5
	Supervisor – ENG	0	3
	Supervisor – Other	2	5
	Surveyor	1	2

Sections

14-16

GEC

New Bridge Construction for LADOTD's US 171/165 Fort Buhlow Bridge over the KCS RR

14. Organizational Chart:

Provide an organizational chart showing ALL relevant prime consultant and sub-consultant (if applicable) personnel assigned to the contract, area of project responsibility for each, and reporting lines for the purposes of this contract. An individual's role does not necessarily have to match their DOTD job classification identified in Section 13. If applicable, identify all personnel performing traffic engineering analysis and/or QC of traffic engineering analysis by placing an asterisk next to their name. Include the certificates required by the Traffic Engineering Process and Report Training Requirements article of the Advertisement in Section 20. It is acceptable to use an 11x17 format for Section 14.



PE Not Registered in LA

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15. Minimum Personnel Requirements:

Use the table below to identify both prime consultant and sub-consultant staff designated to work on this contract meeting the Minimum Personnel Requirements (MPRs) specified in the advertisement. *Ensure the résumé reflects the required experience stated in the MPR.*

MPR No.	Personnel being used to meet the MPR	Firm employed by	Type of license / certification & number	State of license	License / certification expiration date
1.	Michael D. Patorno, PE	AECOM	Civil Engineer PE.0024197	LA	09/30/2023
	Jonathan McDowell, PE	AECOM	Civil Engineer PE.0030508	LA	03/31/2023
2.	Daniel Helms, PE, PTOE, RSP ₂₁	AECOM	Civil Engineer PE.0042486	LA	09/30/2022
3.	Patrick Hays, PE, SE	AECOM	Civil Engineer, Structural Engineer PE.0036668	LA	03/31/2022
	Gary Maji, PE	AECOM	Civil Engineer PE.0043044	LA	03/31/2023
4.	Carl Jeansonne, PLS	SJB Group, LLC	Registered PLS- 4543	LA	03/31/2023
5.	Carl Jeansonne, PLS	SJB Group, LLC	Registered PLS- 4543	LA	03/31/2023
6	Jonathan McDowell, PE	AECOM	Civil Engineer PE.0030508	LA	03/31/2023
0.	Jerome Lohmann, PE	GEC	Civil Engineering PE.0024673	LA	09/30/2022

16. Staff Experience:

						A State	
Firm employed by AECOM Technical Services Inc.							
Name Patrick	E. Hays, PE, SE			Years of relevant experience with this employer	14		
Title Project I	<i>N</i> anager			Years of relevant experience with other employer(s)	25	12	
Degree(s) / Years	/ Specialization		BS/1982/0	Civil Engineering			
Active registratio	n number / state / ex	piration date	PE.0036668	/LA/03.31.2022			
Year registered	2011	Discipline	Civil / Struct	ural Engineer			
Active registratio	n number / state / ex	piration date	88034 / TX /	12.31.2022			
Year registered	2001	Discipline	Civil Enginee	er			
Contract role(s) / brief description of responsibilities			Project Man coordination and Minnesc of highway a managed pro	Project Manager. Patrick is a deputy regional bridge practice leader responsible for coordination of the highway structures design practice in Louisiana, Texas, Wisconsin and Minnesota. He has 39 years of experience in the design, rehabilitation, and widening of highway and railway bridges in Texas, Florida, Oklahoma, Kansas, and Missouri. He has			
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).					lers", "designed		
09/20 – Ongoing	09/20 – Ongoing 09/20 – Ongoing TxDOT, Austin District, Oak Hill Parkway Design-Build, Austin, TX. Retaining Wall discipline leader on this \$675 million dollar design-build project that will completely reconstruct US290 from west of Southview Rd/Circle Drive to east of Old Fredricksbur Road, plus a widening segment to the west end of the Industrial Oaks Overpass. In addition, the project includes reconstruction SH71 from the US290 "Y" Interchange to Silvermine Drive. The project includes two major interchanges at US290/SH71 and at US290/Wm Cannon Drive. Total project length is 6.1 miles along US290 and 1.2 miles along SH71. Supervised 4 segment teams for the delivery of approximately 80 retaining walls and 3 sound walls. The project also included 25 bridges in the score consisting of underpasses, overpasses and direct connectors. Responsibilities also include coordination with the contractor teams of underpasses.						
 North Texas Tollway Authority, SH 161 (George Bush Turnpike - Western Extension) Phase 4 - Design-Build, Grand Prairie, TX. Structures discipline leader for a 6.5-mile extension of the SH 161 toll facility from IH-20 to IH-30 including major multi-level interchanges at I-20 and I-30. Supervised eight design teams in multiple locations for the delivery of the bridge and wall engineering scope. The project included 44 bridges, including underpass bridges at Jefferson Street, Uni Pacific Railroad, Main Street, Dalworth Street, and Tarrant Road, constructed using a top-down approach. The project als included overpass bridges at Robinson Road, Forum Drive, Mayfield Road, Warrior Trail, Arkansas Lane, Pioneer Parkway, Marshall Drive, Dickey Road/SW 14th Street, and January Lane. In addition, the project included creek crossings at Fish Creek, Kirby Creek, South Fork Cottonwood Creek, and Cottonwood Creek. All retaining walls were designed and constructed in challenging expansive clays and eagle ford shale. The project included the incorporation of aesthetic OSE COSS, and toll gantry structures, compliant with the NTTA aesthetic guidelines and standards. Responsible for the preparation of formal responses and resolution of comments received from the NTTA & TxDOT staff. 						n-Build, Grand I-30 including the delivery of the erson Street, Union the project also Pioneer Parkway, ossings at Fish uned and of aesthetic OSB, ole for the	

08/19 – Ongoing	TxDOT, Dallas District, 635 East Design-Build, Dallas, TX. Structures design manager on this \$1.73 billion dollar design- build project that will completely reconstruct I-635/LBJ Freeway from US75 Central Expressway thru the I-30 Interchange in East Dallas. Responsible for leading the structures discipline for the delivery of bridge design for this 11-mile long facility. Supervised 13 bridge teams for the delivery of over \$20 million of bridge design scope. The project involves the design of 61 bridges, including a complex interchange at I-30 as well as a 300 ft long tied arch structure carrying Skillman Avenue over I- 635. The project also included the design of cut (soil nail) retaining walls at a 635East underpasses at DART Blue Line and the DART pedestrian crossing that required extensive coordination. Responsibilities also include coordination with the contractor team, owner, other discipline leads, and the design manager.
07/17 – 05/18	95Express/Virginia Department of Transportation, 395 Express Lane Design-Build, Springfield, VA. On temporary assignment (August 2017 to April 2018), served as a Deputy Design Manager for this project, which is a 7.7 mile extension of the existing 95 Express Lanes in Fairfax County, VA. The project involves the conversion of two existing HOV lanes in this corridor to three High Occupancy Toll (HOT) lanes, fully integrated into the existing 95 Express Lane system (tolled). Assisted the Design Manager with leading and documenting eight weekly meetings (Design-Build Coordination, Technical Workgroup Meeting, Discipline Lead Coordination and (5) Segment Design Coordination meetings). Also assisted with the collection of schedule updates from design leads for the preparation of weekly schedule updates and narrative reports to the Design-Build Contractor (LANE), 95Express, and VDOT.
10/07 –10/12	TxDOT, SH 130 Toll Facility Design, Segments 5 and 6, Travis and Caldwell Counties, TX. Structures discipline leader for a 26-mile extension of SH 130 from Mustang Ridge (SH 45 SE interchange) to the San Marcos River. The project included 51 bridges, including multi-level interchanges at SH 45 SE and US 183, underpass bridges at CR 222, Plum Creek turnaround, CR 108, CR 217, CR 109, SH 80, CR 218 turnaround, and CR 218. Also included were overpass bridges at Maha Loop, Laws Road, CR 176, SH 21, CR 179, FM 1185, FM 2001, Union Pacific Railroad, and SH 142; and creek crossings at Maha Creek, Plum Creek, Clear Fork Creek, and Dickerson Creek. A featured set of 4 overpasses at the UPRR in Lockhart, TX required extensive coordination. Led all aspects of the structure design services for bridges, retaining walls, box culverts, high-mast lighting, sign structures, toll gantries, and other miscellaneous structures. Organized, led, and coordinated the activities of seven structures design teams located across the country. Coordinated directly with CTxHC design and construction staff regarding corridor wide structures project issues, and responsible for the resolution of all comments received on bridge and retaining wall submittals.
09/12 – 06/17	TxDOT, Dallas District, I-35E/I-30 Horseshoe Interchange Design-Build, Dallas, TX. Led the design delivery of 21 bridges on the IH-35E leg of this \$750 million interchange with IH-30 in downtown Dallas. Supervised five bridge teams and one specialty team for the delivery of the bridge design scope. The IH-35E bridges included 4 major structures over the Trinity River, each featuring a 1,000-foot-long, 4-span, spliced prestressed girder unit consisting of Tx82 girders and 130-inch-deep haunched sections over the intermediate bents within the unit. All SPG segments were post-tensioned for continuity. The spliced prestressed girder unit was proportioned to accommodate the future Trinity Lakes plan and required coordination with the US Army Corps of Engineers regarding construction in and around the Trinity River levee system. The IH-35E leg of the Horseshoe Interchange also included multiple ramp and direct connector bridges, as well as several overpass structures at Colorado Street.

Firm employed by AECOM Technical Services Inc.								
Name Daniel B	oyd, PE			Years of relevant experience with this employer	2			
Title Deputy P	Project Manage	r		Years of relevant experience with other employer(s)	13	- CAR		
Degree(s) / Years	/ Specializatior	1	BS / 2006 / 0	Civil Engineering				
Active registration	n number / stat	e / expiration date	PE.36728/L	A/03.31.22				
Year registered	2011	Discipline	Civil Enginee	er				
Active registration	n number / stat	e / expiration date	PE.133235 /	TX / 12.31.22				
Year registered	2011	Discipline	Civil Enginee	er				
		Deputy Project Ma	anager. Danie	l has more than 15 years of structural enginee	ering experie	nce in the		
		transportation indu	istry. He most	recently was a part of two design build project	cts, serving a	is a structural		
		Independent Desig	n Check Engi	neer for two prestressed bridge packages, an	nd as structu	ral task lead for the		
		design of overhead	traffic signs	for LBJ East in Dallas, TX, and as bridge desig	n engineer a	nd Independent		
		Design Check engi	neer for Oak I	Hill Parkway in Austin, TX. His technical experi	ence also inc	ludes steel girder		
Contract role(s) / I		bridge design, pred	cast/prestress	sed concrete girder design, structural steel de	esign, structu	iral concrete		
description of res	ponsibilities	design, and deep a	nd shallow for	undations design. He has a thorough working	knowledge c	of AASHTO and		
		Louisiana DOTD St	andards, as w	ell as ACI, AISC, and ASCE. He has experience	e in both new	construction and		
		design projects, as	well as retrof	it and/or expansion projects requiring modific	cations to exi	sting structures,		
		bridges, and found	ations to mee	tions to meet current engineering codes and industry best practices. Daniel also has				
		field inspection exp	perience befo	re, during, and after construction.	•			
Experience	Experience	nd qualifications role	want to the pr	repeated contract: i.e. "decigned drainage" "d	logianod aird	oro" "docignod		
dates (mm/yy–	Experience an	penerice and qualifications relevant to the proposed contract, <i>i.e.</i> , designed drainage, designed girders, designed						
mm/yy)	intersection,	etc. Experience da).			
	TxDOT, Oak I	Hill Parkway, Austin	, TX. Design e	ngineer for one bridge team, providing analysis	s and design	for multiple		
	substructures	and foundations, In	dependent De	esign Check (IDC) engineer for the design of th	ree prestress	sed bridge		
03/21 - Ongoing	packages, and all IDC engineer for all Overhead Sign Structures for the project. IDC analyses were performed for entirety of							
	each bridge structure, from geometry, superstructure design, substructure design, and foundation design to verify the validity							
	of each design.							
	TxDOT, LBJ E	ast Design Build Pro	oject, Dallas, T	X. Completed detailed Independent Design Che	ecks (IDC) for	two prestressed		
	bridge packag	jes in the project. IDC	analyses were	e performed for entirety of each bridge structure	e, from geom	etry, superstructure		
	design, substr	tructure design, and foundation design to verify the validity of each design. Structural Task Leader and engineer of						
	record for the	design of Overhead	Sign Structure	s, consisting of 137 custom Overhead Sign Brid	lge (OSB) Stru	ictures and		
01/20 - 09/21	Cantilever Ove	erhead Sign Structure	es (COSS), as v	vell as ITS and Tolling equipment structures. The	e structure inv	ventory included a		
	combination c	of both ground mount	ed and bridge	mounted applications. Design included analysis	s of the steel t	russes for the OSB		
	and COSS stru	uctures, analysis and	design of cust	om aesthetic concrete support columns for the	e truss structu	ires, and deep		
	foundations fo	or each structure. Pro	vided constru	ction support for sign structure task to answer F	RFI's, resolve i	ssues, review shop		
	drawings, etc.							

	TxDOT, IH 820 SE Connector Design-Build Project, Fort Worth, TX. Performed preliminary structural design for multiple
10/20 02/21	substructure and foundation arrangements, including inverted-tee bents, multi-column bents, hammer-head bents, and the
10/20 - 02/21	foundations for each of these, as part of the preliminary design phase of a large design-build project. Also performed
	QA/QC on numerous bridge calculations, and detailed plan reviews on bridge plan drawings.
	LADOTD SPN H.004273.5, I–49, Connector, Lafayette, LA. Performed a review of I–49 mainline viaduct layouts for the
02/21 00/21	three different structural options being presented to LADOTD for selection. Performing reviews and updating structural
03/21-09/21	quantities and costs to reflect current design layouts and current bid pricing to ensure consistency across the three
	structural options.
	Port of Gulfport, Port of Gulfport Connector, Gulfport, MS. Structures discipline leader for preliminary phase of Gulfport
04/00 11/00	connector project. Performed preliminary structure design for prestressed concrete girders and steel plate girder
04/20 - 11/20	superstructures, preliminary substructure design, and geometric design for a new bridge structure on 30th Ave. spanning
	Hwy. 90 providing direct trucking access into the Port of Gulfport.
	Coastal Protection and Restoration Authority, LA 23 Bridge over Mid-Barataria Sediment Diversion, Plaquemines
10/10 10/00	Parish, LA Structural Engineer that assisted in the Design Plans for the new bridge and roadway structure over the new
10/19 - 12/20	sediment diversion. The project consists of a new concrete precast girder bridge, approximately 2,200 feet in length, and
	the connecting asphalt roadway. Provided calculation and plans peer reviews and QA/QC.
	LADOTD, US 71/165 Fort Buhlow Bridge/KCS Railroad Overpass, Alexandria, LA. Structural design engineer. Designed
	main river spans consisting of two 3-span units (one each direction) with 300'-400'-300' steel girder spans, and multiple
10/00 00/11	simple spans greater than 200' crossing river levees. Designed all aspects and components of the steel plate girder bridge
10/06 - 08/11	units, including diaphragms, bolted splices, bearing, stiffeners, etc. Also performed analysis and design of prestressed
	concrete girders, concrete bridge deck and columns, pile bents and piles, and performed peer review on other
	components of the project. Collaborated with steel fabricator to review/approve shop drawings.
	City-Parish of East Baton Rouge, Highland Road (LA 42) Improvements (Perkins to Airline), Baton Rouge, LA
	Civil/Structural design engineer for two new bridges on Highland Road at Ward's Creek crossing. Performed structural
01/07 – 12/07	analysis on multiple aspects of project. Design included concrete bridge deck, guard rails, analysis and design of
	prestressed quad beam concrete girders, girder bearing design, and prestressed concrete piles and concrete bents. Also
	performed calculation reviews on multiple aspects of project.
	TxDOT, Loop 1604 From SH16 to IF-35, San Antonio, TX. Prepared preliminary bridge layouts for two bridge overpasses
00/10 10/10	and two creek crossings in a dense urban area with limited right of way. Preliminary design and layout were completed
09/19 - 10/19	using TxDOT prestressed concrete girder standards. Performed QA/QC review for multiple bridges and crossings to
	ensure adequate vertical clearances were met.

Firm employed by AECOM Technical Services Inc.						
Name Gary Ma	ji, PE			Years of relevant experience with this employer	22	
Title QA/QC				Years of relevant experience with other employer(s)	11	
Degree(s) / Years	/ Specialization		BS / 1988 /	Civil Engineering		
Active registration	n number / state / exp	piration date	PE.0043044	1/LA/03.31.2023		
Year registered	2018	Discipline	Civil / Engin	eer		
Active registration	n number / state / exp	piration date	34150 / CO	/ 10.31.23		
Year registered	1999	Discipline	Civil Engine	er		
Active registration	n number / state / exp	piration date	5084537-22	202 / UT / 03.31.2023		
Year registered	2000	Discipline	Civil Engine	er		
Contract role(s) / responsibilities	brief description of	QA/QC delivery for AEC protoce and alte experti	. Gary's releva 7, including bri 20M's West Re 51s, technical t ernative delive se to the team	ant quality management experience encompara dge design and evaluations. As a senior proje egion, Gary has developed numerous project takes protocols and has performed quality ass ery transportation projects. He brings significa a. Gary meets MPR 3 .	sses all phas ect manager a work plans, c surance activ ant railroad c	ses of project and quality leader design quality vities for traditional oordination
Experience dates (mm/yy– mm/yy)	Experience and qua intersection", etc. E	alifications rel Experience da	evant to the p Ites should co	roposed contract; <i>i.e.</i> , "designed drainage", "c ver the time specified in the applicable MPR(s	designed girc s).	ders", "designed
 LADOTD, I-49 Connector, Lafayette, LA. Structure task manager for the conceptual and preliminary design of this 7-mile reconstruction of I-49 through downtown Lafayette, LA. This project has a budget projected over \$1B and includes approxim 20 bridges and numerous retaining walls. Bridges span over several interchanges, Vermilion River, short line railroads and a roadway grid network through the Lafayette Central Business District. Structure designs included the evaluation of a 2-mile viaduct structure and a signature span structure considering cast-in-place segmental, spliced concrete tub girders, arched-r and cable-stayed structure types that integrated context sensitive solutions into the bridge and structure design. Gary recer submitted two (2) concentual design submittal packages for bidbway grade separations across BNSE and LDPP track 						
05/20 - Ongoing South Academy Blvd over BNSF Rehabilitation, El Paso County, CO. Structure lead for the bridge rehabilitation design an 800-ft, 6-span, steel plate girder bridge over BNSF tracks in Colorado Springs. As part of the bridge preservation effor Gary's team conducted nondestructive testing to evaluate the existing deck condition, performed a fatigue assessment and load rating analysis to develop retrofits for fatigue prone details and identified expansion joint and bearing repair an replacement details to extend the bridge design life. Design efforts include railroad coordination and design submittals developed in accordance with the UPRR/BNSE RR Grade Separation Guidelines.						bilitation design for reservation efforts, gue assessment earing repair and sign submittals
03/13 – 05/21 Lemay Avenue over BNSF/Vine Improvements, City of Fort Collins, CO. Structure manager for the planning and design development for a new bridge crossing over Vine Street and the BNSF Railway tracks in northeast Fort Collins. Using a CM/GC project delivery, Gary's structure team led the design of a single-span bridge, (13) rockery retaining walls, and a pedestrian underpass structure that improves safety and provides multimodal connectivity to this area of the city. Design						nning and design collins. Using a ing walls, and a of the city. Design

	efforts included railroad coordination and design submittals developed in accordance with the UPRR/BNSF RR Grade
	Separation Guidelines.
	LADOTD, I-10 at Loyola Avenue Interchange Design-Build Tender Offer, Kenner, LA. Proposal Project Manager and
	Structural Design Manager for interchange improvements at the I-10 at Loyola Drive to provide new direct access ramps to
09/18 - 05/19	handle traffic to and from the new passenger terminal at Louis Armstrong International Airport. Duties included coordination
	with the contractor and all design tasks to prepare the proposal along with review and evaluation of multiple alternative
	technical concepts. Led plan development and quantity calculations for contractor bid.
	City of Fort Morgan, I-76 Corridor Design, Fort Morgan, Colorado, 2012. Project manager and structures task manager
	for the preliminary and final design of more than 27 structures along I-76 within a 16-mile corridor. This design work
05/00 - Opgoing	required safety improvements at four interchanges and complete reconfiguration at three other interchanges. Bridges
	crossed over canals, county roads, waterways, and the BNSF railroad. As part of the design of the I-76 Bridges over BNSF
	and Beaver Creek, Gary managed the development and submittal process for the conceptual, preliminary and final design
	requirements performed in accordance with the UPRR/BNSF RR Grade Separation Guidelines.
	CDOT, C-470 Express Lanes D/B, Denver, CO. As part of CDOT's \$215 MM C-470 Express Lanes Design Build Project,
	AECOM designed and constructed (16) bridges and (18) overhead sign structures for this 12.5-mile corridor in Denver,
04/16 - 11/20	Colorado. Bridge designs included widenings, rehabilitations and new construction in accommodate the interstate
04/10 11/20	roadway re-configuration. Signs were designed in accordance with AASHTO'S Standard Specifications for Structural
	Supports for Highway Signs, Luminaires, and Traffic Signals and CDOT's Bridge Design Manual. As QA/QC Manager, Gary
	created project work plans, design protocols, and developed a project specific quality manual.
	LADOTD Jimmie Davis Bridge, Shreveport, LA. Bridge engineer responsible for the conceptual design and report for bridge
05/13 - 07/15	replacement and rehabilitation alternatives of the Jimmie Davis Bridge over the Red River. Design efforts evaluated spliced-
	concrete U-girder, cast-in- place concrete segmental and steel plate girder alternatives.
	Fossil Creek Trail Underpass at BNSF, City of Fort Collins, Fort Collins, Colorado (2015). Project Manager and Structural
	Task Leader. Responsible for the conceptual and preliminary design of a trail underpass structure through an existing 25-ft
02/12-05/15	railroad embankment. Developed design details, structural reports and cost estimates for both bridge and tunneled
	structure types for approval by BNSF Railway. Designs incorporated E-80 live load conditions developed in accordance
	with AREMA criteria. Also led efforts for the development and received approval for the PUC underpass agreement.
	US 50 over BNSF Railway, Prowers County, CO. As quality manager, Gary provided quality oversight for the multi-
	disciplinary preliminary and final design engineering, and construction support services for the construction of a new
03/08-10/11	bridge and roadway alignment across BNSF Railway tracks for the CDOT Region 2 Lamar Residency. The project included a
	roadway alignment study to confirm the preferred alignment for the reconstruction of the new US 50 overpass. Extensive
	stakeholder coordination was required to facilitate the NEPA process and maintain schedule. The design team also used
	the UPRR/BNSF RR Grade Separation Guidelines to initiate and facilitate the railroad submittal and approval process.

Firm employed by AECOM Technical Services Inc.						
Name Daniel H	el Helms, PE, PTOE, RSP ₂₁			Years of relevant experience with this employer	2	
Title Traffic Le	ad			Years of relevant experience with other employer(s)	19	
	/ Cracialization		BSCE / 1998	3 / Civil Engineering		(and)
Degree(s) / Years	/ Specialization		MSCE / 2003	3 / Civil Engineering (Transportation)		
Active registration	n number / state / ex	xpiration date	PE 42486 / L	A / 2022		
Year registered	2018	Discipline	Civil Enginee	er		
Contract role(s) / brief description of responsibilities Mapagement Pl			ead. Daniel's oth public age Transportati hway Safety I ncluding the i Plan (TMP) and	has spent much of his career working on traff ncies and consulting companies and is knowl on and Development's (LADOTD's) Traffic Eng Manual, the AASHTO Green Book. He will use review of traffic and crash data, development d construction signing/maintenance of traffic	ic, roadway, a edgeable in t gineering Pro this expertise of a Transpo plans. Daniel	and safety the Louisiana ocess and Report e to Lead all Traffic ortation I meets MPR 2 .
Experience dates (mm/yy– mm/yy)	Experience and qu intersection", etc.	alifications rele Experience dat	evant to the pi tes should co	roposed contract; <i>i.e.</i> , "designed drainage", "d ver the time specified in the applicable MPR(s	lesigned gird).	ers", "designed
FM 518 Corridor Improvements; TxDOT, League City, TX. Engineer of record for a signal design project for a series of tra signals on a major urban corridor in League City, Texas. The project involved upgrading three traffic signals, including implementing a temporary signal. At one of the intersections, Daniel made design adjustments to eliminate the need for adc temporary signals. He is responsible for the design, development and summarization of quantities, general notes, traffic signals, notes, and the engineer's estimate of probable cost. Daniel works with junior staff, along with staff of the prime consultant, the prime traffic signals implemented.					a series of traffic cluding e need for additional res, traffic signal e consultant, to	
65/20 – 08/20 FM 2090 at Tram Road; TxDOT, Splendora, TX. As the Deputy Project Manager, Daniel worked with Junior Staff to develop traffic signal plans, for an isolated intersection near Metro Houston to install a traffic signal. Responsible for design of the traffic signal and striping plan, development and summarization of quantities, general notes, traffic signal notes, and signing and stamping of plans. He coordinated with the Prime Consultant to respond to comments from TxDOT					aff to develop sign of the traffic signing and	
02/20 – Ongoing	D2/20 – Ongoing MOVEBR Jones Creek Road Extension, Segments 1A and 1B, City-Parish of East Baton Rouge, LA. Traffic Task Lead for a roadway project, extending a suburban arterial from its current terminus at Tiger Bend Road to Airline Highway. Daniel is responsibilities include developing the traffic analysis, looking alternatives, adding signalized intersections, roundabouts, and alternative intersections. This project includes following LADOTD's Traffic Engineering Process and Report, coordinating analysis work with the City-Parish and LADOTD. He also leads the development of Appendix C – Existing Safety Analysis, which utilizes the CATScan tool.					
02/20-07/20	D2/20 - 07/20Bechtel, Port Arthur Liquefaction Project Transportation Management Plan, Port Arthur, TX. Lead Traffic Engineer for the update of a Transportation Management Plan for the development of a Liquified Natural Gas Plant, near Port Arthur, Texas. The TMP analyzed the impacts to the road network of plant, including the influx of construction of workers and overland material deliveries to build the facility, and mitigate any impact to local road users.					

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	LADOTD, Barksdale Interchange Design-Build, Bossier City, LA. Senior Transportation Engineer for a project to
	construct a new controlled access roadway, connecting at the I-20, I-220 interchange in northwest Louisiana. Daniel was
02/19-01/20	responsible for: the development of the signing plans, including overhead and ground mounted signs, detour plans
	development of and providing quality control for the project's IMR, the Transportation Management Plan. The project
	required coordination and collaboration with state, federal and military stakeholders.
	LADOTD, I-20 Transportation Management Plan and Travel Assessment Shreveport and Bossier City, LA. Project Manager
	for the I-20 Transportation Management Plan and Travel Assessment study, which involved LADOTD's first mesoscopic model.
02/18_01/20	Responsibilities include the development of a Level 4 Transportation Management Plan (TMP) of the I-20 corridor. The elements
02/10-01/20	for the plan require the review of alternate routes through the development of a mesoscopic simulation model, public information
	strategies, stakeholder involvement, ITS implementation, queuing analysis, and crash analysis. The TMP will analyze the impacts
	to the road networks of Shreveport and Bossier City, Louisiana, where an interstate pavement rehabilitation project is planned.
	I-59 Rubblization Project MDOT. Mississippi DOT, Forrest and Jones Counties, MS. As the Project Manager, Daniel provided a
	key link between the project design team and the staff with MDOT. He provided guidance into the design and plan requirements,
06/19-01/20	along with assisting in the project management responsibilities (financial tracking, required deliverables). The project required the
	development of roadway plans, ITS plans, signing plans, pavement marking plans, and a complex maintenance of traffic and
	construction sequencing plan to keep two (2) lanes open in each direction for potential hurricane evacuation.
	Traffic Safety Engineering Manager. Mississippi Department of Transportation, Statewide. Day to day manager of the
	traffic safety engineering program. He performed site review, crash data analysis, benefit-to-cost analysis, countermeasure
06/07 – 12/17	development and selection, design contract scope development and contract review, and design project management,
	including design and plan review. He managed all HSIP design projects, which included the review of roadway geometry,
	signing plans (permanent and temporary – construction), maintenance of traffic and construction sequencing plans.
	MDOT, Design Engineer, Roadway Design Division, Various Locations, MS. Design team member, and eventually a
	design team leader. Responsibilities included working on design projects, ranging from bridge replacements to major
	roadway widening, know and able to implement AASHTO and MDOT Design Guidelines, participating and Field Inspection
	and Office Review meetings, and developing, reviewing, and finalizing final right of way (Phase A) and construction (Phase B)
	plans. This included construction signing plans, construction sequencing, and maintenance of traffic plans.
	• US 49 Myers Creek Bridge Replacement Project; Forrest County, MS. This project required the development of
	construction plans to replace two deficient bridges on US 49 south of Hattiesburg. Daniel developed vertical profiles for
10/04 – 06/07	the new bridge alignments along with a complex traffic control and construction sequencing plan that allowed both
	northbound and southbound traffic to use the same temporary bridge without the need for reconstruction due to
	differences in vertical elevations. He calculated all necessary quantities for the roadway portion of the project.
	• SR 182 Bridge Replacement Project; Lowndes County, MS. This project required the development of
	construction plans to replace a deficient bridge with a box culvert on SR 182, east of Columbus, MS. Daniel developed the
	profile and alignment for an on-site detour. He was responsible for the development of a maintenance of traffic,
	construction sequencing and construction signing plan, as well. He calculated all necessary quantities for the roadway
	portion of the project.

Firm employed by AECOM Technical Services Inc.						
Name Jonatha	me Jonathan McDowell, PE			Years of relevant experience with this employer	16	1 m 1
Title Urban Ro	adway Design			Years of relevant experience with other employer(s)	6	12
Degree(s) / Years	/ Specialization	า	BS / 1996 / 0	Civil Engineering	-	
Active registration	n number / stat	e / expiration date	PE.30508 / I	_A / 03.31.23		
Year registered	2003	Discipline	Civil Engine	er		
Active registration	n number / stat	e / expiration date	PE.18686/I	MS / 12.31.22		
Year registered	2008	Discipline	Civil Engine	er		
Active registration	n number / stat	e / expiration date	PE.19772//	AR / 12.31.22		
Year registered	2020	Discipline	Civil Engine	er		
Contract role(s) / brief description of responsibilities Urban Roadway Desig experience as a Project infrastructure projects, feasibility planning, NER engineering and inspect rural roadways, bridges cruise ship terminals, a required to bring a tran Land Development Des ArcView, and various o			esign. Jonath oject Enginee ects, including , NEPA Enviro spection for a dges, streetca lls, and airpor transportatio : Desktop, Civ us other desig	nan will play a lead role in roadway design, ber or and Project Manager for a wide variety of tra- or the development and review of signing plans onmental studies, design, contract administration fill modes of transportation projects involving ars, railroads, drainage canals and culverts, po- ts. Through his experience, he understands th in project from an idea to a built reality. His co- ril3D, Microstation, Inroads, MS Office, MS Pro- gn software platforms. Jonathan meets MPR	nefitting from ansportation s. His roles h tion, and con interstate hig ort security in ne project de mputer skills bject, HECRA 2 and 6.	and public and public ave included struction ghways, urban and mprovements, elivery process a include AutoCAD S, STAAD,
dates (mm/yy– mm/yy)	Experience and intersection",	nd qualifications rele etc. Experience dat	evant to the pl tes should co	roposed contract; <i>i.e.</i> , "designed drainage", "o ver the time specified in the applicable MPR(s	designed girc s).	ders", "designed
10/20 - Ongoing	City of Baton Rouge/Parish of East Baton Rouge, College Drive Improvements (Perkins Road to Bawell), Baton Rouge, LA. Project Manager and Task Manager for the Urban Road Design and Complete Streets improvements to College Drive. The project include a Design Study to develop a corridor and street network plan that includes potential connecting side road improvements, access management solutions, and other improvements along College Drive and the I-10 ramps to provide congestion relief and improve driver and pedestrian safety. The selected alternative will move to preliminary and final design.					Baton Rouge, LA. ge Drive. The ng side road ps to provide and final design.
09/17 - Ongoing	State Project No. BA-0153: Mid Barataria Sediment Diversion, Coastal Restoration and Protection Authority of the State of Louisiana, Plaquemines Parish, LA. Task manager and lead engineer for the relocation of LA 23 and the NOGC Railroad tracks across the proposed sediment diversion. Performed QC review of the traffic report and participated in the environmental and public involvement tasks. The rail improvements extend the track across the diversion channel intake structure, which will feature a bridge with a moveable span for canal maintenance and about 10,000 feet of new railroad track. The highway improvements will include a 2,300-foot-long structure composed of precast and cast in place concrete elements that will carry two lanes in each direction with shoulders and two water mains to be hung under the bridge deck. Roadway improvements include access roads on each side of the bridge to maintain adjacent property access and relocated alignments of the rural divided highway to connect the existing highway to the new bridge structure.					

	LADOTD, I-49 Connector, Lafayette Regional Airport to I-10/I-49/US 167 Interchange, Lafayette Parish, LA. Project Manager,
	Leadership Team Member, and Railroad Coordination and Alignment Modifications Task Manager for the NEPA Supplemental EIS
	and Design of a 5-mile urban freeway corridor. The project includes a very elaborate Context Sensitive Solutions process that is
07/15 - Opgoing	occurring concurrently with the environmental process. The project includes a signature bridge, an urban master plan for local
07713 - Origoing	road and frontage road connections, implementation strategies and potential modifications to an adjacent railroad track including
	the replacement of up to three at-grade crossings with underpasses and possible modifications to an Amtrak station platform.
	Other rail modifications include replacing at grade crossing with highway overpasses. In addition, Jonathan will also perform tasks
	associated with highway geometrics, highway traffic, and environmental and public involvement tasks.
	City of Baton Rouge/Parish of East Baton Rouge, Siegen Lane Improvements (Highland Road to Perkins Road), Baton Rouge,
	LA. Project Manager and Task Manager for the design of corridor improvements to Siegen Lane to upgrade the two lane
02/07 – 11/09	suburban road to a four lane urban boulevard. Performed road geometrics, develop suggested sequence of construction plans,
	and reviewed the drainage plans and calculations. Managed and authored the design study which included an alignment analysis,
	preliminary drainage design, a Phase I Environmental Site Assessment, a wetland study, and a noise study.
	New Orleans Regional Transit Authority, Loyola/Rampart Streetcar Rail Expansion, New Orleans LA. Project Manager and
	Infrastructure Task Leader to prepare two sets of contract plans and specifications on an accelerated schedule to reconfigure
11/10 – 10/16	the streetscape to include streetcar tracks in a shared traffic lane. Designed the roadway typical section in accordance with the
	City of New Orleans Complete Streets Ordinance. Led utility coordination effort and test hole program to locate all underground
	utilities to resolve utility conflicts. Led the road design, MOT during construction. Performed construction support services.
	LADOTD, Red River Bridge at Jimmie Davis Highway (LA 511) Environmental Assessment, Bossier and Caddo Parishes,
	LA. Lead roadway design engineer to design geometric layout alternatives to improve the capacity and accommodate
05/13-07/15	pedestrian and bicycle access for the bridge crossing of the Red River along Jimmie Davis Highway. Tasks included the
	development of the purpose and need statement, the project design criteria, and the geometric alternatives of the bridge,
	interchange ramps on each side of the bridge, and roadway approaches. Developed a median U-turn concept for LA 511.
	LADOTD, Florida Avenue Bridge over IHNC, New Orleans, LA. Deputy Project Manager and Project Engineer responsible
	for the geometric design of a high-level bridge with 158 ft vertical clearance and associated interchange ramps and
	approach roadways. Coordinated with utility companies and railroad agency for proposed relocations of a 48" water main, a
11/04 – 12/17	54" sewer force main, a 72" sewer force main, an electrical duct bank, a temporary railroad relocation, and several other
	utilities that were affected by the construction of the bridge. Proposed modifications to the site layout and parking area for
	an operator house associated with the existing adjacent draw bridge and a drainage pump station located under the
	proposed bridge. Prepared cost estimates for the main span and approach bid packages. Assisted in PM duties.
	LADOTD State Project No. H.004367.5: Route LA 3139, Earhart Expressway Extension to US 61, Jefferson Parish, LA.
	Task Manager and Lead Roadway Engineer for the extension of the Earhart Expressway (LA 3139) onto Airline Drive (US 61).
	Developed urban highway geometric alternatives to accept the expressway extension into the Airline Drive Corridor.
06/15 - Ongoing	Alternatives considered the lane configuration, location of direct and indirect median openings, location and potential
	phasing of traffic signals, pedestrian movement within the corridor, bus stop locations, utility impacts, access management,
	and ability to drop lanes along the corridor in order to transition back to the current lane configuration at the west end of
	the project. Reviewed traffic report and participation in the environmental and public involvement tasks.

Firm employed by AECOM Technical Services Inc.							
Name Sarah Me	cEwen, PE, CFM			Years of relevant experience with this employer	5		
Title Hydrology and Hydraulics Engineer				Years of relevant experience with other employer(s)	9		
Degree(s) / Years	/ Specialization		BS/2013/0	Civil Engineering			
Active registration	n number / state / ex	piration date	PE. 42539 /	LA / 09/30/2022			
Year registered	2018	Discipline	Civil Engine	er			
Active registration	n number / state / ex	piration date	CFM, US 14-	-07857		_	
Year registered	2014	Discipline	Certified Flo	odplain Manager Additional Certifica	tion: Bridge I	nspector	
Contract role(s) / brief description of Reviews, responsibilities impact at backgroue experien Hydraulic			Hydrology a Mississippi / projects with Reviews, and impact analy background experience i Hydraulic To	and Hydraulics Lead. Sarah is the Water Re AECOM Office. She has extensive experience in respect to Bridge Hydraulics, Scour Evalua d Roadway Hydraulics. She is also experience ysis as part of site design and erosion contr in floodplain mapping and is a certified floo in HEC-HMS, GeoRAS, HEC-RAS, HEC-DSS, polbox, XPSWMM, ESRI ArcGIS, AutoCAD, S	source Mana e with managetions, Intern ced with hydr ol measures. dplain managet HEC-SSP, Po RH2D, Microson	iger of the Jackson, ging DOT related al Technical fologic modification She has a ger. Sarah has CSWMM, HY-8, Station and GeoPak.	
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).						
01/19 – Ongoing	Road and Bridge Improvements Wyldwood Road, Travis County, TX. Project Engineer. Project engineer in charge of the hydrology and hydraulic evaluations for two bridge sites along Wyldwood Road in Travis County, Texas. The hydrology consisted of implementing the NOAA Atlas 14 rainfall procedure for the Slaughter Creek and Danz Creek watersheds to develop the 2, 10, and 25-year peak discharges as well as the ultimate condition for the 100-year event. The hydraulic modeling included developing the FEMA Corrected Effective hydraulic modeling in HEC-RAS with current LiDAR and survey information. Design alternatives that meet the county criteria were evaluated as proposed conditions for each design storm. Currently, serving as lead review of the preliminary and construction phases.						
01/17 - 01/22	Sasol Chemicals, (USA) LLC, Drainage Impact Analysis, Lake Charles, LA. Project Manager and Hydraulic Engineer. Served as project engineer that updated the HEC-HMS, HEC-RAS model, and report with as-built information. Also analyzed the results of preconstruction to post construction hydrologic and hydraulic impacts on FEMA and other regulations. Ongoing work to update report with design conditions and constructed as-builts for purposed of submitting a LOMR to the parish for inclusion in the FEMA map revision						
01/17 – 12/17	FEMA Hydrologic and Hydraulic Support Services, New Orleans, LA. Hydraulic Engineer. General contract for support and served as the engineer in charge of review of engineering designs submitted for consideration of funding. Included review of geological, hydrologic, hydraulic, and groundwater design components for a site in New Orleans.						

	MDOT, Scour Evaluations, Various Locations, MS. Project Manager and Hydraulic Engineer. Led and completed the
	analysis for Phase I, II, III, and IV Scour Evaluations. For Phase I, data including all available historic bridge information,
01/16 – Ongoing	geotechnical, land use, stream conditions, and survey was collected to perform a geomorphic assessment. In Phase II,
	SRH2D was used to evaluate the riverine (with tidal boundary if appropriate and additional ADCIRC-SWAN for coastal scour)
	impacts for the appropriate AEPs. Scour analysis was conducted and compared with any observed scour to assess risk
	and develop the total scour profile. In Phase II, additional geotechnical boring information was collected to evaluate the
	structural stability with respect to scour. The critical scour elevation was found then compared to calculated and observed
	scour. Then if applicable a recommendation made to develop a Phase IV Plan of Action. During the POA, monitoring plans
	and detour routes were recommended and a completed FHWA POA draft submitted.
	CPRA, Mid-Barataria Sediment Diversion, Ironton, LA. Project Engineer. Project Engineer in charge of coordination with
	sub-consultants on weekly progress reports for submission to CPRA. Tasks include management and processing of data
	received from subconsultants. Other roles include reviewer of BODR report for technical approach and clarity. In addition,
01/17 - Ongoing	she led the scour evaluation of the bridge at a site with both riverine and coastal design factors evaluated for impact on the
	proposed structure including complex piers in a cohesive soil environment. Piers were evaluated using both HEC-18 and
	FLDOT methods due to the complex pier and cohesive soil conditions. A practical application of the scour methodology
	was used to replicate the most realistic scour conditions anticipated at the site.
	CPRA, Maurepas Swamp Engineering and Support Services, Garyville, LA. Project Engineer. Project engineer in charge
	of reviewing existing XPSWMM subsurface modeling of local drainage in St. Johns Parish into Maurepas Swamp. The
	existing modeling was reviewed and converted into a PCSWMM model and updated with publicly available data for use in an
	evaluation of a diversion. Task include opening the existing model which was created in a version that is no longer
01/18 – Ongoing	recognized by current software, use and convert the available existing data in a new model, review for any land use or
	development changes, and develop a plan for necessary field data to be collected to finalize the updated existing
	conditions model. Tasks include evaluating the hydrologic routing around the proposed diversion, updating the HEC-RAS
	modeling, converting steady HEC-RAS into Unsteady, and designing hydraulic structures to ensure capacity throughout
	system to swamp.
	New Orleans Lakefront Airport Authority, Lakefront Airport 2D Subsurface Modeling, New Orleans, LA. Hydraulic
01/17 - 01/18	Engineer. General review and assistance on drainage design for the airport. As the project engineer work included using
	hydraulic software such as PCSWMM, to create hydraulic analysis of the pre- and post- conditions of site to drainage
	regulations.
	WR Grace Lake Charles Plant, Site Hydrology, Sulphur, LA. Project Engineer. Performed hydrologic analysis for the
	refining facility using ArcGIS software and HEC-HMS. Analyzed various storm events and possible changes to site water
01/17 - 01/19	treatment, storage, and discharge. As project engineer, she helped the client evaluate the hydraulic design submitted by
	another consultant for effectiveness with the site conditions. She became the Deputy Project Manager for a supplemental
	agreement to evaluate the subsurface and surface drainage systems and develop construction plans of a conveyance
	channel.

Firm employed b	Firm employed by AECOM Technical Services Inc.						
Name Audra R	lra Rodgers, PE			Years of relevant experience with this employer	9		
Title Railroad	Title Railroad Coordination			Years of relevant experience with other employer(s)	8		
Degree(s) / Years	s / Specialization		BS/2002/	Civil Engineering MS / 2003 / Civil Engineerin	ng		
Active registration	on number / state / e>	piration date	130275 / TX	(/03/31/2022			
Year registered	2018	Discipline	Civil Engine	er			
Active registration	on number / state / e>	piration date	E-12245/N	E/12/31/2022			
Year registered	2007	Discipline	Civil Engine	er			
Contract role(s) / brief description of responsibilities			Railroad Co industry as l experience assessment and comme and drawing She has per	bordination. Audra has 18 years of experience both a Project Engineer and Project Manager in precast concrete fabrication, construction t and inspection, cellular tower analysis, railro rcial structural engineering. Audra is proficier g tools and is also well versed in bridge survey formed public project reviews for both BNSF	e in the struc on numerou observation ad and highv nt with comp / technical al and UPRR fc	tural and bridge is projects. She has i, structural way bridge design outer aided design bilities in the field. or over 16 years.	
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).					ers", "designed	
01/15-07/15	KCS Br. VD34.2 Vicksburg Subdivision, Delhi, LA. Project Manager and Engineer for the design of precast concrete double box beam spans replacing an existing timber trestle spans on a bridge near Delhi, Louisiana. The main TPG spans were not replaced.						
07/15-12/15	 KCS Br. L801.8 New Orleans Subdivision, Baton Rouge, LA. Project Manager and Engineer for the design of a multi-span precast concrete double box beam bridge replacing an existing 40-span timber trestle bridge near Baton Rouge, Louisiana. H&H analysis and survey services were also provided. The bridge was shortened at one end by filling spans. A golf course path and bridge runs under the railroad bridge and had to be considered in the design. 						
07/15-07/16	KCS Br. K646.5 Beaumont Subdivision, LA. Project Manager and Engineer for the design of a multi-span precast concrete double box beam bridge replacing an existing 66-span timber trestle bridge near Florien, Louisiana. The flood elevation was within the existing bridge depth, requiring the bridge to be raised. Special consideration was given to keeping the bridge open as much as possible during staged construction. The alignment of the track was shifted so that the new bridge could be built adjacent to the existing bridge.						

2017 2015–Ongoing	 72nd Street Bridge Replacement, Omaha, NE. Project Coordinator in charge of all railroad coordination with Union Pacific Railroad (UPRR) for the 72nd Street Bridge Replacement Project for the City of Omaha. The bridge is an overpass structure over UPRR tracks. Ms. Rodgers is responsible to negotiating the project through railroad reviews and approvals. West Dallas Gateway Project, West Dallas, TX. Bridge Lead, Lead Project Engineer in charge of the design of three railroad underpass grade separation bridges. The grade separations will allow for Bataan Street, Amonette Street, and Herbert Street to pass under the existing UPRR tracks, which currently separate the two areas of the City. The bridges will be built in phases, with the north half of the bridge being built first while the tracks are shifted to the south and the south half of the
	bridge built when the tracks are shifted onto the new north bridge. This minimizes the time that the UPRR tracks are out of service on a busy section of track.
2015-Ongoing	Springfield Rail Improvement Project, Springfield, Illinois. Bridge Review Lead, Lead Project Engineer in charge of the review of the design plans, design calculations, specifications, geotechnical reports and drainage reports on behalf of UPRR for ten underpass structures for the Springfield Rail Improvement Project. Underpass bridges include bridges over Carpenter St., Ash St., Laurel Ave., 5 th St., 6 th St., Cook St., S Grand Ave., Madison St., Jefferson St., and N Grand Ave. Bridges consist of steel beam or deck plate girder spans with steel deck and drilled shaft substructures. The project includes construction submittal review and some construction observation.
2019-2021	Union Pacific Railroad Annual Bridge Replacement Program, Various Locations : Layout, design, and coordination on multiple bridge replacements of timber structures on the UPRR system. Bridges were replaced with either new standard precast concrete spans on pile bents or pipe culverts.
2009-2010	Wellborn Road, College Station, TX. Project Engineer for the design of two double span railroad bridges on the Texas A&M campus over Wellborn Road. The superstructure consisted of steel beam spans. The substructure consisted of drilled shafts, some with tension ties utilized to minimize deflection due to expansive soils.
2009-2010	Westrail By-Pass, Brownsville, TX. Project Engineer for the design of a multi-span, over 1000 ft. long railroad bridge over the Rio Grande River in Brownsville, Texas. The superstructure consisted of precast concrete box, steel beam, and through plate girder spans. The substructure included pipe piles and drilled shafts. Homeland security requirements were essential considering half of the bridge is located in Mexico.

Firm employed by AECOM Technical Services Inc.						
Name	Chris M	cKown, PE		Years of relevant experience with this employer	2	
Title	Structur	al Engineer		Years of relevant experience with other employer(s)	7	
Degree(s) / Years	/ Specialization	MBA / 2019 (with Structu	/ Business Administration; BS / 2012 / Civil En ıres Minor)	gineering	
Active re	egistratic	on number / state / expiration date	41077/LA/	03.31.2023 Additional active license	es: CO	
Year reg	gistered	Civil Engineering Discipline	Civil Enginee	er		
Contract role(s) / brief description of responsibilities			Structural E experience v both the pub prestressed phased cons versed in the Engineering	ingineer. Chris's role on the design team is intwith the structural design of bridges. Chris has blic and private sector and has experience wit girder design, reinforced concrete design, ac struction, load rating, and providing construct e AASHTO bridge design codes and LADOTD Manual and applicable design methodologies	fluenced by his s worked desig h steel girder d ccelerated brid ion support. Ch 's Bridge Desig S.	9 years of ning bridges in lesign, ge construction, nris is well n and
Experier dates (m mm/yy)	Experience dates (mm/yy- mm/yy) Experience and qualifications relevant to the proposed contract; <i>i.e.</i> , "designed drainage", "designed girders", intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).					s", "designed
03/20-Ongoing LADOTD, I-49 Connector, Lafayette for the Mainline Viaduct. Performed r for the Signature Bridge. Performed r			tte, LA. Desig d review of the d reviews of s n submittal pa	In engineer responsible for advancing prelimin e three Mainline Viaduct structure type optior structural quantities and conceptual cost estin ckages for highway grade separations across	nary conceptuans and the option mates. Recent s BNSF and LDF	al design plans ons presented submittals RR tracks.
02/21-0	O2/21-OngoingEl Paso County, South Academy Blvd over BNSF Rehabilitation, Colorado Springs, CO. Design Engineer and Eng Record for the design of widening and rehabilitation of three separate structures on South Academy Boulevard in C Springs, CO for capacity improvements. The widened superstructures will be a mixture of prestressed I-girders, pre box girders, and steel plate girders. The project also includes plans for scour mitigation and structural rehabilitation extend the service life of the existing structures. A key aspect of this project was coordinating with the BNSF railroa submittals in accordance with UPRR/BNSE RR Grade Separation Guidelines for the steel plate girder bridge					and Engineer of ard in Colorado ers, prestressed ilitation to F railroad for all
02/20-0	02/20-03/21TxDOT, I-635 LBJ East, Dallas, TX. Design Engineer for the Quality Control process on the project. The project's scope is for the construction of an approximately 11.2-mile corridor of Highway I-635 LBJ East from US 75 to IH-30 in Dallas Count to improve safety, mobility, and relieve congestion in the region. Provided independent design checks and plan verification (QC) for one prestressed girder bridge and all the sign structures on the project.					ect's scope is n Dallas County Ilan verifications
07/16-0	1/20	LADOTD, H.003184: I-10: TX Stat Record on the project to widen ap the complete replacement of nine across the eight slab span bridges	e Line East of proximately 1 different strue on the project	f Coone Gully, Calcasieu Parish, LA. Design B 1 miles of I-10 from Vinton, LA to the Texas st ctures within the project limits. Engineer of Re ct. The structures will be replaced using phase	Engineer and E tate line. The pr ecord for variou ed constructior	ngineer of oject called for us components n.

		LADOTD, H.002446: LA 40: Tchefuncte River Bridge, Near Folsom, LA. Engineer of Record and Bridge Design Task Lead
10/14-08/19	existing structurally deficient bridge utilizing phased construction. Responsible for the complete design of the new 420' long	
		slab span structure including all substructure components. An "as-designed" load rating of the new structure was also
		provided.
		LADOTD, H.012422: I-110: Interchange Modification @ Terrace. Engineer of Record for the exit ramp superstructure on
		the project to provide a new exit ramp off of Southbound I-110. The project was designed to improve access to an under-
	01/17-12/17	served community, eliminate dangerous weaving movements at the I-10/I-110 merge, and to allow modifications to existing
		exit ramps on future projects. Responsibilities included construction phasing, superstructure design of the steel I-girder exit
		ramp, plan development, and construction support. The project is complete and open to traffic.
		LADOTD, H.010009: LA 507: Over I-20 Bridge Rehabilitation, Lincoln Parish, LA. Design Engineer and Engineer of Record
07/15-05/19		for the complete replacement of the bridge superstructure of the LA 507 overpass near Simsboro. The project called for
	07/15-05/19	accelerated bridge construction to replace the bridge superstructure and various structural repairs. The bridge was built on
		site and moved into place over the course or several weekends. Responsibilities include the design of the deck, the steel
		girders, and the new bearings. Special consideration was given to minimize construction time and any road closures.

Firm employed by AECOM Technical Services Inc.						
Name Garry Ch	ang, PE			Years of relevant experience with this employer	16	1
Title Bridge/S	Structures Design			Years of relevant experience with other employer(s)	6	()
Degree(s) / Years	/ Specialization	า	MS / 2005 /	Construction Management BS / 2000 / Civil E	Engineering	
Active registratio	n number / stat	e / expiration date	PE.0036974	/ LA/09.30.2022		
Year registered	2012	Discipline	Civil Engine	er		
Active registratio	n number / stat	e / expiration date	103454 / TX	(/03.30.2022		
Year registered	2019	Discipline	Civil Engine	er		
Bridge/Structures Design. projects for the Texas Depa Louisiana Region Transit Au included lead engineer for re multiple projects. As the pro roadway geometrics, signin illumination, construction se slab-on-grade design build			Design. Garr xas Departme ransit Author neer for retain As the project cs, signing and ruction seque ign, building s	ry has over 16 years of experience as a transp ent of Transportation, City of Austin, Travis and ity, various tolling authorities, and design-build ing wall, roadway, hydraulic, traffic control, br engineer for over 50 schematic and PS&E pro d striping, cross sections development, traffic ncing and project scheduling, bridge and reta tructural design, and hydraulic design.	ortation engin d Williamson of d ventures. Hi idges, and lea ojects, he has c control, sign ining wall stru	neer working on counties, s roles have d scheduler on worked on alization, cture design,
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).				ers", "designed	
10/07-08/09	9 TxDOT, SH 130 Toll Facility Design, Travis, Caldwell, and Guadalupe Counties, TX. Quality control engineer for an 8.2-mile stretch of SH 130 toll facility. Reviewed drawings; plans, specifications, and estimates packages; and calculations. Drafted certifications during the quality control process for bridge and foundation design. Assisted design consultant quality manager on the 90 percent and final phases of PS&E development. This work was completed as a subcontractor to another firm.					er for an 8.2-mile ations. Drafted nt quality manager nother firm.
01/09-03/09	Confidential Owner, SH 161 Interchange Design Support, Dallas, TX. Estimating engineer on a proposal team for design of the Dallas North Tollway Interchange. Reviewed retaining wall design and conducted quantity take-off for various wall types.					
04/03-04/05	TxDOT, Research Project 0-4617: Right-of-Way Acquisition and Utility Relocation, Austin, TX. Graduate research assistant for the Center for Transportation Research. Conducted interviews with TxDOT district engineers and staff, developed a revised parcel acquisition flowchart with more than 70 sequenced activities used internally by TxDOT districts and division for right-of-way (ROW) acquisition throughout Texas. Compiled literature, collected data, and utilized statistical data analysis and modeling to formulate ROW estimation tools for predicting ROW acquisition duration. Drafted reports and authored research publications for TxDOT (Right of Way Division).					

02/07 - 01/08	TxDOT, Waco District, US 190 Phase I PS&E, Bell County, TX. Roadway and hydraulic engineer and scheduling engineer to assist with design and plans, specifications, and estimates for a rural five-mile, four-lane, median-divided freeway facility. The project included main lane, frontage road, ramps, and numerous intersecting streets. New bridge crossings over Knob Creek, Margie Lou Branch, FM 93, and FM 436 were designed with intersection geometry assessed for optimum traffic flow. Responsible for developing hydraulic design incorporating drainage areas, grading, culverts, and profiles, and using hydraulic modeling software, HY-8, and CULVERT. Designed driveways, ground mounted large signs, small signs, and details. Developed detailed construction schedule of over 115 activities with multiple phases and bridge replacements. Incorporated all associated quantities, workload, estimated crew sizes, sequenced roadway design, bridge construction, traffic control plans, culverts, illumination, electrical, and landscaping into the construction schedule.
11/07-06/08	TxDOT, Confidential Expressway Segments 1, 2, 3A, 3B, 3C, and 4 Proposal, Austin, TX. Project engineer and lead designer for intersections along 14 miles in the Dallas-Fort Worth area. Planned and designed traffic signal layouts, and generated detailed estimates including conductor and conduit runs, video imaging vehicle detection systems, junction boxes, mast arms and signal heads, foundations, controllers, and pedestrian facilities. Documented existing signs and signals and incorporated large overhead sign bridges (OSB), cantilever overhead sign supports (COSS), and small roadway signs. Developed new OSB and COSS tolling signs with SignCAD software and integrated them into the transportation system. Generated detailed bill of quantities for all signals and large and small signs. This work was completed as a subcontractor to another firm.
01/15-03/16	TxDOT, I-35 at Oltorf Work Authorization, Mesquite, TX. Roadway and structural engineer for I-35 improvements at Oltorf Street. Designed, signed, and sealed overhead sign bridge and cantilever overhead sign structures. Modeled OSB truss and columns in STAAD software for varying column heights (varying from 26 feet to 6 feet tall) and designed foundations to accommodate axial, shear, and moment capacity based on analysis.

Firm employed by AECOM Technical Services Inc.							
Name Sean Vo	isinet, PE			Years of relevant experience with this employer	9		
Title Bridge Er	ngineer			Years of relevant experience with other employer(s)	0		
Degree(s) / Years	/ Specialization		BS / Archite	ctural Engineering	•	- Casality	
Active registration	n number / state / ex	piration date	0053420/C	CO / 10.31.2023			
Year registered	2017	Discipline	Civil / Engine	eer			
Contract role(s) / brief description of responsibilities			Bridge Engi transportati bridges, seg and foundat structures, a	neer. Sean is a bridge engineer with design a on projects, including analysis of precast pre- mental box, and steel girder bridges. Design ion types, complex retaining walls, concrete b and overhead sign trusses.	nd manager stressed co includes va box culverts	ment experience in ncrete girder rious substructure , drainage junctions	
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).					ders", "designed	
03/21 – Ongoing	LADOTD, I-49 Connector, Lafayette, LA. Structure Designer for the conceptual and preliminary design of this 7-mile reconstruction of I-49 through downtown Lafayette, LA. This project has a budget projected over \$1B and includes approximate 20 bridges and numerous retaining walls. Bridges span over several interchanges, Vermilion River, short line railroads and a roadway grid network through the Lafayette Central Business District. Structure designs included the evaluation of a 2-mile viaduct structure and a signature span structure considering cast-in-place segmental, spliced concrete tub girders, arched-rib and cable-staved structure types that integrated context sensitive solutions into the bridge and structure design.						
07/19 – 05/21	Texas Department of Transportation, I-635 LBJ East Design-Build Project, Dallas TX. Structural Designer. Design-Build project to reconstruct and widen 11 miles of interstate roadway. Structural design engineer responsible for a 24-sp (3100 ft) direct connector bridge at the I-635/I-30 Interchange comprised of prestressed concrete BT girders on hammerhead bents on two drilled shaft footing caps and multi-column straddle bents on monoshaft foundations. Additional responsibilities include substructure and foundation design for the 280 ft span Skillman St. Tied Arch Bridge supported on abutment caps and drilled shafts.						
05/21-10/21	Lemay Avenue over BNSF/Vine Improvements, City of Fort Collins, CO. Structure engineer for design development for new bridge crossing over Vine Street and the BNSF Railway tracks in northeast Fort Collins. Using a CM/GC project deliver Sean designed a single-span bridge, (13) rockery retaining walls, and a pedestrian underpass structure that improves safe and provides multimodal connectivity to this area of the city. Design efforts included railroad coordination and design submittals developed in accordance with the UPRR/BNSF RR Grade Separation Guidelines.						
09/18 - 05/19	 05/19 LADOTD I-10 at Loyola Avenue Interchange Design-Build Tender Offer, Kenner, LA. Project Engineer for interchange improvements at the I-10 at Loyola Drive to provide new direct access ramps to handle traffic to and from the new passen terminal at Louis Armstrong International Airport. Duties included conceptual bridge and retaining wall design for the development of bridge plans and quantities. 						

	Colorado Department of Transportation, C-470 Express Tolled Lanes Design-Build Project, Littleton CO . Structural Designer. Design-Build project for 12.5 miles of interstate reconstruction, widening and bridge rehabilitation.
06/16 - 11/20	Lead structural designer for six bridge widenings comprised of prestressed concrete BT girder superstructures on hammerhead bents on drilled caissons and integral abutments on steel piles. Sean was also lead designer for a 9-span (1150 ft) flyover structure with prestressed concrete BT girders on hammerhead bents and semi-integral inverted tee bents on drilled caissons and semi-integral abutments on drilled caissons and performed extensive structural drafting and detailing. Independent designer responsibilities included several cast-in-place cantilever retaining walls, and design calculation review of special drainage junction structures, sound walls, non-standard monotube overhead sign and ITS structures, and bridge widening load ratings. After the initial design phase, Sean became the Structures Task Lead for post-design construction support services including answering RFIs and field design changes, and overseeing deck rehabilitation and other bridge construction activities.
08/18 – 02/20	Colorado Department of Transportation, I-25 Improvements MM127-MM138 Project, Colorado Springs, CO. Structural designer responsible for assessing the existing structures in the corridor to determine feasibility of bridge widening versus replacement. Additional tasks included concept level design and layout of a steel-through plate girder railroad bridge replacement over I-25.
10/12 – 06/17	Regional Transportation District of Denver, I-225 Light Rail Line Design-Build Project, Aurora CO. Structural Designer. Design-build of a 10.5-mile LRT extension with 8 stations and 7 bridges. Lead wall designer for various structures including cast-in-place cantilever walls, caisson walls, soldier pile walls and geometric layouts and design coordination for mechanically stabilized earth walls and soil nail walls. Superstructure designer for a 9-span (700 ft) ballasted light rail bridge utilizing prestressed BT girders. Substructure designer for a prefabricated pedestrian bridge supported on abutment caps on drilled caisson foundations. Additional responsibilities included extensive structural drafting and detailing as well as post-design construction support services including structural shop drawing reviews and field design changes
11/14 – 07/19	Colorado Department of Transportation, SH60 & SH257 over Little Thompson River Bridge Replacements Project, Milliken CO. Structural Designer. Lead designer for a 3-span bridge and the independent designer for a 2-span bridge over the Little Thompson River. Superstructures were comprised of prestressed BT girders on multi-column bent caps on drilled caissons and integral abutments on steel piles. Additional design responsibilities included performing an existing conditions assessment with scour analysis based on damages that occurred due to flooding, which resulted in a recommendation for two bridge replacements, and completion of structure type selection reports.

Firm employed by AECOM Technical Services Inc.						
Name Greg Trah	an, PE			Years of relevant experience with this employer	16	
Title Urban Roa	ad Design / Traffic Data Collection			Years of relevant experience with other employer(s)	1	
Degree(s) / Years /	Specialization		BS / 2005 / 0	Civil Engineering		
Active registration	number / state / e	expiration date	PE.0036041 / LA / 03.31.23			
Year registered	2011	Discipline	Civil Engine	er		
Other Training			Highway Safety Manual Workshop; 2015 ATSSA Certified–Traffic Control Technician/Supervisor/Flagger; 2016 ATSSA Certified–High Friction Surface Treatment Inspection & Installation; LA DOTD Traffic Process and Report Parts 1,2, and 3 (2018), 2019 ATSSA Certified–Traffic Control Supervisor Refresher			
Contract role(s) / b	rief description	Greg is a civil eng hard delivering cr	ineer experie edible and qu	nced with working on roadway design and traf ality projects for AECOM since graduating co	ific projects. He has worked llege. During his time with	
of responsibilities		AECOM, he has ha	ad experience	e as a Project Engineer and Project Manager f	or many transportation,	
		planning, design,	specification,	and construction projects. He was elected Pr	resident of the Baton Rouge	
		Louisiana Enginee	ers Society in	May 2020.		
Experience dates	Experience and	qualifications releve	ant to the pro	oposed contract; <i>i.e.</i> , "designed drainage", "de	esigned girders", "designed	
(mm/yy–mm/yy)	Intersection, et	c. Experience date	es snould cov	er the time specified in the applicable MPR(s).	Dia dia mandri dia dia dia dia dia dia dia dia dia di	
09/17 - Ongoing	Coastal Protection and Restoration Authority, LA 23 Over Mid-Barataria Sediment Diversion, Plaquemines Parish, LA. Project Engineer that assisted in the Design Plans for the new bridge and roadway structure over the new sediment diversion. The project consists of a new concrete precast girder bridge, approximately 2,200 feet in length, and the connecting asphalt roadway. Design Plans include Plan and Profile sheets, Drainage Plan and Profile sheets, Sequence of Construction Plans. There will be multiple construction activities being conducted at one time, the sequence of Construction is a critical element of design in order to manage traffic and maintain roadway operations even if evacuation routes would be required.					
2014	LADOTD, Krotz Springs Bridge and Business US 90 Bridge In-Depth Bridge Inspection, LA. Project Engineer that assisted in the Maintenance of Traffic Plans for the inspection of the Krotz Springs Bridge and the Business US 90 Bridge. These plans included provisions to detour traffic from the closed portions of the bridge or entrance ramps.					
2/07-6/10	Baton Rouge Dept. of Public Works, Siegen Lane Improvements, Highland Rd. to 650' south of Perkins Rd., Baton Rouge, LA. Project Engineer that assisted in the design and plan development to widen 1.18-mile segment of Siegen Lane to a four lane boulevard. Tasks include the geometric design of the roadway, subsurface drainage, and the development of the sequence of construction. The drainage area encompassed approximately 225 acres. A study was conducted on the multiple detention ponds, using a pond modeling program to determine if the box culvert system would need to be upgraded. A HEC-RAS model was conducted on an existing drainage ditch crossing Siegen Lane to ensure that the proposed drainage would not exceed the existing tail water elevation. The sizing and spacing of culverts and inlets was determined using the LADOTD HYDRWIN hydraulics program. Prepared quantities and cost estimates for the project.					

	LADOTD, Earhart Expressway Extension to US 61, Jefferson Parish, LA. Project Engineer for the traffic study involving
	the new extension of the Earhart Expressway a six lane urban freeway, to Airline Drive, a four-lane highway, for a total of
05/14-Ongoing	ten lanes. The study will include analyzing existing and future conditions along the US 61 (Airline Highway) and LA 3154
	(Dickory Avenue). As part of this project Greg is analyzing design alternatives, traffic data collection (speed and vehicular
	classification) along the corridor, and crash data.
	LADOTD State Project No. 700-92-0016, Florida Avenue Bridge over IHNC, New Orleans, LA: Assisted in the
	geometric design of two interchange ramps connecting to Florida Ave. Bridge and two relocated parking areas for two
11/04 – 12/07	major public installations in the project area. He assisted in the design of girder splices for the steel main span
	alternative. He also assisted in the preparation of quantity calculations and cost estimates for the steel main span
	alternative.
	LADOTD, State Project No. H.001779.5 Red River Bridge at Jimmie Davis Highway (LA 511) EA, Bossier and Caddo
05/13 - Ongoing	Parishes, LA. Assisted in preparing a feasibility study to widen the existing crossing of the Red River along Jimmie Davis
	Bridge and to connect shared use bicycle and pedestrian paths on each side of the river. Task included geometrics study
	of highway and interchange ramps to produce three feasibility alternatives.
	LADOTD, Safety Studies Retainer Contract, Low Cost Safety Improvements, Statewide, LA. Project Engineer for the
	preparation of Safety Improvement Plans (SIP) for 282 systemic curves located throughout the state of Louisiana. The
	tasks associated with this project include; site visits to the curves, plan preparation of safety countermeasures for each
	curve, cost estimates for the plan set, and a pre-construction meeting with each DOTD district. Each site visit includes; a
12/14 – 4/17	ball bank test, photo and an existing conditions documentation of each curve. The plan preparation includes deriving
	safety countermeasures at each curve location, preparing a letter size plan set of the safety countermeasures, including
	the Crash Modification Factors (CMFs) within the plan sheet, and preparing cost estimates for the safety
	countermeasures. After the completing each letter size plan sets, a meeting was held with each District to discuss
	countermeasures.
	Jefferson parish Public Works, Mounes St. Drainage Improvements, Jefferson Parish, LA. Project Engineer for the
2/16-Ongoing	traffic control plans for the construction of the drainage improvements along Mounes Street. Plans included the phasing
	of traffic to install inground box culverts within the limits of the travel lanes
	LADOTD State Project No. H.005171.1, I-49 Study to Identify Interim Improvements for Safety & Efficiency, St. Mary
5/10-9/12	Parish, LA. Aided in identifying roadway projects that would provide increased capacity or improved safety along the US
	90 corridor. Some of the improvements may upgrade portions of US 90 to interstate standards.
	LADOTD, LA 935 Feasibility Study, Safety Retainer Contract, Ascension Parish, LA. Project Engineer performed a
05/12 -04/13	Stage 0 on a segment of LA 935 from LA 431 to LA 22. Developed a conceptual alternative for the realignment of LA 935,
	including the typical section, design criteria, plan, and cost estimate. The road paralleling Black Bayou was realigned
	approximately 20' off the original alignment. This realignment allowed for the road to be widening to 12' lanes and add
	shoulders to provide a recovery area for drivers. AECOM also performed a cost analysis to ensure the feasibility of a
	build/no-build condition, minimize required Right-of-Way and/or acquisition of properties.

Firm employed by AECOM Technical Services Inc.							
Name Gabriel	Name Gabriel Arias, PE			Years of relevant experience with this employer	5		
Title Roadway	y Design			Years of relevant experience with other employer(s)	3	1 3 C 1	
Degree(s) / Years	/ Specializatio	n	BS/2013/0	BS / 2013 / Civil Engineering			
Active registratio	n number / stat	te / expiration date	PE.42599/L	PE.42599 / LA / 09/30/2022			
Year registered	2018	Discipline	Civil Enginee	er			
Contract role(s) / brief description of responsibilities knowledge of		Roadway Design. bridge replacemen construction admin Department of Tra knowledge of LAD	Gabriel is a civil engineer with design experience on highways, state roads, and off-system nts. His project experience includes preliminary engineering, detailed design, and inistration for the Louisiana Department of Transportation and Development, Texas ansportation, and Mississippi Department of Transportation. He has an extensive DOTD standards, design criteria, and general plan preparation.				
Experience dates (mm/yy– mm/yy)	Experience a intersection",	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).					
11/21-12/21	NO Emergency Streetlights and Traffic Signs Damage Assessments, New Orleans, LA. Project consisted of assessing status of signage and streetlighting throughout specific areas of the city. Assisted with assessing signs and lighting block by block and collecting data into city managed portal for review.						
10/18 – 11/19	Louisiana Department of Transportation and Development (LADOTD), I-10 to Loyola Dr. Interchange, Jefferson Parish, LA. Proposal effort for adapting the interchange at Loyola Drive to handle traffic flowing to and from the new passenger terminal at Louis Armstrong International Airport. Assisted with roadway geometric design, QC, and Plan production for proposal.						
06/18 – 10/19	Coastal Protection and Restoration Authority (CPRA), Mid-Barataria Diversion Design, Plaquemines Parish, LA. Planning, engineering and design services for the creation of the Mid-Barataria sediment diversion basin to strategically reintroduce sediment and freshwater inputs into the Barataria Basin. Assisted with detour roadway alignment creation/selection. TTC planning, and roadway plan preparation.						
02/18-04/18	Texas Department of Transportation (TXDOT), US 377 Cresson Relief Route, Hood County, TX. TXDOT will construct a three-mile relief route west of the city of Cresson. The relief route will be a new four-lane divided highway on US 377 beginning one mile south of the intersection of US 377 and SH 171 and ending one mile north of the same intersection. Assisted with plan creation including H&V alignment review, TTC plans, construction quantity estimation and roadway plan production for the realigned roadway.						
07/17 – 09/17	New Orleans Regional Planning Commission (NORPC), US 90 / I-310 Interchange, Interchange Modification Report and Environmental Assessment, St. Charles Parish, LA. The project was to provide interim improvements to US 90 at the I-310 Interchange and at two adjacent intersections. The outcome of the traffic analysis phase of the IMR and the Sifting Matrix resulted in a concept that did not modify access to I-310. Assisted with exhibit creation including H&V alignment creation and quantity estimation.						
03/17 – present	LADOTD, LA 46 at Weinberger Road Intersection, St. Bernard Parish, LA. The project called for the realignment of Weinberger Road to promote ease of truck movements to the sugar refinery docks and eliminate them from travelling						

	within residential areas nearby. Assisted with roadway geometric design including H&V alignment, hydraulic design for							
	storm drains, CDP's and open ditches, structural design analysis and QC and roadway plan production.							
	LADOTD, LA 3241: LA 435 to LA 40/LA 41, St. Tammany Parish, LA. The project calls for the construction of a new four-							
06/16-02/17	lane highway connecting I-12 to Bush, Louisiana, in St. Tammany Parish. Assisted with roadway geometric design including							
	H&V alignment, hydraulic design for storm drains, CDP's and open ditches, structural design analysis and QC, Traffic							
	management plans and roadway plan production.							
	LADOTD, I-49 South at LA 318 Interchange, St. Mary Parish, LA. Project created nearly 3 miles of new RC-2 classification							
06/15 - 02/17	frontage roads. Assisted with roadway geometric design including H&V alignment, hydraulic design (including SDP, SD,							
00/10 02/17	CDP and open ditches), intersection layout and design, striping/signing, TMP coordination and plan production for the new							
	interchange.							
	LADOTD, Bayou Mercier Road/Berard Canal Bayou, St. Martin Parish, LA. Performed topographic field surveying and							
07/13-06/16	assisted with bridge design, hydraulic analysis and roadway design for the replacement of the existing off-system bridge							
	timber structure with a quad-beam concrete structure.							
	LADOTD, Derrick Road Bridge, Iberville Parish, LA. Performed topographic field surveying and assisted with bridge							
00/13 – 02/17	design, hydraulic analysis and roadway design for the replacement of the existing off-system bridge timber structure with a							
	slab span, concrete structure.							
	LADOTD, Jude & Placide Road Bridges, Vermillion Parish, LA. Performed topographic field surveying and assisted with							
00/00 – 02/17	bridge design, hydraulic analysis and roadway design for the replacement of the existing off-system bridges timber							
	structures with slab span, concrete structures.							
	Terrebone Parish Consolidated Government, Bayou Gardens Blvd. Extension: LA 660 to LA 316, Terrebone Parish, LA.							
	1.6 mile, 4-lane roadway extension of a UA-2 design criteria roadway which included signal upgrades and turn lanes on							
07/13-02/17	state routes LA 660 and LA 316. Performed topographic surveying and assisted with roadway design including drainage							
	and, geometrics, maintenance of traffic, utility relocation, and plan production. Assisted with complex bridge design							
	including special curved spans and scour analysis.							
	St. Mary Levee District, Morgan City Levee Improvements/LA 70 Improvements, St. Mary Parish, LA. Performed							
07/13 – 02/17	complex geometric design on state highway UA-2 classification roadway including H&V alignment, hydraulic design for							
	CDP's and open ditches, turn lane design, striping/signage, traffic management plans and roadway plan production for the							
	new roadway. Roadway to be situated atop a newly elevated levee and existing pumps structures and associated ditches to							
	be adjusted and moved.							

Firm employed by AECOM Technical Services Inc.							
Name Jonatha	ian Giardina, El			Years of relevant experience with this employer	4		
Title Roadway	itle Roadway Design			Years of relevant experience with other employer(s)	0		
Degree(s) / Years	/ Specialization	n	BS / 2019 /	Civil Engineering			
Active registratio	n number / stat	te / expiration date	EI.34290 / L	A/03.31.22			
Year registered	N/A	Discipline	Civil Engine	er			
Roadway Design. Jonathan is a Civil Engineering Intern with experience in technical develo				elopment for			
Contract role(s) /	brief	transportation en	gineering proje	ects. Tasks and project experience include roa	adway desig	gn, construction	
description of res	sponsibilities	submittal reviews, checking.	design plan d	evelopment, construction cost estimating, do	ocument cor	ntrol, and plan	
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).						
06/18 - Ongoing	Coastal Protection and Restoration Authority (CPRA) of Louisiana, Mid-Barataria Sediment Diversion, Plaquemines Parish, LA. Planning, engineering and design services (\$1.5 Billion CMAR Project) for the creation of the Mid-Barataria Sediment Diversion Channel to strategically reintroduce sediment and freshwater inputs into the Barataria Basin. Assisted with plan development, cost estimation, traffic report, roadway design calculations, guardrail design, plan checking, temporary traffic control planning and design, typical sections, and geometric details.						
City of New Orleans Department of Public Works, Broadmoor Neighborhood Reconstruction, New Orleans, LA. Project includes a complete reconstruction of 22 neighborhood blocks within the Broadmoor neighborhood in New Orleans. Reconstruction includes the roadway, concrete sidewalks, concrete curbs and/or gutters, driveway aprons, waterlines, and stormwater system and corresponding infrastructure. Assisted in preliminary design, roadway design, waterline design, quantity and cost estimating, design plan development, and client meetings.							
01/19 – Ongoing	City of New Orleans Department of Public Works, Milan Group A, New Orleans, LA. Project consisted of reconstruction/restoration of roadways in the Milan neighborhood, which is bounded by Napoleon Avenue, Claiborne Avenue, Louisiana Avenue and St. Charles Avenue. The project includes milling and overlaying with full depth patching of selected streets, incidental patching, sidewalk repairs, and repairs to drainage structures, and the installation of handicap ramps. Assisted in the plan development, tabulation of quantities, and development of cost estimates.						
03/21 - Ongoing	East Baton Rouge Parish, MOVEBR Program, Airline Hwy/Jones Creek Road TEPR Study, Baton Rouge, LA. Traffic Engineering Process and Report for the proposed extension that will connect Tiger Bend Road and Airline Highway. Assisted with existing intersection analysis, queue and unmet demand traffic counts along the corridor, and traffic study report.						
09/18 – 05/19	Jefferson Parish Department of Public Works, Mounes St. Drainage Improvements, Jefferson Parish, LA. The project consists of the design of traffic control plans and technical specifications for drainage improvements along Mounes Street. Assisted in temporary traffic control design, quantity tabulation, and plan drafting.						
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06/20 - Ongoing	East Baton Rouge Parish, MOVEBR Program, Jones Creek Road Hwy Extension, Baton Rouge, LA. Traffic Engineering for the proposed Jones Creek Road Extension that will connect Tiger Bend Road and Airline Highway. Assisted in the design, layout and quantity tabulation of bioswales to implement green infrastructure along the corridor.						

Firm employed by AECOM Technical Services Inc.									
Name Adeleigh	Smith, El			Years of relevant experience with this employer	3				
Title Roadway	Design			Years of relevant experience with other employer(s)	3				
Degree(s) / Years /	Specialization	า	BS / 2020 / 0	Civil Engineering					
Active registration	number / stat	e / expiration date	Engineering	Intern 34525 / LA / 09.31.22					
Year registered	2020	Discipline	Civil Engine	er					
		Roadway Design.	Adeleigh is a l	icensed Engineering Intern within AECOM's T	ransportatio	on Department. She			
Contract role(s) / h	rief	has performed nun	nerous projec	t take offs and estimates using her construct	ion knowled	lge, MicroStation			
description of rest	onsibilities	and AutoCAD prog	rams, and oth	ner cost estimating tools. As well, she has help	ped with des	sign, planning, and			
		inspecting projects	s having to do	with urban and rural roadways, interchanges,	, and pedest	trian safety			
F		enhancements.							
Experience dates	Experience a	and qualifications rel	evant to the p	proposed contract; <i>i.e.</i> , "designed drainage", "	designed gi	rders", "designed			
(mm/yy–mm/yy)	Intersection	, etc. Experience da	ates should co	over the time specified in the applicable MPR(S).	and a a at			
	PORT OT NEW	orieans, Louisiana		i ierminal, St. Bernard, LA. Performed project	ci lake offs a	anu cost			
07/21-Ongoing	from ¢120.0	estimations for multiple alternatives using construction knowledge and AutoCAD programs to do so; projects ranging							
	more than 1,000 acros of developable groop-field property.								
		Barataria Sediment	Diversion Ra	rataria I A Conducted project take offs and	cost estima	tions for LA 23			
	using constr	uction knowledge a	nd MicroStati	on programs to do so: project totaling to roug	ihly \$85.000	0.000. Providina			
06/20-Ongoing	drainage cal	drainage calculations and drainage structure design for the LA 23 connecting road using LADOTD HYDR2009. The Mid-							
	Barataria Se	diment Diversion Ba	sin will be use	ed to strategically reintroduce sediment and fi	reshwater in	puts into the			
	Barataria Ba	sin.		<u> </u>					
	Orleans Lev	ee District, Lakesh	ore Drive Red	configuration, New Orleans, LA. Resident Ins	spector for 1	20-day contract			
00/00 10/0001	period to co	nstruct new roadway	ys and pedest	trian enhancements. Assured that the contrac	ctor followed	d the stamped plans			
08/20-12/2021	and specifications and kept up with quantities, costs, and billing throughout project period. Before construction, assisted								
	with all AutoCAD design work for the plan set and cost estimations.								
	City of New	Orleans, Milan Grou	up A, New Orl	eans, LA. Assisted with project take offs and	cost estima	tions for multiple			
12/21-Ongoing	alternatives using construction knowledge and AutoCAD programs to do so; project totally to roughly \$10,000,000. The								
	project will consist of milling and overlaying with full depth patching of selected streets, incidental patching of other								
	streets, side	walk repairs, inciden	ital repairs to	drainage structures, and the installation of ha	ndicap ram	os.			
01/20-04/20	LADOTD, Ne	elson Road Extensio	on/Lake Char	les, LA. Fulfilling project take offs and cost es	stimations fo	or multiple			
	alternatives	using construction k	nowledge an	d MicroStation programs to do so; project tot	aling to roug	ghly \$80,000,000.			
07/21-03/21	LADOTD, Jones Creek	ones Creek Road Ex will be extending to	tension 1A, E all while mair	Baton Rouge, LA. Conducting traffic counts on taining safety and efficiently.	n Airline Hig	hway for where			

Firm employed by AECOM Technical Services Inc.								
Name Ramya K	rishna Rayapu	ireddy		Years of relevant experience with this employer	2			
Title Traffic/M	IOT			Years of relevant experience with other employer(s)	0	1000		
Degree(s) / Years	/ Specializatior	า	MSc / 2020	/ Civil Engineering BS / 2015 / Civil Engineerii	ng			
Active registration	n number / stat	e / expiration date	N/A					
Year registered	N/A	Discipline	N/A					
Contract role(s) / I description of res	brief ponsibilities	Traffic/MOT. Ramy project experience collection, traffic in	ya is an entry includes safe npact studies	level traffic engineer with experience on traffi ety studies, crash data analysis and crash map , writing and presenting.	c operations oping, signal	and analysis. Her design, traffic 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 time specified in the applicable MPR(s).							
01/21-Ongoing	MOVEBR Jones Creek Road Extension, Segments 1A and 1B, City of Parish of East Baton Rouge, LA. Assisted for the development of traffic analysis, collected traffic counts, geometric layout measurements and peak period observations at signalized and unsignalized intersections. Responsible for development of Appendix C – Existing Safety Analysis by reviewing more than 200 crash reports.							
11/20-03/21	City of Austin Crash Mapping, Austin, TX. Responsible for crash investigation and crash mapping of 10 intersections based on the impact type by reviewing the crash reports							
11/20-06/21	City of Dallas- McKinney Avenue/Cole Avenue- Two-way conversion, Dallas, TX. Responsible for review of the traffic impact studies along the corridor and developed traffic volumes from the base conditions. Collected aged data and developed growth rates at each induvial stations							
01/22-Ongoing	United States Air Force Academy Transportation Master Plan. Assisted in the traffic operation analysis using the field and street light data in the Vistro software. Responsible for providing report graphics of intersection level of service and average daily traffic for the intersections within the scope of the study							
05/21-06/21	US 101/Hear summary stat	US 101/Hearn Avenue Interchange, Santa Rosa, CA. Assisted in the review of the crash data and developed crash summary statistics of crash severity and type of collision						
08/18-07/20	Developmen (Thesis). Dev safety perfor	Development and Calibration of Safety performance functions for Intersections on rural divided highways in AL (Thesis). Developed AL specific Calibration factor for unsignalized intersections on rural divided highways. Calibrated safety performance functions (SPFs) and predicted crash frequency for recently modified intersections						

Firm employed by AECOM Technical Services Inc.										
Name	Louis Co	sta			Years of relevant experience with this employer	21				
Title	Environn	nental			Years of relevant experience with other employer(s)	31				
Degree	(s) / Years	/ Specialization		BA / 1964 / MCP / 1970 NHI Course and Transp Introductic General Se	⁷ Political Science and History; 0 / City Planning and Urban Design e 142005, "National Environmental Policy Ac portation Decision Making" on to Federal Projects and Historic Preserva ervices Administration	ct (NEPA) tion offered	through the			
Active r	egistratio	n number / state	e / expiration date	N/A						
Year reg	gistered	N/A	Discipline	Environme	ntal					
Contract role(s) / brief description of responsibilities and historic preservation projects.					^r 50 years in the ther transportation,					
Experie dates (n mm/yy)	nce nm/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).								
07/ Ong	'15 - Joing	LaDOTD State Project No. H.004273.5 I-49 Lafayette Connector Supplemental EIS. Task Lead for preparation of the SEIS for the 5.5-mile segment of I-49 South through urban area of Lafayette, LA. This assignment includes management of the Section 106 process for the project-both the Standing Structures Inventory Update and the consultation process. To date work has involved preparing the Inventory Update and coordinating with the CSS and design team members in a Concept Performant Process to identify alternatives to be studied in the SEIS								
02/03	-01/08	LaDOTD State Project No. 700-92-0011 I-49 South - Raceland to Westbank Expressway EIS, Lafourche, St. Charles, and Jefferson Parishes, LA. Project Manager for the EIS for 38 miles of interstate highway in the US 90 corridor. Led a team providing line and grade, public outreach, traffic analysis, website development, cultural resource investigation, and preparation of supplemental environmental reports. Originally the project was intended to prepare two EISs for each of two sections of independent utility. Following the review of the DEIS for SIU 1 comments and in response to the 2005 hurricane season, a single EIS was undertaken. AECOM performed line and grade and public outreach services as well as program management. Louis was the lead author of the EIS document. A ROD was issued by FHWA in 2008. This project was one of the first LaDOTD projects to include a Project Management Plan mandated for mega-projects by SAFETEA-LU.								
10/00	-10/05	LaDOTD State St. Martin Pari in the US 90 ali areas and com	FETEA-LU. DOTD State Project No. 799-99-0230 I-49 South Lafayette Regional Airport to LA 88 EIS, Iberia, Lafayette, and . Martin Parishes, LA. Deputy Project Manager for an EIS for 10.8 miles of new urban and suburban interstate highway the US 90 alignment. Major issues included highly congested intersections at railroad grade crossings in industrial eas and community opposition. A BOD was issued by EHWA in 2005							

	LaDOTD State Project No. 700-99-0230 I-49 South - Wax Lake Outlet to Berwick EIS, St. Mary Parish, LA. Project
	Manager for an EIS for 9.3 miles of rural and suburban interstate highway in the US 90 alignment plus a 1-mile rural
11/00 - 12/06	access road. Wetlands were largely avoided by the use of the existing alignment, but Louisiana Black Bear habitat and
11/00 - 12/00	the proximity of a main line railroad paralleling US 90 were major concerns. The project included an extensive public
	participation program. Work involved standardizing travel lane widths, adding safety shoulders, and providing
	interchanges, frontage roads, and drainage improvements. A ROD was issued by FHWA in 2006.
	Maryland Transit Authority, Purple Line EIS, Suburban Washington, D.C. Member of the EIS team for the preparation
01/12 - 03/14	of this document. Primary areas of his responsibility were the construction impacts, visual assessment, indirect and
01/12 00/14	cumulative sections, and the responses to comments. The project received the 2015 FTA Outstanding Achievement
	Award for Excellence in Environmental Document Preparation in the EIS category. A ROD was issued by FTA in 2014.
	Metropolitan Atlanta Rapid Transit Authority, Atlanta BeltLine Tier 1 EIS, Atlanta, GA. Member of the EIS team for this
	major transit project to create a 23-mile light rail system and trails encircling the inner city of Atlanta in existing railroad
07/08 – 08/12	corridors, including the creation of four major transfer facilities where the new rail line intersects with the existing
	MARTA heavy rail transit system. Mr. Costa prepared the transportation and land use sections and performed a quality
	control review of the other chapters. He also prepared the ROD that was issued by FTA in 2012.
	Regional Transit Authority, Canal Streetcar EIS, New Orleans, LA. Agency Project Manager for the reintroduction of
	streetcar service on Canal Street. Work on the EIS began following a Major Investment Study. The scope included a new
1995 - 1997	streetcar storage and maintenance facility, improvements to the existing streetcar manufacturing and maintenance
	facility, a transfer terminal at the outbound end of the line, and a connection to the Riverfront Line. Noise, utility
	conflicts, and historic preservation were major issues. A ROD was issued by FTA in 1997.
	LADOTD, State Project No. H.001779.5 Red River Bridge at Jimmie Davis Highway (LA 511) EA, Bossier and Caddo
	Parishes, LA. Project Manager for an Environmental Assessment (EA) to improve capacity of the LA 511 crossing of the
05/13 – 07/15	Red River. Major concerns are community concern that the project is long overdue, commercial relocations, impacts to
	wetlands, and the inclusion of a shared use trail on the bridge to connect the existing trails on each side. A FONSI was
	issued by FHWA in 2015.
	LADOTD, State Project No. 700-26-0254 Harvey Boulevard – Wall Boulevard to Engineers Road EA, Jefferson and
	Plaquemines Parishes, LA. Project Manager for an EA for extending a suburban residential roadway on both an existing
06/01 – 07/03	right-of-way and a new alignment to cross a canal to connect with Engineers Road (LA 3017). Major issues were noise,
	an adjacent seaplane facility, and community opposition based on expectation of truck traffic in a residential area. A
	FONSI was issued by FHWA in 2003.

Firm employed by AECOM Technical Services Inc.									
Name Jonatha	n Martinez				Years of relevant experience with this employer	19			
Title Environm	mental				Years of relevant experience with other employer(s)	0			
Dogroo(c) / Voara	/ Spocializatio	n		BS /200	2/ Forestry/Ecosystem Management				
		·II		ACOE V	Vetland Delineation and Management; (Reg. IV)	Training			
Active registratio	n number / sta	te / e	xpiration date	N/A					
Year registered	N/A		Discipline	Environ	mental				
Contract role(s) /	brief	Envi	ronmental. Jo	hathan wi	II provide wetlands and threatened and endang	jered speci	es services for this		
description of res	snonsihilities	proj	ect. He has nea	rly twenty	y years' experience, all in New Orleans, develop	ing NEPA a	nalyses and permit		
		appl	ications for LA	DOTD pro	ojects.				
Experience	Experience a	nd au	alifications rele	evant to tl	ne proposed contract; <i>i.e.,</i> "designed drainage".	"designed	airders", "desianed		
dates (mm/yy–	intersection"	etc.	Experience dat	es shoul	d cover the time specified in the applicable MPF	R(s).	<u> </u>		
mm/yy)						• • •	- (··· 0510		
	LADOID Sta	te Pro	oject No. H.004	12/3.5, I-	49 Connector Supplemental EIS, Lafayette, L	A. Project	planner for the SEIS		
	conducted fo	or 5.5-	-mile segment	07 I-49 S0	buth between I–49/I–10 Interchange and the Lat	rayette Reg	Jional Airport		
07/15–Ongoing		n Laia	ayelle. The wor	k advanc	es the project beyond the Record of Decision is		HVVA IN January		
	2003. Write the project initially required a Reevaluation of the concept of the 2003 Selected Alternative, the passage of								
	unie, change	time, changes in the environment and community concerns have resulted in refinements to that concept substantial							
	enough to warrant a Supplemental Environmental impact Statement (SEIS). Jonathan wrote the natural environmental								
	the wetland of	be wetland delineation and preparation of the Section 404 permit and worked with other staff							
	Stage 0 Feas	eihility	v Study and Pe	nort US	61 / Tulane Avenue Carrollton Avenue to Clai	ihorne Ave	nue New Orleans		
		ental	planner for pro	iect inclu	ides improvements such as median widening c	old mill and	overlay with		
	restrining an	d reco	instruction of s	idewalks	along Tulane from S. Carrollton Avenue to S. C	laihorne Av	enue in Orleans		
01/10–05/14	Parish The n	Parish The project will implement corridor improvements that will enhance quality of life livebility and sustainability in							
	the corridor	the corridor and will support future transportation demand and adjacent land use including nedestrian bike and transit							
	system operations. The completed corridor includes amenities associated with a complete streets concept.								
	I-210 Stage C	Corr	idor Study Rou	te I-210, L	ADOTD, Lake Charles, LA. (701-65-0710 & 701-	-65-0899) /	AECOM conducted a		
	comprehensi	ve tra	ffic and transpo	tation stu	idy for the Interstate 210 (1-210) Corridor in Lake	Charles to	quantify		
	deteriorating traffic operational conditions and to define transportation strategies that would contribute to long term mobility								
10/06–12/07	and the economic viability of the area. The 12-mile corridor spans between Interstate 10 (1-10) at Exit 34, to 1-10 west of the								
	Calcasieu Riv	er and	l includes nine ir	nterchang	es. The objective of the study was to identify and	evaluate ex	isting transportation		
	resources and	resources and opportunities; to identify current and future transportation capacity and operational deficiencies; and to identif							
	operational a	nd geo	ometric improve	ments fo	r the 1-210 Corridor.				
	Feasibility S	tudy	Report / TEPF	R, College	e Drive, City of Baton Rouge, Parish of East Ba	aton Rouge	e, LA. Project		
09/20–Ongoing	Planner for th	ne Des	sign Study, Trat	fic Study	, and Preliminary Plans for the completion of ro	adway imp	rovement on		
	College Drive	and	its vicinity betw	een Perk	ins Road and Bawell Street inclusive of the inte	rchange wi	th I–10. The Design		

	Study will include development of numerous concepts to enhance operational capacity and efficiency along the corridor
	while including Complete Streets and green infrastructure improvements. Preliminary alternatives were developed and
	documented using LADOTD Stage 0 Project and Scope and Environmental Checklists in order to apply for state and
	federal funding grant applications to expand funding for the project beyond the allocation of the parish MOVEBR bond
	funds. Completed the Stage 0 checklists.
	Multimodal Transportation and Traffic & Safety Analysis, and Transportation Plan (NODTA), City of New Orleans
	Department of Public Works, New Orleans, LA. Planner for multimodal transportation analysis and plan for the New
0015-04/17	Orleans Downtown and historic French Quarter neighborhood. Dozens on bicycle, pedestrian and vehicular alternatives
0913-04/17	were developed and evaluated and selected improvements were programmed, based on the integrated modal-access
	analysis, including pedestrian LOS modeling around transit stops. Extensive curb-use revisions, car-free zones, and
	other innovations were developed for the Quarter and CBD.
	LADOTD State Project No. H.006447.2 I–69 SIU, EIS, Claiborne and Webster Parishes, LA, Columbia and Union
	Counties, LA. Field biologist for the Environmental Impact Statement for the proposed I–69 project. Responsible for
01/02_04/12	fieldwork to determine the presence of threatened and endangered species, as well as wetland delineations and the
01/03-04/12	study of a suitable crossing of the Bayou Dorcheat scenic stream. The Interstate 69 Corridor's section of independent
	utility number 14 spans between Shreveport, Louisiana and El Dorado, Arkansas through a rural timber and poultry
	farming area.
	LADOTD State Project No. H.004580.5 Re–evaluation of EA and FONSI US 190 in Mandeville from LA 22 to
	Lonesome Road. Environmental planner and biologist for the proposed reconstruction of US 190 extending from LA 22
	to Lonesome Road, including the construction of two new bridge structures over Bayou Chinchuba. This project re-
09/11–02/12	evaluates the original EA and FONSI completed in 1999 and revised in 2006. Responsible for applying for a new 404
	Wetland Permit and Coastal Use Permit and a Threatened and Endangered Species survey and clearance for the project
	as well as additional field work, surveys, and coordination with state and Federal agencies and submittal of a Wetland
	Findings Report and T&E Species Survey Concurrence.
	LADOTD State Project No. H.004932: Environmental Assessment, US 90 at LA 318, St. Mary Parish, LA.
	Environmental planner for an EA associated with a new interchange at US 90 and LA 318 in St. Mary Parish. The project
	is in a rural setting with concerns related to effects on existing utilities, agricultural lands, natural environment, and
11/10–10/13	human environment. The interchange is located on a major east-west route that provides for hurricane evacuation and
	is part of the future Interstate 49 Corridor. LA 318 Parkway is the major north–south connector from US 90 to the St.
	Mary Sugar Co–op and the Port of West St Mary. The project is critical to accommodate the future upgrading of US 90 to
	part of the Interstate System as I–49.
	LADOTD State Project No. H.004932: Supplemental Environmental Assessment, US 90 at LA 318, St. Mary Parish,
07/15-11/15	LA. Completed the Supplemental EA (SEA) as part of the Design–Build process for the project that included review and
07/10 11/10	revision of the previous EA. Obtained a FONSI on a very aggressive schedule set by the DB contractor, FHWA and
	DOTD.

Firm employed by AECOM Technical Services Inc.							
Name	Michael	D. Patorno, PE			Years of relevant experience with this employer	26	Lad
Title	Principal [.]	-in-Charge			Years of relevant experience with other employer(s)	12	
Degree(s	s) / Years	/ Specializatior	n	BS/1983/0	Civil Engineering		(All and a second se
Active re	egistratio	n number / stat	te / expiration date	PE.0024197	/ LA / 09.30.2021		
Year regi	istered	1990	Discipline	Civil Enginee	er		
Contract role(s) / brief description of responsibilities Principal in Charge Operations Manage levees, flood prote drainage pumping alternative delivery engineering and co across the AECOM				e. Michael is a er overseeing ection, roadwa stations, sewe programs va onstruction sig family. Micha	a Professional Engineer with extensive experie the planning, designs and construction of a r y, bridges, major canals, Ports and Harbors, n er facilities, and utility relocation work. He has rying in size and complexity working with all te des of the house to facilitate very large progra ael meets MPR 1 .	ence as a Pro range of civil nechanical a also workec eams includi ams with mu	ogram and projects including nd civil design of d on various ing the financial, Itiple groups
Experien dates (mi mm/yy)	ice m/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).					
03/08-	03/08-10/12 USACE, New Orleans District, Indefinite Delivery Order for General Design Services Within the Limits of the New Orleans District, New Orleans, LA. Program Manager. Managed all civil/structural design components on a variety of projects throughout the District including Melville Ring Levee, West of Algiers Levees and Pumping Stations, Westminster to Lincolnshire Generator and Drainage Pumping Station as well as a variety of other floodwall and levee programs.						of the New a variety of ns, Westminster to grams.
12/07-	·11/12	¹² USACE, New Orleans District, Algiers Canal & Flood Protection, Algiers, LA. Principal Engineer on this project that included the civil, structural and geotechnical designs for over 4.5-miles of levees and floodgates. Floodgates numbered over 17 with spans varying from 30-feet to 68-feet in width and many founded on foundations able to support various cranes utilized by industry located along the corridor of a major levee in Jefferson and Plaquemines Parish. Unique challenges on the project were the large crane loads transferred to the levee and flood gate system by the local industry which services Louisiana's local offshore oil industry.					
08/05-	·12/07	USACE, New Orleans District, Task Force Guardian, Hurricane Katrina Storm Repairs to Levee System, New Orleans, LA. Program Manager. Managed multiple task orders simultaneously and completed repairs of thousands of feet of concrete floodwall and levee systems. Provided design and construction oversight services for 29 USACE projects concerning damages to the Orleans Parish Levee System from Hurricanes Katrina and Rita. Managed this very fast-paced project, with the first 17 projects completed and ready for bids within 60 days. Managed a team of over 100 experts in structural, geotechnical, electrical, mechanical, and civil engineering to complete the repairs. Mobilized the management team within 24 hours and the remainder of the team within less than a week from experts in Louisiana and around the country, and in some cases out of the country. Tasks included construction submittal reviews and coordination of construction activities within a total 9-month period. Team won award for performance. Cost: \$250M.					

	USACE-Hurricane Protection Office (HPO), Program Management and Engineering Support Services, New Orleans,
01/01 12/11	LA. Program Director. Directed AECOM's response to this 10-year program to repair and upgrade the City's Hurricane Protection System damaged during hurricane Katrina and Rita. This program included working with the USACE side by side
01/01/12/11	contract to the Task Force Guardian program to make repairs after Hurricane Katrina, we marketed and were awarded a contract to assist the HPO with providing improvements to the levee system. Three of the projects were ECI, Early Contractor Involvement which is the USACE's CMAR Process for Design Build.
11/05-02/09	(USACE-Hurricane Protection Office (HPO), Hurricane Protection Office (HPO) LPV 105-111, New Orleans, LA. Program Manager. In a follow-up contract to the Task Force Guardian program, awarded contract to assist the HPO with providing improvements to the levee system in New Orleans East. Managed all aspects of this \$1.3B geotechnical investigations, feasibility reports, Engineering Alternatives Reports (EARs), design and plans, and specifications for approximately 30 miles of Hurricane Flood Protection System. Worked closely with the HPO team to investigate cost-effective and workable solutions to meet the short time frame. Managed team using staff from multiple offices to maintain HPO's schedule.
10/05-01/08	MDOT, Biloxi Bay and Bay St. Louis Bridge Damage Assessment and Replacement, Mississippi Gulf Coast, MS. Principal Engineer assisting with the reconstruction of two major water crossings (700M Construction). The US 90 bridges across Bay St. Louis and Biloxi Bay along the Mississippi Gulf Coast where both bridges were destroyed by Hurricane Katrina. This was the first design-build project for MDOT. AECOM mobilized staff immediately to MDOT's headquarters and worked closely with MDOT to:
	 Provide on-site support services for the development of design-build guidelines that established authority, defined the design-build process, described the evaluation of the qualifications and bid packages, defined design and construction criteria, described contract administrative procedures, defined material acceptance, and defined final project acceptance. Assist MDOT with the evaluation of the RFQ submittals. Develop the RFP documents.
	 Establish and maintain an MDOT-approved document control system. Review and made recommendations to MDOT on the Contractor's submittals, including, but not limited to, schedules, project payment schedule, submittal schedules, invoices, and letter requests. Provide QA/QC Inspection Personnel.
	 Help develop MDOT positions on contract issues and support MDOT staff. Monitor, record, and report meetings held by Contractor or with other project-related agencies, as appropriate.

Firm employed by GEC, Inc.							
Name Cary Bou	urgeois, PE			Years of relevant experience with this employer	36	and the second	
Title Senior V	ice President			Years of relevant experience with other employer(s)	0		
Degree(s) / Years	/ Specialization		BS / 1983 / 0	Civil Engineering			
Active registratio	n number / state / ex	piration date	23414 / Lou	isiana / 09-30-2023			
Year registered	1992	Discipline	Professiona	l Engineer, Civil			
Contract role(s) / brief description of responsibilities			Bridge Desi performing of areas of Brid Systems (ITS has valuable plate girders retaining wa Certification Bridges, LAI Critical Inspe of In- Servic	Ign. Cary is GEC's Senior Vice President involution design services on several large-scale project dge, Roadway, Toll Collection Systems, and Im S) design along with extensive experience in se experience in the design of prestressed con s, continuous slabs, inverted "T" cap column b Ils, as well as geometry associated with bridg hs: LADOTD Bridge Load Rating in Louisiana, I DOTD Movable Bridge Inspection Workshop, ection Techniques for Steel Bridges, NHI Cou e Bridges (with refresher training NHI Course	ved in supervi its. He is expe itelligent Tran safety inspect crete girders, pents, pile ber e structures a _ADOTD Inspe NHI Course 13 rse 130055 S 130053).	sing activities and rienced in the sportation tion of bridges. He curved steel ats, footings, and roadways. ection of Local 30078 Fracture afety Inspection	
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).						
03/91-10/97	LADOTD 454-01-0054, 450-10-0099 / ROUTE I-12, I-10 TO U.S. 61, AND ROUTE I-10, ACADIAN THRUWAY TO I-12: Baton Rouge, LA. <i>Project Manager/Structural Engineer -</i> Cary performed Quality Assurance and project management on this project specifically providing Quality Assurance for all disciplines involved including structures/bridge design & civil engineering design. Project consists of phased rebuilding & widening while under traffic of approximately 4.65 miles of urban interstate highway with roadway & bridges on I-10 and I-12. Cary performed PPC girder layout and design, span design, and column bent and abutment design.						
04/19- Ongoing	EBR CITY-PARISH, CHEVELLE DRIVE AND SARASOTA DRIVE BRIDGE REPLACEMENTS: East Baton Rouge Parish, LA. <i>Principal-in-Charge.</i> GEC performed a Design Study, including hydraulics, environmental, and geotechnical considerations, overseeing topographic survey and Right-of-Way (ROW) Mapping as required; developing preliminary and final construction plans and cost estimates. Replaced the existing Chevelle Drive Bridge over the West Fork of the North Branch of Ward Creek and the existing Sarasota Drive bridge over Engineers Depot Canal. both located in Baton Rouge. LA.						
03/95-06/10	LADOTD 450-15-0089 / ROUTE I-10, CAUSEWAY BLVD TO 17TH STREET CANAL: Metairie, LA. <i>Project</i> <i>Manager/Engineer-of-Record/Structural Engineer</i> - Cary performed Quality Assurance and project management on this project. Acted as QA for all disciplines involved including surveying, structures/bridge design, electrical & controls design and civil engineering design. Project consisted of widening while under traffic of 1.64 miles of urban interstate highway from six to 10 lanes with roadway and bridges. He performed PPC girder layout and design and performed the design check of a						

	two-span(425' total length) continuous steel girder with integral steel intermediate bent.
	LADOTD 454-01-0051 / ROUTE I-12, I-12/ESSEN LANE INTERCHANGE: Baton Rouge, LA. Structural Engineer -
10/99-08/12	Responsible for overall design of Phase I and II which involved design and construction of I-12 EB on ramp with noise walls
	& WB exit ramp flyover from I-12 to Essen Lane.
	H.003074, I-10 WIDENING, WILLIAMS TO VETERANS, LOYOLA TO WILLIAMS: Jefferson Parish, LA. Principal-in-Charge
	- These projects involve the widening of I-10 between the Veterans Blvd. interchange and Canal No. 17 (approximately
00/17 On a sin a	2,900 feet west of Loyola Dr.). The bridges over Canal No. 3 and Veterans Blvd. will be replaced. A double-lane exit ramp will be repeated at the Loyola Dr. and the bridges over Canal No. 3 and Veterans Blvd. will be replaced. A double-lane exit ramp will be repeated at the Loyola Dr. and the bridges over Canal No. 3 and Veterans Blvd. will be replaced. A double-lane exit ramp will be replaced at the Loyola Dr. and the bridges over Canal No. 3 and Veterans Blvd. will be replaced. A double-lane exit ramp will be replaced at the bridges over Canal No. 3 and Veterans Blvd. will be replaced. A double-lane exit ramp will be replaced at the bridges over the bridges over Diverses.
06/17-Ongoing	be provided at the Loyola Drive Interchange. The bridges over Duncan Canal will also be widened. Concrete sound walls will be constructed along the L10 westbound and parth side of L10. Project included bridge load rating for the bridges over
	Lovela Drive mainling L10 over Williams Blvd, the Duncan Canal bridges, mainling L10 Veterans Blvd, bridges, and
	easthound Veterans exit ramp to determine the suitability of the bridges for widening
	A A DOTD 450-10-0113 & 454-01-0064 / I-10 & I-12 SOLIND BARRIERS: Baton Bouge I A Project Manager - This project
	installed 14 separate sound barriers over 8.5 miles of urban interstate highway. The project consisted of 605.000 sq. ft. of
11/99-2002	precast concrete panels, 30,500 lin, ft, of concrete columns supported on 45,500 lin, ft, of 36" dia, drilled shafts. In addition
	to the ground mounted sound barrier approximately 25,000 sq. ft. of barrier was mounted on bridge overpasses. Cary is
	served as the Project Engineer and was responsible for the overall design.
03/08-02/15	USACE, LPV 17.2 LAKE PONTCHARTRAIN, LA AND VICINITY HURRICANE PROTECTION PROJECT – BRIDGE ABUTMENT AND FLOODWALL TIE-INS AT CAUSEWAY BRIDGE: Metairie, LA. <i>Overall Project Manager</i> - Cary performed Quality Assurance and project management on this project. He specifically acted as Quality Assurance for all disciplines involved including surveying, structures/bridge design, electrical and controls design (including roadway lighting) and civil engineering design. The project included 1200 feet of new northbound and southbound elevated bridge structures from 6th street to the foot of the existing bridge with 40 foot high structure mounted light fixtures.
1991-Ongoing	GNOEC, LAKE PONTCHARTRAIN CAUSEWAY, CONSULTING ENGINEER: Metairie, LA. <i>Overall Project</i> <i>Manager/Structural Engineer</i> - GEC has performed Trust Indenture Services in accordance with GNOEC General Bond Resolution with Cary involved since the beginning and serving as Project Manager for over 15 years. GEC has designed and implemented over \$140,000,000 in bridge preservation & system improvement projects for Lake Pontchartrain Causeway, from inception through permitting, funding, preliminary & final design, bidding, and construction inspection & administration. His responsibilities include: recommendations for operations and maintenance of Lake Pontchartrain Causeway, review of operating budget, emergency response, inspection & reporting, planning & scheduling of future GNOEC repair and improvement project, review of Toll Plaza configurations and toll system operation, preparation of construction contract plans, specifications & estimates for various repair/improvement projects and construction inspection and shop drawing review. GEC is responsible for performing the National Bridge Inspection Standards (NBIS) inspection of all GNOEC owned bridges. Cary has current certificates for NHI Course 130055 Safety Inspection of In- Service Bridges (with refresher training NHI Course 130052) and NHI Course 130078 Fracture Critical Inspection Techniques for Steel Bridges. Cary also completed the LADOTD Movable Bridge Inspection Workshop.

Firm employed by GEC, Inc.						
Name Keith Re	bello, PhD, PE			Years of relevant experience with this employer	25	100
Title Structure	al Engineer			Years of relevant experience with other employer(s)	6	1250
Dogroo(c) / Vooro	(Specialization		BS / 1983 / 0	Civil Engineering; MS / 1986 / Civil Engineering	g;	
Degree(s) / Tears			PhD / 1990 /	/ Civil Engineering		
Active registration	n number / state / ex	piration date	24937 / Lou	isiana / 03-31-2023		
Year registered	1992	Discipline	Professiona	l Engineer, Civil		
Contract role(s) / brief description of		his research He has desig interstate ar	I gn. Dr. Rebello has 31 years of structural eng work on non-linear deformation behavior of p gned and managed a variety of structural proj nd highway bridges (new, replacement, rehabi	pre-stressed ects involving litation and w	concrete bridges. g complex idening), retaining	
responsibilities			walls, noise protection s accordance AASHTOWa	walls, buildings, water and wastewater treatm systems & hydraulic structures. He has experie with LADOTD and AASHTO MBE requiremen re Bridge Rating (Virtis) software and finite ele	ent facilities, ence in rating ts and perfori ement analysi	hurricane of bridges in med ratings using s where required.
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).					
07/12-Ongoing	H.003074 / I-10 WIDENING, WILLIAMS TO VETERANS: Jefferson Parish, LA. <i>Structural Engineer -</i> Dr. Rebello was in charge of bridge load rating of existing bridges, bridge design management, and structural design for this complex project. Initial extensive load rating of the existing bridges done at GEC, resulted in LADOTD making an informed decision to replace the bridges. Dr. Rebello supervised the structural design of the replacement bridges – deep foundations, bridge piers, and steel and pre-stressed concrete bridge superstructure. He supervised and performed superstructure and substructure load rating for existing bridges and ramps for this highly congested 2.58-mile urban interstate project. The extensive load rating and documentation provided to LADOTD allowed an informed decision to be made regarding widening or replacing the existing bridges. The superstructure design, included composite pre-stress and steel girder span.					
1995-2012	US 71/165 FORT BUHLOW BRIDGE AND APPROACHES OVER THE RED RIVER: Alexandria/Pineville, LA. <i>Structural</i> <i>Engineer</i> - GEC completed a contract with Louisiana Department of Transportation and Development to prepare final bridge and roadway plans after having previously completed a bridge feasibility study, a line and grade study, traffic study, and an environmental assessment. Dr. Rebello performed preliminary design of a new 0.6-mile bridge spanning the Red River. He developed alternative designs employing pre-stressed concrete and steel girder spans and segmental concrete box girders spans. <i>He prepared preliminary plan alternative layouts for curved steel girder ramps and bridge plans for</i> <i>an overpass over a railroad, using conventional precast pre-stressed concrete girders.</i> Ultimately, the bridge was designed with AASHTO 72" Type BT girder spans and a 1000', 3-span steel girder unit over the channel.					
07/09-Present	GNOEC, INSPECTI	ON OF THE CA	AUSEWAY BR	IDGE AND APPROACHES: Jefferson and St	Tammany Pa	arishes, LA. Load

	Rating Structural Engineer - Dr. Rebello is the primary Load Rating Structural Engineer on this project. Federal Law 39 FR
	10430 requires that all bridges on public roads be inspected and rated in accordance with National Bridge Inspection
	Standards (NBIS), 23 CFR Part 650, Subpart C. As Consulting Engineer for the Greater New Orleans Expressway
	Commission (GNOEC), GEC is responsible for the NBIS inspection and load rating for all GNOEC-owned bridges. Dr. Rebello
	has performed superstructure ratings for double-leaf steel Bascule Spans, prestressed concrete box girder spans,
	prestressed concrete monolithic girder and slab spans, and composite steel girder and concrete deck spans on the
	GNOEC owned system.
	CHEVELLE AND SARASOTA DRIVE BRIDGE REPLACEMENTS: Baton Rouge, LA. Structural Project Manager - This project
	included the replacement of the existing Chevelle Drive Bridge over the West Fork of the North Branch of Ward Creek with a
04/19-12/21	4-span 80-foot long slab span bridge and the existing Sarasota Drive bridge over Engineers Depot Canal with a 5-span
	105-foot long slab span bridge. After construction is completed, both bridges will have pedestrian walks. Dr. Rebello
	oversaw the structural design, plan preparation, quantity estimates, as-designed rating, and quality control.
	S.P. 455-08-0097 / I-49/I-20 INTERCHANGE: Shreveport, LA. Project Engineer - Dr. Rebello was responsible for the
08/91-12/92	design of abutments, bridge bents and the realignment of retaining walls for two intersecting 2-span continuous composite
	plate girder bridges.
	I-10 & I-12 COLLEGE DRIVE FLYOVER RAMP DESIGN-BUILD: Baton Rouge, LA. Bridge Task Lead - Dr. Rebello is the
02/20 Obscience	Bridge Task Lead for the GEC/ Boh Bros. team. GEC is responsible for engineering and design quality control services as
02/20- Ongoing	necessary to complete the design and construction of the I-10 & I-12 College Dr. Flyover Ramp Design-Build project which
	consists generally of highway and bridge design and engineering services.
	H.004273.5 / I-49 CONNECTOR: Lafayette, LA. Structural Engineer - This project includes bridge design and construction
07/15 Operating	of a freeway with accompanying interchanges in the Evangeline Thruway US 90/US 167 corridor and flanking
07715-Ongoing	collector/distributor roads for local traffic circulation and land access. Dr. Rebello performed grillage analyses to design
	three-span continuous steel tub girders as a viable alternative to other bridge span types.
	I-10 SERVICE ROAD BRIDGES: Slidell, LA. Project Manager (Structural) - This project includes the replacement of a 5 span
11/18-07/20	100 feet long concrete slab span bridge over Reine Canal and 5-span 100 feet long slab span bridge with 30-degree skew
	over French Branch Canal. Dr. Rebello oversaw the structural design, plan preparation and Q.C.
	S.P. NO. 700-30-0287, 450-15-0089 / ROUTE I-10, CAUSEWAY BOULEVARD TO 17TH STREET CANAL: Metairie, LA.
07/09-06/10	Structural Engineer - Dr. Rebello supervised the design & designed the pre-stressed girder spans, curved steel girder
	spans and integral steel box beam column cap for this 3.12-mile continuous bridge. Dr. Rebello was a major participant in
	S. D. 450, 10, 0000, 9, S. D. 454, 01, 0054, L 12, WIDENING, L 10, TO, LIS, 61, Poton Bourge, L.A., Structural Engineer, Dr. Baballa
02/94-09/95	designed and prenared plans for three steel plate girder spans averaging 160-feet Dr. Rebello also performed bridge
	geometry calculations and checked prestressed girder and bent designs by others.

Firm employed by GEC, Inc.							
Name Varapra	sad Venkata, PE			Years of relevant experience with this employer	15	hance	
Title Structur	al Engineer			Years of relevant experience with other employer(s)	10		
Degree(s) / Years	/ Specialization		BS / 1992 / 0	Civil Engineering; MS / 1995 / Structural Engi	neering		
Active registratio	on number / state / ex	piration date	40594 / Lou	isiana / 09-30-2022			
Year registered	2016	Discipline	Professiona	l Engineer, Structural			
Contract role(s) / brief description of responsibilities			Bridge Desi highway brid protection s widening of major highw bents, PSC of His structura signs, traffic supports/ma	ign. Varaprasad has 25 years of structural en dges, low & high mast light pole supports, hig systems, and industrial structures. His bridge existing structures and new structures for hi rays, which includes, but not limited to, the de girders, concrete deck, pre-stressed Type III al design experience includes AASHTO struc signal supports, camera pole platforms and ain platforms, and low and high mast light pol	gineering exp hway sign sup design experi ghly congeste sign of pile be girder spans, tural sign sup supports, DM e attachment	erience involving oports, hurricane ence includes the ed interstates and ents, column and steel girders. ports for highway S sign s and foundations.	
Experience dates (mm/yy– mm/yy)	Experience and qua intersection", etc. I	alifications rele Experience dat	evant to the pr tes should co	roposed contract; <i>i.e.</i> , "designed drainage", "over the time specified in the applicable MPR(s	designed gird s).	ers", "designed	
07/12-Ongoing	H.003074 / I-10 WIDENING, WILLIAMS TO VETERANS: Jefferson Parish, LA. <i>Structural Engineer</i> - Performed superstructure and substructure load rating for existing bridges and ramps for this highly congested 2.28-mile urban interstate. The extensive load rating and documentation provided to LADOTD allowed an informed decision to be made whether to widen or replace the existing bridges. Performed structural design of Pile bents, column bents, LG type PSC Girders, deck slabs, curtain walls for new Southbound bridge, Northbound bridge and off Ramp in accordance with AASI						
03/08-12/15	LAKE PONTCHARTRAIN, LA AND VICINITY, HURRICANE PROTECTION PROJECT LPV 17.2, BRIDGE ABUTMENT AND FLOODWALL TIE-INS AT CAUSEWAY BRIDGE: Jefferson Parish, LA. <i>Structural Engineer</i> - Performed final structural design of widened portion of abutments for both North/Southbound bridges and pile founded inverted T-type floodwall (194 feet) and tie-ins to the existing levees for Causeway Bridge at South Shore. This reach consists of levees, floodwalls, crib walls, Causeway Boulevard and other miscellaneous access points. The designs brought the hurricane protection to the Phase II 100-year level. The professional services required of GEC included detailed engineering and design (E&D), preparation of a Design Report (DR) plans and specifications (P&S) and E&D support during advertisement						
04/19-08/21	 preparation of a Design Report (DR), plans and specifications (P&S), and E&D support during advertisement. CHEVELLE AND SARASOTA DRIVE BRIDGE REPLACEMENTS: Baton Rouge, LA. Structural Engineer - Project included design of the replacement of the existing Chevelle Drive Bridge over the West Fork of the North Branch of Ward Creek with a 4-span 80-foot long slab span bridge and the existing Sarasota Drive bridge over Engineers Depot Canal with a 5-span 105-foot long (20', 20', 20', 20') slab span bridge. Varaprasad performed the final design calculations, plan preparation 						

	and as-designed rating for both bridges in accordance with AASHTO LRFD Bridge Design Specifications, the AASHTO
	Manual for Bridge Evaluation, and the LADOTD Bridge Design Manual.
	I-10 SERVICE ROAD BRIDGES: Slidell, LA. Structural Engineer - This project includes the replacement of a 5 span 100
11/10 07/00	feet long concrete slab span bridge over Reine Canal and 5 span 100 feet long slab span bridge with 30-degree skew over
11/18-0/120	French Branch Canal. Varaprasad worked on design and as designed rating for both bridges in accordance with AASHTO
	LRFD Bridge Design Specifications and LADOTD Bridge design standards.
	GNOEC, 9-MILE TURNAROUND SPANS, CROSSOVER #5 EXPANSION: Lake Pontchartrain Causeway, LA. Structural
	Engineer - Performed final structural design calculations for PSC girders, pile bents with 36" diameter cylinder piles, and
2016	deck slab for Crossover #5 Extension for the Causeway Bridge. Hurricane Katrina severely damaged the access ramps on
	the 9-Mile Turnaround. GEC conducted a detailed damage assessment and coordinated with LADOTD and FHWA to obtain
	Hurricane Katrina Emergency Relief Program Permanent Restoration funding for the repair of the turnaround.
	US 71/165 FORT BUHLOW BRIDGE AND APPROACHES OVER THE RED RIVER: Alexandria, LA. Structural Engineer -
	Performed final structural design of pile supporting column bents for approaches on both northbound and southbound
	bridges. GEC prepared final bridge and roadway plans after having previously completed a bridge feasibility, a line and
08/05-05/10	grade study, traffic study, and an environmental assessment. This bridge was constructed using AASHTO Type IV pre-
	stressed pre-cast concrete girders. The new bridges each have a minimum 40-foot clear roadway width and carry two
	lanes of traffic. The main channel of the Red River is bridged by a continuous steel girder unit consisting of spans of 300
	feet, 400 feet and 300 feet for a total length of 1,000 feet.
	PREPARATION OF DESIGN REPORT AND PLANS AND SPECIFICATIONS FOR THE FRONTING PROTECTION AT
	DUNCAN PUMPING STATION: Jefferson Parish, LA. Structural Engineer – Performed structural design calculations for T-
2015	walls, swing gate and fronting protection. The Duncan Canal Pump Station is located in Jefferson Parish on the drainage
2010	basin's East Bank of the Mississippi River. The project provided fronting protection across the entire width of the pumping
	discharge area. The designs consisted of a combination of gate monolith and T-wall monoliths. Also included were positive
	EPP CITY DADISH HICHI AND DOAD (I A 42) IMDDO//EMENTS (DEDKINS TO AIDI INE): Poton Pougo I A Structural
	EDR CIT F-PARISH, HIGHLAND ROAD (LA 42) IMPROVEMENTS (PERKINS TO AIRLINE): Balon Rouge, LA. Structural Design - Designed new bridge crossings at both Ward's Creek and Old Ward's Creek and tied to completed intersection
2006-2011	improvements at Perkins Road and at Airline Highway. The bridges are 240' (6 spans at 40') and 160' (4 spans at 40') in
	length respectively composed of quad beams or 24" pile bents all designed from AASHTO LRFD.
	H.004273.5 / I-49 CONNECTOR: Lafayette Parish, LA. Structural Engineer - This 5-mile project begins south of Lafayette
00/17 Oranaina	Regional Airport and continues north to I-10/US 167/I-49 interchange. Varaprasad checked structural calculations for span
03/17-Ongoing	optimization and three-span continuous steel tub girders as a viable alternative to other bridge span types. He performed
	sub-structure design calculations & cost analysis.
	LA 1 – LEEVILLE TO GOLDEN MEADOW- PH 2E & PH 2A (WIDENING & NEW BRIDGE) (H.0111493): Lafourche, LA.
	Structural Engineer - Performed design of pile bents, column bents, PSC girders, concrete deck, bearing pads, and pile
04/13-07/21	supported elevated concrete support cum maintenance platform for relocated 60' camera pole and Pile Bent mounted sign
	support in accordance with AASHIOLKED Bridge design specifications. Also performed structural design for ladder
1	system connecting the platform to the phage deck. Services included design, development of plans and specifications.

Firm employed by GEC, Inc.							
Name Jerome	Lohmann, PE			Years of relevant experience with this employer	6	201	
Title Roadway	Roadway Engineer			Years of relevant experience with other employer(s)	32		
Degree(s) / Years	/ Specialization		BS/1984/	Civil Engineering			
Active registratio	n number / state / ex	piration date	24673 / Lou	isiana / 09-30-2022			
Year registered	1992	Discipline	Professiona	Il Engineer, Civil		1820	
Contract role(s) / brief description of responsibilities			Roadway D systems, dra hydrograph local regulat routes. He is conceptual analysis, cos	esign. Jerome has 38 years of experience in l ainage design, and surveying (right-of-way, bo ic, construction, route/location, etc.). He is ver tions, policies, and procedures, having manag s familiar with all aspects of highway design ar studies, geometric layouts, interchange layou st estimating, and construction sequencing.	highway and t bundary, topo ry knowledge jed the desigr nd plan develo it and design, lerome Meets	ransportation ographic, able of state and n of many state opment including alternative s MPR 6	
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).						
04/19-12/21	EBR CITY-PARISH, CHEVELLE DRIVE AND SARASOTA DRIVE BRIDGE REPLACEMENTS: East Baton Rouge Parish, LA. <i>Project Manager -</i> Performed a Design Study including hydraulics, environmental, and geotechnical considerations, overseeing topographic survey and right-of-way (ROW) mapping as required; and developing preliminary and final construction plans and cost estimates. The project included the replacement of the existing Chevelle Drive Bridge over the West Fork of the North Branch of Ward Creek and the existing Sarasota Drive bridge over Engineers Depot Canal.						
11/18-07/20	ST. TAMMANY PARISH GOVERNMENT, I-10 SERVICE ROAD BRIDGE REPLACEMENTS: St Tammany Parish, LA. <i>Project Manager</i> -Managed the GEC design staff to replace two slab span bridges and approximately 1.1 miles of milling and overlay. He oversaw design of the vertical alignment, proposed length of the bridges, placement of the new bridges, and quardrail design and design of the new roadway approaches, calculation of quantities, and construction cost estimating.						
09/20-Ongoing	BLUEBONNET BLVD. (PERKINS TO PICARDY): Baton Rouge, LA. <i>Project Manager</i> -Overseeing design of a six-lane, curb and gutter roadway with subsurface drainage, bridge replacement, green infrastructure and pedestrian facilities. GEC's design is in accordance with MOVEBR Design Guidelines and Consultant Services Manual. Supervised a study of the existing bridge over Dawson Creek to determine if the bridge should be widened or replaced in accordance with Part 1, Chapter 6 of the LADOTD BDEM. This study started with an NBIS bridge inspection to determine Condition Ratings for the superstructure, substructure, and piles. A Bridge Load Rating was then carried out based on the AASHTO Manual of Bridge Evaluation and the LADOTD BDEM. Based on load rating, GEC recommended replacing the existing bridge.						
06/90-04/91	 OFF-SYSTEM BRIDGE REPLACEMENT PROGRAM: St. Helena, East Feliciana, Rapides Parishes, LA. Project Manager - Completed final plans for three (3) sites (State Project #700-25-82); for East Feliciana Parish, Completed final plans at four (4) sites (State Project #700-25-57); for Rapides Parish, completed final plans for one (1) site (State Project #700-25-53). He was responsible for geometrics, earthwork, drainage, summary of estimated quantities and cost estimates, hydraulic 						

	analysis, and hydraulics report.
	LADOTD H.003074, I-10 WIDENING, WILLIAMS TO VETERANS, LOYOLA TO WILLIAMS: Jefferson Parish, LA. Lead Road
2016- Ongoing	Design Engineer- These projects involve the widening of I-10. The bridges over Duncan Canal will also be widened.
	Concrete sound walls will be constructed along the I-10 westbound and north side of I-10. Project included bridge load
	rating for the bridges over Loyola Drive, mainline I-10 over Williams Blvd., the Duncan Canal bridges, mainline I-10 Veterans
	Blvd. bridges, and eastbound Veterans exit ramp to determine the suitability of the bridges for widening.
	LA SAFE-AIRLINE AND MAIN COMPLETE STREETS: LaPlace, LA. Project Manager - Jerome is managing the
	development of typical sections and preliminary layout for the project, which consists of a 10' shared use path, 5' sidewalk
09/19- Ongoing	along the north side of US 90, bike lanes on shoulders, and softening of the median. Existing ditches will have pipes added
our ongoing	and be reshaped to provide detention ponds to reduce time of concentration. Oversaw the calculation of preliminary
	quantities and development of a preliminary estimated construction cost. He proposed the conceptual design to the Parish
	and received approval. He also oversaw development of the fee for all costs from surveying to construction.
	LADOTD H.003074, I-10 WIDENING, WILLIAMS TO VETERANS, LOYOLA TO WILLIAMS: Jefferson Parish, LA. Lead Road
	Design Engineer- These projects involve the widening of I-10 between the Veterans Blvd. interchange and Canal No. 17
	(approximately 2,900 feet west of Loyola Dr.). The bridges over Canal No. 3 and Veterans Bivd. will be replaced. A double-
2016- Ongoing	Concrete lining for the Duncan Canal cross section will be provided under the I-10 bridges within existing right-of-way
	Concrete sound walls will be constructed along the I-10 westbound and north side of I-10. Project included bridge load
	rating for the bridges over Loyola Drive, mainline I-10 over Williams Blvd., the Duncan Canal bridges, mainline I-10 Veterans
	Blvd. bridges, and eastbound Veterans exit ramp to determine the suitability of the bridges for widening.
	ST. TAMMANY PARISH GOVERNMENT, US 11 IMPROVEMENTS AT SCHNEIDER CANAL: Slidell, LA. Project
03/15-08/16	Manager - The project elevated US 11 at the levee so that ongoing construction projects could continue beyond this
	point without a break in flood protection at the highway. GEC accomplished all aspects of design with its own in-house
	personnel. This project was the first project designed with LADOTD specifications to include a levee.
	US 171-LA 28, ROUTE LA 8: Vernon Parish, LA. Project Manager - Responsible for geometrics, earthwork, drainage,
	summary of estimated quantities and cost estimate, Transmittal 374 analysis and report, etc. He managed survey
	crews for approximately 9 miles of topographic survey using total station and data collector to develop a digital
	terrain model (DTM), analysis of DTM (break lines, contours, and sections), and final review of all submittals to location
05/92-06/00	and survey (centerline closure, control levels, benchmarks, etc.). The project required the design and preparation of
	preliminary and final plans of approximately 5.4 miles of 2-lane rural roadway and depressed medians on the north
	side of the existing 2-lane rural roadway. The typical section of the new roadway includes two 12-foot lanes with 10-
	toot paved outside shoulders, 6-toot inside shoulders (4-toot), with 60-toot depressed median between the existing
	two (2) lanes and the new lanes. The project also included the design of three bridge sites, one over Little Prairie and
	two over Bayou Castor.

Firm employed by GEC, Inc.							
Name Alison N	issen, PE			Years of relevant experience with this employer	2	20	
Title Roadway	/ Engineer			Years of relevant experience with other employer(s)	24		
Degree(s) / Years / Specialization			BS/1984/0	Civil Engineering		A Barris	
Active registratio	n number / state / ex	piration date	28801 / Lou	isiana / 09-30-2022		MATEN	
Year registered	Year registered 2000 Discipline			l Engineer, Civil			
Contract role(s) / brief description of responsibilities			Roadway Do preliminary a experience and governr plans, and o major thorou parish/coun	esign. Ms. Nissen's engineering and manage and final design, plan preparation, and constru- with project supervision, frequently interfaces ment agencies, and has prepared roadway de ther associated design for preliminary and fin ughfares to residential streets for private land ty, and state agencies.	ment experie uction phase s with clients, sign, drainage al design of r d developers a	nce includes services. She has subconsultants e, traffic control oadways from and city,	
Experience dates (mm/yy– mm/yy)	Experience and qu intersection", etc.	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).					
09/20-Ongoing	BLUEBONNET BLVD. (PERKINS TO PICARDY): Baton Rouge, LA. <i>Design Engineer</i> - For the widening of Bluebonnet Blvd., Ms. Nissen completed a design study of a six-lane, curb and gutter roadway with subsurface drainage, bridge replacement, green infrastructure and pedestrian facilities. Design is in accordance with MOVEBR Design Guidelines and Consultant Services Manual. <i>Ms. Nissen made slight modifications to the horizontal alignment to avoid conflicts with existing</i> <i>railroad and pedestrian bridge support columns, raised the profile for the replacement bridge over Dawson Creek.</i> Ms. Nissen prepared typical sections, roadway plan and profile drawings, geometric details and construction cost estimate for the design study report.						
10/19-07/20	ST. TAMMANY PA The project include	RISH GOVERN es the replacen	MENT, I-10 S nent of two sla	ERVICE ROAD BRIDGE REPLACEMENTS: St. ab span bridges. Ms. Nissen provided review of	. Tammany P a of the project	arish, LA. QA/QC - plans.	
10/19-12/21	EBR CITY-PARISH, CHEVELLE DRIVE AND SARASOTA DRIVE BRIDGE REPLACEMENTS: East Baton Rouge Parish, LA. <i>QA/QC -</i> Ms. Nissen provided plan review services for this project which includes the replacement of the existing Chevelle Drive Bridge over the West Fork of the North Branch of Ward Creek and the existing Sarasota Drive bridge over Engineers Depot Canal, both located in Baton Rouge, Louisiana.						
2018	AIRLINE PARK BLVD. REHABILITATION AND DRAINAGE UPGRADE: New Orleans, LA. <i>Project Manager -</i> Ms. Nissen performed preparation of plans, specifications, and cost estimate for improvements to Airline Park Blvd. (500' north of Camphor to West Napoleon Ave). Her responsibilities included horizontal and vertical geometry, storm sewer design, earthwork calculations, and sequence of construction.						
10/19- Ongoing	MID CITY GROUP C, D, & E, FEMA RECOVERY ROADS PROGRAM: New Orleans, LA. <i>Project Engineer -</i> Ms. Nissen is preparing plans, specifications, and estimates for the removal and replacement of an existing asphalt and concrete						

	pavement and drainage structures, as well as replacement of waterline and sewer main. Tasks include horizontal and
	vertical geometry, subsurface drainage design, and cross section development.
	LADOTD H.004104, PECUE LANE/I-10 INTERCHANGE: Baton Rouge, LA. Project Manager - Ms. Nissen provided
	engineering design services for widening Pecue Lane (Perkins to Airline) including a Diverging Diamond Interchange with I-
2010	10. She prepared construction plans and construction cost estimates for Pecue Lane from Jamestown Blvd to south of
2019	Ward Creek and the I-10 EB entrance and exit ramps. Tasks included horizontal and vertical alignments, typical sections,
	super elevation diagrams, intersection layout, geometric details, storm drainage design, construction sequencing, cross
	section development, maintenance of traffic plans, and construction cost estimates.

Firm employed by GEC, Inc.							
Name Chris N	pper, PE			Years of relevant experience with this employer	5	90	
Title Roadwa	y Engineer			Years of relevant experience with other employer(s)	2		
Degree(s) / Years / Specialization			BS/2014/0	Civil Engineering			
Active registration	on number / state / ex	xpiration date	43281 / Lou	isiana / 09-30-2023			
Year registered 2019 Discipline			Professiona	l Engineer, Civil			
Contract role(s) / brief description of responsibilities			Road Desigr widening an designed dr hydraulic an design proje affording hir projects. He the Traffic E	n, Hydraulics and Hydrology. Chris has 7 years d realignment in both rural and urban environ ainage systems and milling and overlay. He has alyses and preparing associated hydraulics re ects. Prior to joining GEC, he worked with LAD m knowledge of their standards and guideline is also familiar with AASHTO standards and g ngineering Analysis Process and Report Mod	s of experience ments. In add as experience eports for brid OTD for more s required for guidelines and ules 1-3 train	ce in roadway ition, he has performing dge and roadway than two years, roadway has completed ing.	
Experience dates (mm/yy– mm/yy)	y- 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).						
04/19-12/21	EBR CITY-PARISH Design Engineer - replacement of the vertical alignments hydraulic analysis	I, CHEVELLE D Provided all inv e Chevelle Drive s, calculated the and prepared a	RIVE AND SA restigations, p e and Sarasot e quantities, a hydraulics re	RASOTA DRIVE BRIDGE REPLACEMENTS: E reliminary plans, and preparation of final cons a Drive Bridges in East Baton Rouge Parish. P nd prepared the cost estimate for both bridge port for each bridge.	ast Baton Ro struction con rovided the h e sites. He als	uge Parish, LA. tract plans for the orizontal and to performed a	
06/17-2021	H.003074, I-10 WIDENING, WILLIAMS TO VETERANS: Jefferson Parish, LA. Road Design - Project included the design of the addition of a lane to the existing interstate and the widening/replacement of bridges to accommodate the additional lane. Responsible for the hydraulic design of the proposed bridge decks, the westbound proposed bridge vertical curve, and for calculating elevations along bridge bents and girders.						
02/20-Ongoing	H.013897, I-10 & I-12 COLLEGE DR FLYOVER RAMP DESIGN-BUILD PROJECT: East Baton Rouge Parish, LA. <i>Roadway Design -</i> This project involved the redesign of the I-10 WB/I-12 WB merger, and the College Dr. Off Ramp. Separate dedicated off ramps to College Dr. were provided from I-10 WB and I-12 WB. Performed all of the geometric design for the project and developed all of the roadway construction plans. Responsible for the hydraulic analysis and design for the entire project and developed the hydraulic calculations and report. He was also responsible for calculating quantities for all of the roadway and hydraulic portions of the project.						
09/20- Ongoing	 BLUEBONNET BLVD. (PERKINS TO PICARDY): Baton Rouge, LA. Road Design Engineer - GEC is designing the widening of Bluebonnet Blvd. to include an additional lane in each direction. The project includes replacement of existing bridges at Dawson Creek. Assisted in preparing the drainage map depicting existing conditions for the 9,730-acre drainage area. Developed the soil map for the drainage area and computed the curve number and associated flow through Dawson Creek. 						

	(City-Parish Project No. 19-CP-HC-0034)
	US HWY 190 DRAINAGE CROSSING: Livingston Parish, LA Road Design Engineer – This project involved the design of a
00/00 10/00	concrete box culvert cross drain. This cross drain was being added alongside an existing box culvert in order to assist with
06/20-10/20	drainage to alleviate backwater flooding. Chris calculated the quantities and developed the construction plan documents.
	He also assisted in the drainage analysis and design of the concrete box culvert.
	WEST TAMMANY HILLS DRAINAGE: Covington, LA. Project Engineer - Chris has assisted in the delineation of drainage
09/19- Ongoing	maps and hydraulic calculations. He was involved in the design of the subsurface drainage systems and the roadway
	rehabilitation design. He also assisted in the development of the construction plans and associated quantities.
	ST. TAMMANY PARISH GOVERNMENT, I-10 SERVICE ROAD BRIDGE REPLACEMENTS: St Tammany Parish, LA. Road
02/10 07/20	Design Engineer- The project included the replacement of two slab span bridges. Responsible for the vertical alignment,
02/19-0//20	proposed length of the bridges, placement of the new bridges, and guardrail design. Designed the new roadway approaches
	to the new bridge and calculated all of the quantities and estimated the construction cost for the project.
	LA SAFE AIRLINE AND MAIN COMPLETE STREETS: LaPlace, LA. Road Design Engineer - The project involved the design
	of a shared use path along Airline Highway that would connect to Main St. The corridor utilizes landscaped bioswales to
09/19- Ongoing	capture and slow runoff while simultaneously providing beautification of the area. Provided the vertical and horizontal
	alignments for the project, as well as the design for Main St. He provided the hydraulic analysis needed to convert existing
	open ditches along the project into subsurface drainage systems. Provided the estimated quantities and cost estimate.
	CAMP COUSHATTA ROAD IMPROVEMENTS: Allen Parish, LA. Designer - This project involved the design of a new road
	for the Coushatta Tribe of Louisiana. Designed the drainage structures/systems, road, and all associated quantities, and
09/17-12/18	created the construction plan set. The road consisted of two eleven foot lanes, with 3 foot outside aggregate shoulders,
03/17/12/10	and ditches on both sides. A subsurface drainage system was designed that tied into an existing subsurface system. Two
	reinforced concrete box culverts were designed to facilitate the flow of local canals through the new roadway, and one of
	the canals was realigned. He also calculated the quantities and estimated costs for the road and drainage systems.
	LA 308 CURVE REALIGN AND SHOULDERS: Assumption Parish, LA. Designer - This project involved milling and
	overlaying a large majority of LA 308, along with realigning a curve that had experienced abnormally high crash rates.
2017	Designed both the horizontal and vertical alignment, which involved designing superelevation for the newly realigned curve.
	Calculated drainage structure sizes and lengths and also designed the new ditch grades. He computed quantities for the
	milling/overlaying section and full construction section. Work done prior to joining GEC.
	H.008221 / LA 134 IMPROVEMENT AT US 165: Ouachita Parish, LA. Designer - Designed both the horizontal and vertical
	alignment with consideration to an adjacent bayou. He designed superelevation for the curves being realigned with
08/15-02/17	consideration to the nearby intersection. He designed turn lanes that were to be added to the intersection at both the East
00/10 02/17	and West approaches which required calculating the appropriate taper transition lengths and roadway striping plan.
	Calculated drainage structure sizes and lengths and also designed the new ditch grades. He computed quantities for the
	milling/overlaying section and full construction section. Work done prior to joining GEC.

Firm employed by SJB							
Name	Patrick S	aiano, PLS			Years of relevant experience with this employer	<1	600
Title	Survey De	partment Manager			Years of relevant experience with other employer(s)	10	
Degree	(s) / Years /	Specialization		Bachelor of	Science / 2008 / Construction Management		
Active r	registration	number / state / ex	piration date	5130 / Louis	siana / 09.30.2023		
Year reg	gistered	2015	Discipline	Land Survey	/or		
Contract role(s) / brief description of responsibilities				Survey. Pat professiona includes top in responsib certifying rig also include is a member Professiona	rick has more than ten years of experience in I land surveyor in Louisiana, Mississippi, and T oographic surveys, boundary and subdivision ole charge of field crews and survey office per ght-of-way maps, boundary surveys, and topo title research and review, and preparing surver of the Texas Society of Professional Surveyo I Surveyors, and the National Society of Profe	surveying and si Fexas. His work e and right-of-way sonnel, reviewin ographic surveys ey estimates and ors, the Louisian essional Surveyo	x years of as a experience s survey. He is g and . His duties d proposals. He a Society of rs.
Experie	nce dates	Experience and qu	ualifications re	levant to the p	proposed contract; <i>i.e.</i> , "designed drainage", "	designed girder	s", "designed
(mm/yy	–mm/yy)	y) intersection", etc. Experience dates should cover the time specified in the applicable MPR(s					
09/20 -	11/21	17-CS-CI-0020: MovEBR ADA Compliance – East Baton Rouge Parish, LA. LiDAR and GIS – Survey Department Manager					
03/21 –	Ongoing	MOVEBR – Jeffer performing a topo intersection.	son Highway graphic surve	at Bluebonne y, property su	t Intersection Improvement. Survey Departr rvey, SUE, and Right-of-Way maps of the Jeff	ment Manager. S ^f erson Hwy at Blu	JB Group is Jebonnet
03/21 -	Ongoing	20-CP-HC-0032: I property and right	MovEBR Nicho -of-way surve	olson Segmei y, and subsur	nt 2, LA. Survey Department Manager. Topog face utility engineering –	graphic Survey &	scanning,
03/21 –	06/21	H.010885.5: LA 9 ⁻ Manager and Proje	1: Bayou Plaqı ect Surveyor.	uemine Brusly	y Bridge Replacement, LA. Topographic Surv	vey –Survey Dep	artment
04/21 –	Ongoing	H.002794.5 LA 30 and title take offs)8: Canal Bridg were done alo	ges near Laro ng route LA 3	se, LA. Survey Department Manager. Proper 08 in Lafourche Parish, LA.	ty surveys, right	-of-way map
04/21 –	07/21	H.009300.5: Hooper Road Widening (LA 3034 – LA 37), LA. Survey Department Manager. SJB performed a topographic survey, subsurface utility engineering, and an update of an existing drainage map for a one mile stretch of LA Hwy 408. The topographic survey was an update to a survey done previously by SJB and included locating and verifying all changes to the one mile site since the previous survey was completed.					a topographic A Hwy 408. The Ill changes to
04/21 -	06/21	H.014322: Centur in East Baton Roug	r ion over Drai i ge Parish – Cei	nage Bayou, l nturion over D	A. Survey Department Manager. This project	t included topog	raphic survey
06/21 –	Ongoing	H.002244.5 LA 56 right-of-way maps replacement of br	: Boudreaux (s and title take idge structure	Canal MB repl offs along rou s and constru	acement. Survey Department Manager. SJB i ute LA 56 in Terrebonne Parish. This project re ction of diversion bridge between the Town o	is conducting pr equires the remo of Chauvin, LA an	operty surveys, wal and d Cocodrie, LA.

08/21-09/21	ATMOS – BLR Hwy 1 LATS Ph 3. SJB provided a right-of-way survey along Hwy 1, LA. Survey Department Manager.
	H.004100 I-10: LA 415 to Essen on I-10 and I-12, LA. Survey Department Manager. SJB is providing right-of-way maps
07/21 – Ongoing	from Ferndale Ave. east along the project corridor to the western most right-of-way of College Drive and I-10. This survey
	is being conducted in East Baton Rouge Parish.
08/21 – Ongoing	Caddo Parish Parks and Recreation ADA Transition Plan: Survey Department Manager. Planning and scanning/LiDAR
	H.012041.5: LA 109, Gully Bridge, LA. Survey Department Manager. SJB will perform a complete topographic survey
08/21 – Ongoing	including all utilities with depths and drainage, and floor elevations of all buildings that fall within the survey limits in
	Calcasieu Parish near the intersection of I-12 and LA 109.
	Survey Technician/LSI/PLS on numerous topographic surveys for oil and gas infrastructure projects in South
12/10-03/16	Louisiana. Patrick managed projects, prepared work plans for survey crews, reviewed and processed survey data, and
12/10-03/10	drafted topographic maps and plats for clients. Projects included topographic surveys for well sites, access roads, and
	pipeline rights-of-way. Clients included Chevron Pipeline, Texas Petroleum Investment Company, BOPCO, and Apache.
03/16-06/16	H.010184 LA 59: Curve Realign and Tunnel at Trace: Prepare title take-offs, review title abstracts, field work with survey
03/10-00/10	crew to locate property corners, prepare property survey, prepare right-of-way maps, prepare submittals
05/16-06/16	H.002184 Bayou Chenal & Bayou Discharge Brs.: Prepare title take-offs, review title abstracts, field work with survey
00/10 00/10	crew to locate property corners, prepare property survey, prepare right-of-way maps, prepare submittals
01/17 = 02/17	H.008449 Drain Bridge Near Stoney Point: Prepare title take-offs, review title abstracts, field work with survey crew to
01/1/ 02/1/	locate property corners, prepare property survey, prepare right-of-way maps, prepare submittals.
04/17 05/17	H.008118 Bayou Dumar Bridge Replacement: Prepare title take-offs, review title abstracts, field work with survey crew to
04/17 - 05/17	locate property corners, prepare property survey, prepare right-of-way maps, prepare submittals.
08/17 – 09/17	H.008312 LA 1042: Bridges Near Greensburg: Review title abstracts, prepare right-of-way maps, and prepare submittals.
	Patrick worked as a project surveyor on numerous electric and pipeline right-of-way and topographic survey projects in
00/10 00/01	the West Texas. He managed projects, prepared work plans for crews, made site visits to review potential corridors,
03/10-03/21	reviewed survey data, and reviewed and certified topographic and right-of-way plats. Clients included Targa Resources,
	Apache, and DCP Midstream.

Firm employed by SJB							
Name Matth	ew Estopinal, PE, PLS	5		Years of relevant experience with this employer	<1		
Title Chief	Operating Officer			Years of relevant experience with other employer(s)	16	(99)	
Degree(s) / Yea	ars / Specialization		Bachelor of	Science / 2009 / Civil Engineering			
Active registra	tion number / state / e	xpiration date	4955 / Louis	siana / 03.31.2023			
Year registered	1 2006	Discipline	Land Survey	/or			
Active registra	tion number / state / e	xpiration date	39151 / Lou	isiana / 03.31.2023			
Year registered	d 2014	Discipline	Civil Engine	er			
Contract role(s) / brief description of responsibilities			Survey. Mat in the State surveys, and charge of all construction Surveyors a	thew has more than 15 years of experience a of Louisiana. He has prepared right-of-way ma topographic surveys. His duties include cool plan production, all field inspections and the plans. Matthew is a member of the Louisiana nd the National Society of Professional Surve	is a professional la aps, ALTA survey rdination of staff, preparation of de a Society of Profes ayors.	and surveyor s, boundary responsible tailed ssional	
Experience dat	es Experience and o	qualifications rel	evant to the p	proposed contract; <i>i.e.</i> , "designed drainage", "	'designed girders'	', "designed	
(mm/yy–mm/yy	intersection", etc	intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).					
02/20 – 08/21	MOVEBR MIDW/ Joint Plan Review	AY. A topograph v Submittal.	nic survey and	l right-of-way maps were composed to addre	ss changes requir	red after the	
02/20 – Ongoir	ng CP 20-EN-HC-00 survey was done)33 MovEBR – F to improve ped	Plank Road Co lestrian and c	rridor Enhancement Segment 2 (Dawson Driv yclist mobility along Plank Road from Dawson	ve to Harding). A to Drive to Harding	opographic Boulevard.	
03/20 – Ongoir	station and treat	LE SEWER TRE vey and boundar ment plant site.	ATMENT PLA ry and servitu	NT, PUMP STATIONS AND FORCE MAINS. T de maps for the force main route (approximat	he project include tely 8,000 linear fe	es a eet), pump	
09/20 – Ongoir	ng MOVEBR PERKII Lane to Pecue wa	NS ROAD, SIEG as completed. N	EN TO PECUE latthew is the	A Topographic survey and right-of-way map surveyor on record for this project.	os for Perkins Roa	d from Siegen	
09/20 – Ongoir	^{ng} CP 20-EN-HC-0026 MOVEBR. A topographic survey and engineering design were completed to improve pedestrian mobility along S. Sherwood Forest Blvd by adding a sidewalk along the west side of the roadway from Coursey to Mead Dr					destrian ey to Mead Dr.	
	CP 20-EN-HC-0027 MOVEBR. A topographic survey and engineering design were completed to improve pedest					destrian and	
09/20 – Ongoir	ng bicycle mobility a Old Hammond H	bicycle mobility along S. Sherwood Forest by adding a multi-use path along the west side of the roadway from Mead Dr. to Old Hammond Hwy.					
01/21. Openin	CP 20-TS-HC-00)75 – 20-TS-HC	-0080 – MOV	EBR SYNCHRONIZATION AND COMMUNIC	ATION SIGNAL RE	EBUILDS –	
	' ⁹ GROUP 2. A topo	ographic survey	and right-of-	way maps were included for six intersections.			
02/21 - Ongoin	DIJON PHASE II	RIGHT-OF-WA	Y – Dijon Phas	se 2 Right-of-Way maps (Constantin Blvd). Bo	undary survey to	update the	
02721 - Ongoing	' ⁹ right-of-way map	right-of-way maps as a subconsultant to Stantec to address changes to the originally issued plans.					

03/21 – Ongoing	20-CP-HC-0032: MovEBR Nicholson Segment 2 – Topographic Survey & scanning, property and right-of-way survey, and
	subsurface utility engineering – Project Manager
	H.007963 Blackwater Bayou Bridge. This project requires the replacement of a bridge structure and a diversion road
06/21 – 10/21	during construction along LA Hwy. 410 in East Baton Rouge Parish. SJB is providing a right-of-way map. Matthew is a
	project manager designated to overseeing the completion of the right of way map.
08/21 – Ongoing	Caddo Parish Parks and Recreation ADA Transition Plan: Planning and scanning/LiDAR if necessary – Project manager
	to oversee final plans.

Firm employed by SJB									
Name Carl Jean	nsonne, PLS			Years of relevant experience with this employer 5					
Title Senior Pr	oject Manager			Years of relevant experience with other employer(s)	40				
Degree(s) / Years	/ Specialization		N/A						
Active registration	n number / state / ex	piration date	4542 / Louis	siana / 03.31.2023					
Year registered	1985	Discipline	Land Survey	yor					
Contract role(s) / I responsibilities	prief description of		Land Surve variety of su and constru services, ac Rouge Land first automa which is nov	yor. Carl has more than forty-five years of lar urvey projects involving boundary, topograph action stakeout surveys, as well as subdivision cident investigations and flood elevation cert I Surveying offering all types of land surveying ated surveying processes in Louisiana utilizing w used throughout the surveying industry. Ca	Id surveying experience with a ic, right-of-way, route, as-builts, I platting, expert witness tificates. He founded Baton g services. His firm offered the g robotic surveying equipment, rl Meets MPR 4 and 5 .				
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).								
04/12 – Ongoing	Land Surveying in	accordance w	ith DOTD's Lo	ocation and Survey Manual					
10/16 - 05/17	H.002980: I-10 O Jefferson Davis &	verpass Over Calcasieu Par	US 165 & MP ishes. This pro	Railroad. Senior project manager for the LA I oject involved right-of-way mapping and prop	OOTD, I-10 Overpass project in perty surveys.				
11/17 – 06/18	H.011723.5: Cotto Railroad Crossing maps.	on & Silo: BNS and Silo Road	F Railroad Cr Railroad Cros	ossing. Served as the senior project manage ssing in St. Mary Parish. This project involved	r for the LA DOTD Cotton Road right-of-way and property				
03/08-09/08	Perkins at Stanford/Acadian Intersection Improvements, East Baton Rouge Parish, LA. Survey Project Manager on the Perkins at Stanford/Acadian Intersection Improvements as part of the Green Light Program for the City of Baton Rouge. This project involved a right-of-way survey for acquisition of land, which included courthouse research, reestablishment of boundaries, traversing, right-of-way mapping.								
01/09-06/09	Jefferson Highway-Henry Road Intersection Improvements, Ascension Parish, LA. Survey Project Manager for the Jefferson Highway-Henry Road Intersection Improvements project for the Ascension Parish Department of Public Works. This project involved a topographic and right-of-way survey for land acquisition for intersection improvement project.								
01/09-06/09	Choctaw Storage and Pump Station Facilities, East Baton Rouge Parish, LA. Survey Project Manager for the Choctaw Storage and Pump Station Facilities for the EBROSSCO. The project involved performing a topographic survey for approximately 15,000 linear feet of sewer force main route, complete survey for engineering design and right-of-way acquisition.								
03/09-09/09	Nicholson Drive (Brightside to Gourrier) Improvements, East Baton Rouge Parish, LA. Survey Project Manager on the Nicholson Drive (Brightside to Gourrier) Improvements as part of the Green Light Program for the City of Baton Rouge.								

	This project involved a topographic survey, control establishment, courthouse research, reestablishment of boundaries, traversing, right-of-way mapping of approximately 6.000 linear feet for roadway widening project.
09/09-12/09	Elm Grove Garden Road-Harding Boulevard Rehabilitation, East Baton Rouge Parish, LA. Survey Project Manager for the Elm Crove Carden Road-Harding Boulevard Rehabilitation for the ERDOSSCO. The project involved performing a
	the EIM Grove Garden Road-Harding Boulevard Renabilitation for the EBROSSCO. The project involved performing a
	design and right-of-way acquisition
	Plank Road-Kleinpeter Road Area Ungrades, Fast Baton Rouge Parish, I.A. Survey Project Manager for the Plank Road-
	Kleinpeter Road Area Upgrades project for the EBROSSCO. The project involved performing a topographic survey for
09/09-02/10	approximately 16,000 linear feet of sewer force main route, complete survey for engineering design and right-of-way
	acquisition.
00/10 04/10	H.010331: US 90: Floodwall – Chef Pass Bridge. Senior project manager for the LA DOTD project on Chef Pass Bridge in
09/16-04/18	Orleans Parish. This project involved right-of-way and property maps.
12/16-01/17	Bootlegger Road, St. Tammany Parish, LA. Senior Project Manager for the Bootlegger Road project for St. Tammany
12/10-01/17	Parish. This project involved topographic surveying, boundary surveying and SUE.
	Airline Highway Right-of-Way, St. John the Baptist Parish, LA. Senior Project Manager for the Airline Highway Right-of-
01/18-06/18	Way project in Laplace, LA for Atmos Energy. This project involved right-of-way staking of existing roadways for a major
	gas line relocation project.
04/18-06/18	Mandeville Utility Survey, St. Tammany Parish, LA. Senior Project Manager for the Mandeville Utility Survey for Atmos
	Energy. This project involved a utility inventory survey for the extension and refurbishing of distribution gas lines.
	Government Street Road Right-of-Way, East Baton Rouge Parish, LA. Senior Project Manager for the Government
05/18-05/18	Street Road Right-of-Way project for Atmos Energy. This project involved right-of-way staking of existing roadways for
	major gas line relocation project.
04/10 00/10	H.012735.5: LA 182 Barrow Street Bridge, LA. SJB Group was contracted to provide a topographic survey and
04/19-08/19	Subsurface utility engineering Quality Level B for design. The purpose of this project was to replace a bruge structure
	H 000699 5: US 11 Norfolk Southern PD Overnass I A Project principal providing oversight and quality assurance. Project
04/20 – 11/20	included topographic survey and mobile LiDAR scanning in St. Tammany Parish along US 11 between I-12 and US 190
	H 000284 5: US 90: Pearl River Bridge I A Topographic survey and Mobile LiDAR Scanning along US 90 and west of Pearl
04/20 - 06/20	River in St. Tammany Parish. The project began 3,000 feet west of the intersection between US 90 and US 190. The total
0 11 20 001 20	distance of the survey once complete was 4.000 miles.
	H.014322: Centurion over Drainage Bayou, LA. Senior Project Manager for the Centurion over Drainage Bayou project
04/21 - 06/21	for DOTD as a sub to Monroe & Corie. This project involved a topographic survey.

Firm employed by	y SJB								
Name Anthony	<i>i</i> Burns			Years of relevant experience with this employer 18					
Title Survey				Years of relevant experience with other employer(s)	0				
Degree(s) / Years	/ Specialization		N/A						
Active registratio	n number / state / exp	oiration date	N/A						
Year registered	red N/A Discipline N/A								
Contract role(s) / responsibilities	brief description of		Survey. Anth and project topographic and terrestr Parish and L with respect	nony has more than eighteen years of experie manager with numerous DOTD and city-paris c, right-of-way, and boundary surveys. His exp ial LiDAR, and mobile LiDAR scanning. He is th A DOTD Location and Survey Procedures, ma t to all requirements. He manages our survey	ence as a rodman, h projects involvin perience includes o noroughly familiar anuals, and softwa field crews and eq	party chief, ng conventional with City- ne programs uipment.			
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).								
02/04 – Present	Topographic Surveying in accordance with DOTD's Location and Survey Manual								
04/12-07/12	H.009391.5: LA 3188 Drainage Improvements – Topographic Survey. Party Chief.								
09/13 – 07/14	H.009300: Hooper I in East Baton Rouge miles. Party Chief.	Road Widening Parish from S	g. A topograpi Sullivan Road	hic survey provided by SJB in preparation for (LA 3034) to Greenwell Springs Road (LA 37) f	widening Hooper for a distance of al	Rd. (LA 408) pout 2.95			
09/13-09/14	H.010443: LA 308 (Parish along LA Hw	Curve Realign y 308 in prepa	and Shoulders ration for a C	s. A topographic survey and Quality Level C S urve Re-Alignment and Shoulder improvemer	UE were done in A its. Party Chief.	ssumption			
10/13 – 05/14	H.004932: Intercha Chief.	nge for US 90	and LA 318 –	A Topographic Survey was done for LA DOT	D along LA 318 and	d US 90. Party			
06/14 – 11/14	North Sherwood Bly Survey, and Right-c	vd. Improveme of-Way Maps. I	ents – Project Party Chief.	for Professional Engineering Consultants – To	opographic Surve	y, Property			
02/15-04/16	H.011137 and H.011152: I-12 (LA 21 to US 190) & I-12 (US 190 to LA 59). SJB Group was a prime on the I-12 (LA 21 to US 190) & I-12 (US 190 to LA 59) and did Topographic Survey alongside Lazenby. SJB Group contracted Cardno as a sub to do the SUE work on this project. Project Manager.								
04/15-04/16	H.011298.5: US 90 Captain Cade to Ambassador Caffery Frontage Road. A topographic survey was done alongside a proposed route along the East and West side of US 90. This survey was located in Lafayette, St. Martin, and Iberia Parishes between Youngsville and Broussard, LA. Project Manager.								
05/15 – 11/15	H.011224: US 190 Guardrail/Rutting Rep. (Phase I). A topographic survey was done along five portions of US 190. The project was located in Pointe Coupee Parish from LA 1 westward approximately 18.5 miles to the east side of the Atchafalaya Bridge. Project Manager.								

02/16-02/17	H.005403.5: Hooper Road Extension – Rt. LA 408. A topographic Survey performed over a one mile stretch of LA Hwy 408.
02/10-02/17	Project Manager.
10/18_04/10	H.012591: I-10 Paris Road – Lake Pontchartrain. This project included topographic survey, LiDAR scanning, and SUE.
10/18-04/19	Project Manager.
	H.012735.5: LA 182 Barrow Street Bridge. SJB Group was contracted to provide a topographic survey and subsurface
04/19-08/19	utility engineering Quality Level B for design. The purpose of this project was to replace a bridge structure located at the
	intersection of Park Avenue and Barrow street in downtown Houma. Project Manager.
08/19 – 11/19	H.011645.5: LA 3002 Access Management – Mobile LiDAR Scanning. Project Manager
01/20-08/20	H.010652.5: LA 73: US 61 (Airline) – Essen Lane – Topographic Survey and Mobile LiDAR Scanning. Project Manager.
	H.000284.5: US 90: Pearl River Bridges (HBI). Topographic survey and Mobile LiDAR Scanning along US 90 and west of Pearl
04/20 – 06/20	River in St. Tammany Parish. The project began 3,000 feet west of the intersection between US 90 and US 190. The total
	distance of the survey once complete was 4,000 miles. Project Manager.
04/20 11/20	H.000688.5: US 11 Norfolk Southern RR Overpass (HBI). This project included topographic survey and mobile LiDAR
04720 - 11720	scanning in St. Tammany Parish along US 11 between I-12 and US 190. Project Manager.
04/21 06/21	H.014322: Centurion over Drainage Bayou (Prime: Monroe & Corie). This project included topographic survey in East Baton
04/21 - 00/21	Rouge Parish – Centurion over Drainage Bayou. Project Manager.
	H.009300.5: Hooper Road Widening (LA 3034 – LA 37). SJB performed a topographic survey, subsurface utility engineering,
04/21 07/21	and an update of an existing drainage map for a one mile stretch of LA Hwy 408. The topographic survey was an update to a
04/21 - 0//21	survey done previously by SJB and included locating and verifying all changes to the one mile site since the previous
	survey was completed. Project Manager.

Firm employed by SJB									
Name Trenton	lglehart			Years of relevant experience with this employer 7					
Title Survey				Years of relevant experience with other employer(s)	14				
Degree(s) / Years	s / Specialization		N/A						
Active registration	on number / state / ex	piration date	N/A						
Year registered	N/A	Discipline	N/A						
Contract role(s) / responsibilities	brief description of		Survey. Trenton has over twenty years combined experience as a project manager and CAD technician. He has been involved in a variety of projects involving ASCE 38-02 standards, boundary, topographic, hydrographic, right-of-way, and construction stakeout surveys. He is a scanner technician for 3-D scanning, mobile LiDAR, terrestrial scanning, and aerial LiDAR. He has obtained his drone pilot's license and is endorsed by the Unmanned Safety Institute for the safe operation of unmanned geospatial systems.						
Experience dates (mm/yy– mm/yy)	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).								
04/20 – 11/20	H.000688.5: US 11 Norfolk Southern RR Overpass (HBI). This project included topographic survey and mobile LiDAR scanning in St. Tammany Parish along US 11 between I-12 and US 190. CAD Technician.								
09/13-07/14	H.009300: Hooper R widening Hooper R for a distance of at	Road Widenir d. (LA 408) in E bout 2.95 miles	1g. A topograj East Baton Rou . CAD Technic	phic survey and Quality Level D SUE provided uge Parish from Sullivan Road (LA 3034) to Gr cian.	by SJB in preparation for eenwell Springs Road (LA 37)				
09/13-09/14	H.010443: LA 308 Parish along LA Hw	Curve Realign /y 308 in prepa	and Shoulde	e rs. A topographic survey and Quality Level C urve Re-Alignment and Shoulder improvemen	SUE were done in Assumption Its. CAD Technician.				
02/15 – 04/16	 H.011137 and H.011152: I-12 (LA 21 to US 190) & I-12 (US 190 to LA 59). SJB Group was a prime on the I-12 (LA 21 to US 190) & I-12 (US 190 to LA 59) and did Topographic Survey alongside Lazenby. SJB Group contracted Cardno as a sub to do the SUE work on this project. CAD Technician. 								
04/15 – 04/16	04/15 – 04/16 H.011298.5: US 90 Captain Cade to Ambassador Caffery Frontage Road. A topographic survey was done alongside a proposed route along the East and West side of US 90. This survey was located in Lafayette, St. Martin, and Iberia Parishes between Youngsville and Broussard, LA. CAD Technician.								
06/15 – 08/15	 H.011720: US 90 Drainage Canal Erosion Repair. A complete topographic survey including all utilities with depths and all drainage was done in Terrebonne Parish along a portion of the existing route of US 90 and the drainage canal bridges. CAD Technician. 								
11/15 – 11/15	11/15 – 11/15 H.000872.5: Ragley-Longville LA-US 171 ROW – Property and Boundary Surveys, Right-of-Way Maps and Title Take-Offs. CAD Technician.								
12/16 – 01/17 Bootlegger Road Survey for Stanley Consultants – Topographic and Boundary Survey performed in St. Tammany Parish as a sub to Stanley Consultants. The Topographic survey project area was Ochsner Blvd to LA Hwy 21. A boundary survey									

of right-of-way and adjoining property lines within the project area and right-of-way survey maps to facilitate right-of-way
acquisition. CAD Technician.
Ward Creek Multi-Use Trails: Bluebonnet Segment – Boundary and Topographic survey. CAD Technician.
Kinder Morgan Geismar Terminal Pipeline – Mobile LiDAR Scanning and Photogrammetry. CAD Technician.
BREC Burbank Park – LiDAR Scans and aerial photography to investigate drainage problems. CAD Technician.
East Baton Rouge ADA Self Evaluation Plan for Public – Mobile LiDAR Scanning and Photogrammetry. CAD Technician.
H.012735.5: LA 182 Barrow Street Bridge. SJB Group was contracted to provide a topographic survey and subsurface
utility engineering Quality Level B for design. The purpose of this project was to replace a bridge structure located at the
intersection of Park Avenue and Barrow street in downtown Houma. CAD Technician.
H.012083: Bridge Over Calcasieu River – Lake Charles, Louisiana – Topographic Survey and Mobile LiDAR Scanning.
CAD Technician.
H.004791.5: LA 23: Belle Chasse Bridge & Tunnel (HBI) – Topographic Survey. CAD Technician.
H.000284.5: US 90: Pearl River Bridges (HBI). Topographic survey and Mobile LiDAR Scanning along US 90 and west of
Pearl River in St. Tammany Parish. The project began 3,000 feet west of the intersection between US 90 and US 190. The
total distance of the survey once complete was 4,000 miles CAD Technician.
17-CS-CI-0020: MovEBR ADA Compliance – East Baton Rouge Parish – LiDAR and GIS. CAD Technician.
H.010885.5: LA 91: Bayou Plaquemine Brusly Bridge Replacement – Topographic Survey. CAD Technician.
20-CP-HC-0032: MovEBR Nicholson Segment 2 – Topographic Survey & scanning, property and right-of-way survey, and
subsurface utility engineering. CAD Technician.
H.009300.5: Hooper Road Widening (LA 3034 – LA 37). SJB performed a topographic survey, subsurface utility
engineering, and an update of an existing drainage map for a one mile stretch of LA Hwy 408. The topographic survey was
an update to a survey done previously by SJB and included locating and verifying all changes to the one mile site since the
previous survey was completed. CAD Technician.





GEC

Bridge Reconstruction over Ward's Creek and Old Ward's Creek on Highland Road (LA 42) Improvements

17. Firm Experience:

Firm name	AECOM			Past Perf	ormance Eval	uation Discipline	e(s)* Road, Bridge	& Traffic
Project name	name LA 23 Bridge over Mid Barataria Sediment Diversion Firm responsibility (prime or sub?)							
Project number	BA-0153		Owner's name	Coasta	I Protection a	nd Restoration A	uthority, State of L	ouisiana
Project location	ation Plaquemines Parish					ject Manager		
Owner's addres	s, phone, email 1	50 Terra	ce Ave., Baton R	ouge, LA, P	hone: 225.34	2.7308, bradley.	barth@la.gov	
Services commenced by this firm (mm/yy) 01/17				Total consultant contract cost (\$1,000's)			\$39,223	
Services completed by this firm (mm/yy) Ongoing (Cost of consultant services provided by this firm (\$1,000's)			\$15,689	

Firm Members Involved: D. Boyd, C. McKown, J. McDowell

AECOM is the lead designer for the \$1.4 Billon Construction Management at Risk (CMAR) project to build a sediment diversion channel between the Mississippi River and Barataria Bay. The project features include a Mississippi River Intake, four-lane Hwy 23 bridge, **and a two-track Class I Railroad bridge**, conveyance channel, earthen levees and floodwalls, a 750-cfs inverted siphon bank, miscellaneous facility buildings, and marsh creation areas to be constructed using excess, excavated earthen materials.

The four-lane highway will be relocated onto a new 2,300-foot-long prestressed concrete girder bridge structure within the existing highway right-of-way. Two-way, two-lane frontage roads will be constructed within the limits of the bridge structure to maintain access to the adjacent properties. *AECOM is responsible for the planning, preliminary design, and final design of the bridge and*

Project Relevance to US 190

- NEPA Coordination
- RR Design, Coordination and Safety Requirements
- Roadway/Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- Retaining Wall Design
- LG Girder Design



its approaches along with the roadway modifications and traffic control plans during the construction of the bridge. AECOM also performed a traffic analysis for inclusion into the Environmental Impact Statement and Basis of Design report.

The project is being designed at a co-location office with weekly design meetings between AECOM, the CMAR contractor, and the Owner Program Management Team to tailor the designs to CMAR's means and methods and include CMAR suggestions for improvements in constructability. At submittal milestones, cost estimating reconciliation meetings are held with CMAR and Independent Cost Estimator to identify and resolve estimating differences. The design is being coordinated with DOTD, the NOGC Railroad, affected utilities, and the adjacent PLT facility design staff to confirm interfaces between the project and other projects and existing

conditions are properly resolved in a satisfactory manner. The project is currently the largest project in the State of Louisiana that is utilizing the CMAR project delivery method as enabled by state legislation and implemented using the DOTD CMAR Manual.

Firm name	AECOM		Past F	Past Performance Evaluation Discipline(s)* Road, Bridge, Traffic, S						Survey & Environmental
Project name	South Academy Boulevard Widening						Firm responsibility (prime or sub?) Prime			
Project number	r N/A	Owner's nar	ame El Paso County – Department of Public Works							
Project location	on El Paso County, CO					Owner's Pro	ject Manage	er Bi	rett Hartzell	
Owner's address, phone, email 3275 Akers Dr, Colorado Springs, Colorado 80922, Phone: 719.217.4263, bretthartzell@e						@elpasoco.com				
Services commenced by this firm (mm/yy) 05			05/20	Total consultant contract cost (\$1,000's)			\$1,900			
Services completed by this firm (mm/yy) 1			10/21	Cost of consultant services provided by this firm (\$1,000's)			\$1,500			
irm Members Involved: G. Maii, C. McKown										

AECOM is performing a roadway widening and bridge rehabilitation design for a 1.3-mile segment of South Academy Boulevard in Colorado Springs, Colorado. This urban arterial corridor segment has seen increased traffic growth over the past 10-years and has inadequate roadway capacity. As part of this reconstruction project, the AECOM team performed multi-disciplinary design services that included topographic design survey, right-of-way design, utility and geotechnical investigations, roadway, bridge, traffic and drainage/hydraulic design.

Structure design required bridge preservation design services for (3) pairs of bridges along the corridor and the construction of new noise wall structures. These twin bridge structures crossed Fountain Creek, US 85, BNSF Railway and Bradley Road. As part of the bridge preservation efforts, the AECOM team perform detailed bridge inspections, non-destructive deck investigations and prepared a life-cycle cost analysis report to evaluate bridge replacement vs bridge rehabilitation.

Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway/Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- Retaining Wall Design
- Bridge Assessment/Inspection



The 800-ft, 6-span, steel plate girder bridge over BNSF tracks required extensive BNSF Railway design coordination to obtain railroad right-of-entry and submit design packages developed in accordance with the UPRR/BNSF Grade Separation Guidelines. This steel structure required the AECOM team to perform a fatigue assessment and load rating analysis to develop retrofits for fatigue prone details and identify expansion joint and bearing repair/replacement details to extend the bridge design life. The South Academy Boulevard Bridges over Fountain Creek also required detailed bridge hydraulic modeling to evaluate the existing and proposed bridge scour mitigation requirements.

Firm name	G.E.C., Inc.		P	Past Perfo	ormance Eval	uation Discipline	e(s)*	Road, Bridge		
Project name	US 71/165 Fort Buh	Overpas	S	Firm responsib	oility (p	orime or sub?)	Prime			
Project number	r 700-28-0004		Owner's r	name	LADOT	D				
Project location	n Alexandria/Pineville, Louisiana					Owner's Pro	ject Manager	Joe	chim Umeozulu	, PE
Owner's addres	Owner's address, phone, email 1201 Capital Access Road, Baton Rouge, LA 70804, (225) 379-1386, umeozulu@la.gov									
Services commenced by this firm (mm/yy) 09/95 Total				consulta	nt contract c	ost (\$1,000's)			\$ 9,400	
Services completed by this firm (mm/yy) 06/13 Cos					Cost of consultant services provided by this firm (\$1,000's) \$9,000			\$ 9,000		
irm Members Involved: C. Bourgeois, K. Behello, V. Venkata										

GEC performed the structural design and developed construction plans for a bridge over the Kansas City Southern (KCS) Railroad at Fort Buhlow. The bridge consists of twin spans (northbound and southbound) with a length of 1200 feet. Each bridge has a constant deck roadway width of 40 feet. The deck is supported by 6 parallel AASHTO Type IV girders and spans are either 2-span continuous units or simple spans varying in length from 95 feet to 100 feet. *The span across the KCS Railroad is a simply-supported skewed span, 100 feet in length and provides a minimum vertical clearance of 23'-9" above the railroad track.* The span also provides space for a 22'-0" wide future railroad access road. GEC also provided construction support for the project which included responding to RFIs, shop drawing and bridge component submittal reviews, and assisting the Contractor with ensuring that the railroad use was not impacted during construction.

Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- ROW on Adjacent Roadway/Property
- ✓ Vertical Clearance Issues
- Pre-stressed Girder Design



Firm name	AECOM			Past Perf	ormance Eval	uation Discipline	(s)* Road, Bridge,	Traffic & Geotech
Project name	name SH 130 Concession Toll Road and Facility Design					Firm responsibi	lity (prime or sub?)	Prime
Project number	r N/A		Owner's nam	e TxDOT				
Project location	Project location Travis and Caldwell Counties, TX					ject Manager	Ben Engelhardt, P	E
Owner's address, phone, email TxDOT Austin District, 7901 N. IH 35, Austin, TX 78753 Phone: 830.481.0743								
Services commenced by this firm (mm/yy) 08/07			08/07	Total consultant contract cost (\$1,000's)			\$927,000	
Services completed by this firm (mm/yy) 10/12				Cost of consultant services provided by this firm (\$1,000's)			\$22,288	
Firm Members /	irm Members Involved: P. Havs. G. Chang							

This project is a 26-mile extension of SH 130 from Mustang Ridge (SH 45 SE interchange) to the San Marcos River. *The project included 51 bridges*, including multi-level interchanges at SH 45 SE and US 183 and underpass bridges at CR 222, Plum Creek turnaround, and CR 218. Also included were overpass bridges at Union Pacific Railroad, Maha Loop, Laws Road, and SH 142, and creek crossings at Maha Creek, Plum Creek, Clear Fork Creek, and Dickerson Creek. *A featured set of 4 overpasses at the UPRR in Lockhart, Texas required extensive coordination. Our Project Manager Patrick Hays led all aspects of the structure design services for bridges, retaining walls, box culverts, high-mast lighting, sign structures, toll gantries, and other miscellaneous structures.* Organized, led, and coordinated the activities of seven structures design teams located across the country. Coordinated directly with CTxHC design and construction staff regarding corridor wide structures project issues, and responsible for the resolution of all comments received on bridge and retaining wall submittals.

Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ✓ ROW on Adjacent Roadway/Property
- ✓ Vertical Clearance Issues
- Retaining Wall Design
- Pre-stressed Concrete and Steel Girder design


Firm name	G.E.C., Inc.			F	Past Performance Evaluation Discipline(s)* Road, Road					
Project name	Highland Road (LA 42) Impro	ovements (Perkir	ns to Airli	ine)	Firm responsib	oility (p	orime or sub?)	Prime
Project number	06-CS-HC-00)26	Owner's r	name	City-Pa	rish of East B	aton Rouge			
Project location	n Baton Rouge,	Louisiana				Owner's Pro	ject Manager	Brya	n Harmon	
Owner's addres	ss, phone, email	PO Box 147	1, Baton Ro	ouge, L	A 70821	, (225) 389-3 ⁻	186			
Services comm	nenced by this firr	n (mm/yy)	2006	Total	consulta	nt contract c	ost (\$1,000's)			\$ 1,213
Services completed by this firm (mm/yy) 2011 Cost of						ltant services	provided by thi	s firm	(\$1,000's)	\$ 1,213
Eirm Momboro I	nyolyody V Vonk	ata								

Firm Members Involved: V. Venkata

For this Green Light Plan project, GEC designed additional lanes and a raised median for Highland Road from Perkins Road to Airline Highway. The project required new bridge crossings at both Ward's Creek and Old Ward's Creek and tied to completed intersection improvements at Perkins Road and at Airline Highway. There was also an at-grade railroad crossing with the Kansas City Southern Railroad. The bridges are 240' (6 spans at 40') and 160' (4 spans at 40') in length respectively composed of quad beams on 24" pile bents all designed from AASHTO LRFD. GEC's contract responsibilities included the design and detail of the roadway and bridges, topographic survey, right-of-way maps, environmental permitting, coordination with railroad and utilities and hydraulic analysis.

GEC conducted an Environmental Site Assessment (ESA) and a wetland

Project Relevance to US 190 NEPA Coordination

- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- Retaining Wall Design
- Pre-stressed Girder Design



delineation. The ESA was performed in accordance with the scope and limitations of ASTM E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. In order to characterize environmental conditions for the project GEC: (1) reviewed federal, state, and local environmental databases; (2) conducted historical research; (3) interviewed pertinent personnel; and (4) performed a site investigation. This assessment revealed no recognized environmental conditions (RECs) on or in the vicinity of this project.

The wetland delineation was conducted in accordance with Section D, Subsection 2 of Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual as well as the Atlantic and Gulf Coastal Plains Regional Supplement. The results of the delineation were compiled in a formal report and submitted to the New Orleans District, Corps of Engineers for an approved Jurisdictional Determination.

Firm name	AECOM		Past Performance Evaluation Discipline(s)* Bridge and					vironmental
Project name	I-49 Lafayette Connector, L	afayette, LA			Firm responsib	ility (p	rime or sub?)	Prime
Project number	r H.004273	Owner's name	e LADOT	D				
Project location	n Lafayette, LA			Owner's Pro	oject Manager	Tim N	lickel, PE	
Owner's addres	ss, phone, email PO Box 942	45, Baton Roug	je, LA 7080	4-9245 Phon	e: 225.379.1110) Email	: timothy.nicke	el@la.gov
Services comm	nenced by this firm (mm/yy)	07/15 T	Total consultant contract cost (\$1,000's)					\$32,000
Services comp	leted by this firm (mm/yy)	Ongoing C	Cost of consultant services provided by this firm (\$1,000's) \$11,300					\$11,300
Filmer Manager Islands	www.headh.i.M.D.w.w.W.O.M.*.	1/- 1- 1 +						

Firm Members Involved: J. McDowell, G. Maji, C. McKown, S. Voisinet

The 5.5-mile I-49 Lafayette Connector project is one of the largest undertaken by the DOTD, with an estimated construction cost of \$1.3B. AECOM's roles include structure design, supplemental EIS evaluations, cultural resource services, updating the Standing Structures Inventory and the Sec. 106 consultation process, a context sensitive solution (CSS) design process, railroad coordination, and a project implementation plan.

As the structural engineers on the consultant team, *AECOM's Structure Task Lead, Gary Maji*, is responsible for the design and coordination of all structural design, including a 2-mile continuous elevated six-lane interstate viaduct with signature feature bridge components. Other structure requirements along the corridor include (2) new grade-separated interchanges at Kaliste-Saloom and University/Surrey, I-49 and University Bridges over the Vermillion River and the development of over (25) retaining and noise wall structures. *Design work also required the development of conceptual railroad design submittals for (2) grade separations at BNSF and LDRR*. These submittals were led by *AECOM's Railroad Coordinator, Jonathan McDowell*.

Project Relevance to US 190

- NEPA Coordination
- RR Design, Coordination and Safety Requirements
- Phased Construction with MOT
- ROW on Adjacent Roadway/Property
- ✓ Vertical Clearance Issues
- Retaining Wall Design
- Replacement Structures
- Pre-stressed and Steel Plate Girder Design



Initial scope included an environmental re-evaluation of the 2003 Record of Decision (ROD) selected alternative, preliminary design using a CSS process implementation approach, and alternative delivery evaluations. During the stakeholder outreach process, the project team confirmed required modifications to the selected alternative which warranted the development of additional design and alternative evaluation refinements. These alternatives were vetted through a robust Concept Refinement Process (CRP), similar to a PEL Study, that required intense stakeholder and public involvement and will be analyzed in a Supplemental EIS (SEIS) to be prepared by AECOM. Continuing tasks include the NEPA analysis, CSS process, and completing preliminary design. After completing the Functional Plan, under Phase II, the consultant team will prepare the construction documents, prepare permits, assure the environmental commitments, and complete work in preparation for construction.

Firm name	AECOM			Past Performance Evaluation Discipline(s)* Road, Bridge					& Traffic
Project name	US 50 East & W	est over BNS	F Railway			Firm responsib	oility (p	orime or sub?)	Prime
Project number	· N/A		Owner's nam	e CDOTF	Region 2				
Project location	n Primrose Cou	unty, Colorado	C		Owner's Pro	ject Manager	Crai	g Wieden, PE	
Owner's addres	ss, phone, email	5615 Will Bo	oulevard, Pueb	lo, CO 8100	8, Phone: 303	3.398.6501, craig	g.wied	den@state.co.u	JS
Services comm	nenced by this firm	m (mm/yy)	03/12	Total consu	Iltant contrac	t cost (\$1,000's)			\$500
Services comp	leted by this firm	(mm/yy)	09/13	Cost of con	sultant servio	ces provided by	this fi	rm (\$1,000's)	\$500
Firm Members I	nvolved: G Maii								

On the US 50 East & West project, AECOM provided multi-disciplinary preliminary and final design engineering, and construction support services for the construction of a new bridge and roadway alignment across BNSF Railway tracks for the CDOT Region 2 Lamar Residency. The project included a roadway alignment study to confirm the preferred alignment for the reconstruction of the new US 50 overpass. This blended-team project included the reconstruction of 0.8 miles of US 50 and required two new concrete box culverts and a 332-ft, 3-span bridge over BNSF right-of-way. Extensive stakeholder coordination was required to facilitate the NEPA process and maintain schedule. *The design team used the UPRR/BNSF RR Grade Separation Guidelines to initiate, submit and facilitate the railroad submittal and approval process.*



Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway/Traffic Design
- Phased Construction with MOT
- ✓ ROW on Adjacent Roadway/Property
- Retaining Wall and Concrete Box Culvert Design
- Prestressed Concrete Girder Design

Firm name	G.E.C., Inc.				Past Perf	ormance Eval	Road, Bridge				
Project name	I-10 Service Roa					Firm responsib	ility (p	prime or sub?)	Prime		
Project numbe	r N/A)wner's	s name	St. Tammany Parish Government							
Project location	n Slidell, Louisia	ina				Owner's Project Manager Christopher Coervers					
Owner's addre	ss, phone, email	21490 Koop	Drive, Ma	andevi	ille, LA 704	471, (985) 898	3-2700				
Services comn	nenced by this firn	n (mm/yy)	11/18	Tota	al consulta	sultant contract cost (\$1,000's)				\$ 248	
Services completed by this firm (mm/yy) 06/21 Cost of cons						ltant services	provided by this	s firm	(\$1,000's)	\$ 248	
Cirror Manahara I	muchued C Pour	Dahalla	V/Vanka	to C Ninner							

Firm Members Involved: C. Bourgeois, J. Lohmann, K. Rebello, V. Venkata, C. Nipper

GEC designed improved drainage, new approach roads, and upgrades to two bridges to meet current standards with increased lifespan. For the project, part of a \$30M Bond Package, GEC completed preliminary and final plans with LRFR as-designed bridge rating for two (2) bridge sites in accordance with the LADOTD Bridge Design and Evaluation Manual on the I-10 Service Rd. in Slidell, Louisiana – one at Reine Canal and one at French Branch.

Project Relevance to US 190

- Roadway Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- Pre-stressed and Steel Plate Girder Design

GEC was responsible for the vertical alignment, proposed length of the bridges, placement of the new bridges, and guardrail design. GEC staff also designed the new roadway approaches to the new

bridge and calculated quantities and estimated construction costs. GEC designed the mill and overlay of the entire roadway, along with calculating the associated quantities. In addition, GEC performed a hydrologic and hydraulic analysis, including viable drainage alternates for the site. The design was in compliance with the LADOTD Hydraulics Manual as modified by the LADOTD's Hydraulics Guidelines for Off-System Bridges. GEC provided all environmental and permitting services for Wetland permits (404 and Nationwide) and Section 10 permits from USACE,



in addition to a Coastal Use Permit from Louisiana Department of Natural Resources.

GEC provided construction engineering and inspection services for the reconstruction of the approach slabs, drainage improvements, and milling and overlay for the roadway between the structures. Construction was completed in summer 2021.

Firm name	AECOM			Pa	ast Performance Evaluation Disc	Road, Bridge, Traffic & G	eotech	
Project name	SH 161, Preside	ent George B	ush Tollway ((PGB ⁻	T) Western Extension (WE)	Firm resp	onsibility (prime or sub?)	Prime
Project number	r		Owner's nan	ne	North Texas Tollway Authority	(NTTA)		
Project location	n Grand Prairie,	TX		Owr	ner's Project Manager	Elizabeth N	low, PE, Director of Infras	tructure
Owner's addres	ss, phone, email	5900 West I	Plano Parkwa	y, Pla	no, Texas 75093 Phone: 972-8	18-6882 Ei	nail: elizabeth.mow@NTT	A.org
Services comm	nenced by this firr	m (mm/yy)	08/09	Tota	al consultant contract cost (\$1,0	000's)		\$29,900
Services comp	leted by this firm	(mm/yy)	10/10	Cos	st of consultant services provide	ed by this fi	rm (\$1,000's)	\$425,000
Firm Members I	nvolved: P. Havs	G. Chang						

This project consists of a 6.5-mile extension of the SH 161 toll facility from IH-20 to IH-30 including major multi-level interchanges at I-20 and I-30. *Our Project Manager Patrick Hays supervised eight design teams in multiple locations for the delivery of the bridge and wall engineering scope. The project designed 44 bridges, including underpass bridges at Jefferson Street, Union Pacific Railroad, and Tarrant Road, constructed using a top-down approach.* The project also included overpass bridges and creek crossings at Fish Creek, Kirby Creek, and Cottonwood Creek. The IH-30 interchange featured a cut and cover box structure for a depressed direct connector (WB to NB) located in very tightly constrained conditions. The retaining walls included MSE walls in cut and fill sections, drilled shaft (cantilevered and tieback) walls, tieback walls, and cast-in-place walls in cut sections with space constraints. All retaining walls were designed and constructed in challenging expansive clays and eagle ford shale. The project included the incorporation of aesthetic OSB, COSS, and toll gantry structures, compliant with the NTTA aesthetic guidelines and standards. Responsible for the preparation of formal responses and resolution of comments received from the NTTA & TxDOT staff.

Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- Vertical Clearance Issues
- Retaining Wall Design
- Pre-stressed Concrete and Steel
 Plate Girder Design



Firm name	G.E.C., Inc.			Past Performance Evaluation Discipline(s)* Road, Bridge						
Project name	Bluebonnet Blv	d. (Perkins R	oad to Picardy	v Avenue)		Firm responsibility (prime or sub?) Prime				
Project number	r 19-CP-HC-00)34	Owner's nam	e City-Pa	rish of East B	aton Rouge				
Project location	n Baton Rouge,	Louisiana			Owner's Pro	ject Manager	Tom	n Stephens		
Owner's addres	ss, phone, email	PO Box 147	1, Baton Roug	e, LA 70821	, (225) 389-3 ⁻	186, tstephens@) brla.	gov		
Services comm	nenced by this firr	n (mm/yy)	09/20	Total consu	Iltant contrac	t cost (\$1,000's)			\$ 1,885	
Services completed by this firm (mm/yy) Ongoing Cost of					sultant servio	ces provided by	this fi	irm (\$1,000's)	\$ 995	
Firm Mombore I	nyolyod C Bour	la V Vanka	to A Niccon	C Ninnor						

Firm Members Involved: C. Bourgeois, J. Lohmann, K. Rebello, V. Venkata, A. Nissen, C. Nipper

Avenue, along with redesigning the existing bridges over Dawson Creek. GEC completed a design

subsurface drainage, green infrastructure and pedestrian facilities. GEC's design is in accordance

with MOVEBR Design Guidelines and Consultant Services Manual. GEC's design study included

study and is currently in the final design phase for a six-lane boulevard, curb and gutter roadway with

GEC was selected by the City-Parish of East Baton Rouge to design an additional lane in each direction on Bluebonnet Blvd., currently a four-lane roadway between Perkins Road and Picardy

Project Relevance to US 190

- Roadway Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- Retaining Wall Design
- Pre-stressed Girder Design

preliminary horizontal/vertical alignments and intersection geometry based on LIDAR information. GEC provided a hydraulic analysis for Dawson Creek Bridge replacement and a study of the existing bridge over Dawson Creek to determine whether the bridge should be widened or replaced in accordance with Part 1, Chapter 6 of the LADOTD BDEM. GEC performed an NBIS bridge inspection to determine Condition Ratings for the bridge superstructure, substructure, and piles. A Bridge Load Rating was then carried out based on the AASHTO Manual of Bridge Evaluation and the LADOTD BDEM. Based on the load rating, GEC recommended that the existing bridge be replaced and is currently performing design and construction plan development of the replacement bridges.



The bridge design will incorporate a construction phasing that ensures 2-lanes of traffic at all times in both directions. The temporary traffic lanes will be 11'-0" wide and no shoulders will be provided. Phasing will be as follows: <u>Phase I</u>: Construction of a bridge in the median between the 2 existing bridges. <u>Phase II</u>: Demolition and re-construction/widening of the existing southbound bridge after southbound traffic is re-directed on to the median bridge. <u>Phase III</u>: Demolition and re-construction/widening of the existing northbound bridge after moving southbound traffic on to the new southbound bridge and re-directing northbound traffic on to the median bridge.

GEC will also provide a complete analysis of the existing drainage system to determine its adequacy and necessary modifications following completion of a topographic survey. GEC is participating in public and other agency meetings, including bi-weekly status meetings.

Firm name	AECOM		Past Perform	Past Performance Evaluation Discipline(s)* Road, Bridge, Traffic, S						rvey & Environmental
Project name	Project name Lemay Re-Alignment over Vine Drive and BNSF Ra						Firm resp	onsib	ility (prime or sub?)	Prime
Project numbe	r N/A		Owner's nam	e Ci	ity of F	ort Collins				
Project location	n Fort Collins, C	0				Owner's Pro	ject Manag	ger	Tim Sellers, PE	
Owner's addres	ss, phone, email	281 North C	ollege Ave, Fo	rt Colli	ins, CC); 80524; Pho	one: 720.28	30.69	26; tsellers@fcgov.a	com
Services comm	nenced by this firr	m (mm/yy)	03/12	Total c	otal consultant contract cost (\$1,000's) \$2,500					\$2,500
Services completed by this firm (mm/yy) 12/21 Cost of co					of cons	sultant servic	es provide	ed by	this firm (\$1,000's)	\$2,200
Firm Members Involved: G Maii S Voisinet										

This project addresses safety and capacity through the construction of a new bridge over Vine Street and the BNSF Railroad tracks in northeast Fort Collins. AECOM has been continually providing planning and design services to evaluate alternatives, provide environmental evaluation and permits, and advance the project through final design and construction while engaging the public at each step. Since 2015, AECOM has worked with the City to make bring this conceptual dream to a reality.

As part of the design development, AECOM provided multi-disciplinary design services to including roadway, bridge, traffic, and drainage/hydraulic design services. *Through the preliminary design, the AECOM team supported the environmental permitting, developed USACOE NWP 404 submittals and coordinated with the BNSF RR in accordance with the UPRR/BNSF RR Grade Separation Guidelines.* During the final design efforts, AECOM met with the client to evaluate

Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- ✓ Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- Retaining Wall Design
- ✓ Prestressed Concrete Girder Design

alternative delivery opportunities to expedite schedule and promote innovation. As a result, AECOM entered into a Construction Maintenance at Risk (CMAR) contract with the City to deliver the final design documents, including the final design submittal packages to the BNSF RR. This effort expedited the final design and construction schedule allowing the Contractor to substantially complete this \$30M project within 10



months.

Firm name	AECOM		F	Past Performance Evaluation Discipline(s)* Road, Bridge, Traff					Geotech
Project name	US 183 Sout	(Bergstrom E	kpressway) Desig	gn-Bui	ld	Firm resp	onsi	bility (prime or sub?)	Prime
Project numbe	r N/A		Owner's name	Cent	ral Texas Regional Mol	oility Autho	rity		
Project location	n Austin, TX			Owner's Project Manager Mike Sexton, PE, Director				Engineering	
Owner's address, phone, email 3300 North IH-35, Suite 30					, Texas 78705 Phone:	512-996-9	778	Email: michael.sexton@	ctrma.org
Services comm	nenced by this	firm (mm/yy)	08/15		Total consultant cont	ract cost (\$	61,0	00's)	\$8,600
Services completed by this firm (mm/u) 10/16 – Desig					Cost of consultant convision provided by this firm		d by this firm (\$1,000's)	¢742000	
Services completed by this firm (mm/yy) 06/21 – Const					COST OF CONSULATE SE	i vices pi ov	nue	u by this hill (\$1,000 S)	<i>φ143</i> ,000

Firm Members Involved: P. Hays

This \$860 million design-build project will completely reconstruct US 183, and all related crossing facilities from US 290 to SH 71. The Bergstrom Expressway project includes three new tolled lanes and three improved non-tolled general- purpose lanes in each direction. The facility also includes new bicycle lanes, sidewalks, and shared use paths for pedestrians and cyclists. *Our Project*



Manager Patrick Hays was responsible for leading the bridge discipline for the delivery of construction documents for this 9-mile long, toll facility, from the US 290 East Toll Interchange to the SH 71 Interchange. Supervised six bridge teams for the delivery of \$4.2 million of bridge engineering scope. The project involves the design of 38 bridges, including complex interchanges at the Colorado

River (Airport Boulevard/7th Street/5th Street) and at SH 71. *Also featured are twin overpasses at the Capital Metro Transit Authority Railroad and Boggy Creek that required extensive coordination with the CMTA.* Responsibilities also include continuous coordination with the contractor team, other discipline leads, and design manager.

Project Relevance to US 190

- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ✓ ROW on Adjacent Roadway/Property
- Vertical Clearance Issues
- Retaining Wall Design
- Pre-stressed Concrete and Steel Girder Design

Firm name	G.E.C., Inc.			I	Past Performance Evaluation Discipline(s)* Road, Bridg					
Project name	US 71/165 Fort	Buhlow Brid	ge and App	oroacl	nes		Firm responsib	oility (p	orime or sub?)	Prime
Project number	700-28-0004		Owner's n	ame	LADOT	D				
Project location Alexandria/Pineville, Louisiana						Owner's Pro	ject Manager	Joe	chim Umeozulu	I, PE
Owner's addres	ss, phone, email	1201 Capita	I Access R	oad, B	Baton Rou	ige, LA 70804	, (225) 379-1386	6, um	eozulu@la.gov	
Services comm	nenced by this firm	n (mm/yy)	09/95	Total	Total consultant contract cost (\$1,000's)					\$ 9,400
Services completed by this firm (mm/yy) 06/13 Co					of consu	Itant services	provided by this	s firm	(\$1,000's)	\$ 9,000
Firm Members I	kata									

GEC was under contract with LADOTD to complete all project development activities for this Red River Bridge replacement project. Work efforts included feasibility, line and grade, traffic studies, an environmental assessment (EA), and preliminary and final bridge and roadway plans. GEC performed a bridge study which involved preliminary design of plans and sections for a new bridge spanning the Red River. Alternate designs utilizing precast, pre-stressed concrete girder spans, steel girder spans, and segmental concrete box girder spans were developed. Based on the bridge study and in conjunction with LADOTD, a bridge configuration for final design was chosen.

The final bridge design consists of twin bridges, approximately 3005 feet long, crossing the Red River in the northbound and southbound directions of US 71/165. The final design uses a combination of Type BT pre-stressed girder spans, simple steel plate girder spans, and threespan continuous steel plate girder units spanning the Red River. The simple span steel girder bridge is 225 feet long, has a girder web depth of 8 feet, and crosses an existing levee.

Project Relevance to US 190

- NEPA Coordination
- RR Design, Coordination and Safety Requirements
- Roadway and Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ✓ Retaining Wall Design
- Pre-stressed and Steel Plate Girder Design



The actual Red River Crossing is accomplished with the three continuous steel spans of 300 feet, 400 feet, and 300 feet. In plan, girders transitioned from a parallel straight girder configuration to a curved splayed configuration. Girder web depths were set at approximately 12 feet. Specially designed rocker bearings help accommodate bridge movements. The main river supports consist of column bent caps founded on single massive continuous piers supported by an array of 188, 24" diameter steel pipe piles. The Red River spans provide a minimum navigational vertical clearance of 52 feet above the 2% flow line. In addition to preparing detailed construction documents for the Red River Bridge replacement project, GEC also provided construction support for the project. This support included responding to RFIs, shop drawing and bridge component submittal reviews, and assisting the Contractor with overcoming unexpected detrimental field conditions. Construction of the Red River Bridge project at Fort Buhlow was completed successfully in 2013.

Firm name	AECOM			Past Perf	ormance Eval	e(s)* Road, Bridge	, Traffic & Geotech	
Project name	LBJ East (I-635)	Design Build	d			Firm responsib	ility (prime or sub?)	Prime
Project number	r N/A		Owner's nam	e Texas [Department o	f Transportation	, Dallas District	·
Project location			Owner's Pro	oject Manager	Grace Lo, PE			
Owner's addres	ss, phone, email	4777 E. High	nway 80, Mesc	uite, TX 75´	150-6643 Pho	one: 214-320-61	00 Email: grace.lo@)txdot.gov
Services comm	nenced by this firr	n (mm/yy)	08/19	Total consu	ultant contrac		\$105,000	
Services comp	10/20	Cost of cor	nsultant servio	ces provided by	this firm (\$1,000's)	\$1,734,000		
Eirm Momboro I	Involved D Pove		ave C Mekey	n C Vaiain	at C Chang			

Firm Members Involved: D. Boyd, G. Maji, P. Hays, C. McKown, S. Voisinet, G. Chang

This \$1.73 billion dollar design-build project will completely reconstruct I-635/LBJ Freeway from US 75 Central Expressway thru the I-30 Interchange in East Dallas. Our **Project Manager Patrick Hays led the structures discipline for the delivery of bridge design** for this 11-mile-long facility. He supervised 13 bridge teams for the delivery of over \$20 million of bridge design scope. The project involved the design of 61 bridges, including a complex interchange at I-30 as well as a 300 ft long tied arch structure carrying Skillman Avenue over I-635. **The project also included the design of cut (soil nail) retaining walls at a 635East underpasses at DART Blue Line and the DART pedestrian crossing that required extensive utility and rail coordination.** Pat also coordinated with the contractor team, owner, other discipline leads, and the design manager.



Project Relevance to US 190

- RR Coordination
- Roadway and Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- ✓ Vertical Clearance Issues
- ✓ Retaining Wall Design
- Pre-stressed and Steel Plate Girder Design

Firm name	AECOM			Pa	Past Performance Evaluation Discipline(s)* Road, Bridge, Traffic, & Planning					
Project name	LA 511, Red Riv	er Bridge a	it Jimmie Davis	s Higl	hway	Firm respon	sibility (p	orime or sub?)	Prime	
Project number	H.001779		Owner's name		Louisiana DOTD					
Project location	location Bossier and Caddo Parishes, LA				Owner's Project Ma	e, PE; EA: Ezekiel atherine Mastin, PE				
Owner's address, phone, email PO Box 94246, Baton Rou /ezekiel.onyegbunam@la.				ıge, L .gov/	_A 70804; 225.379.10 /catherine.mastin@la.)71 / 225.242 gov	.4516/2:	25.379.1652; r	yan.reviere@la.gov	
Services commenced by this firm (mm/yy) 12/08				Tota	al consultant contract		Stage 0: \$291 EA: \$915 SEA: \$513			
Services completed by this firm (mm/yy) Ongoing				Cos	Cost of consultant services provided by this firm (\$1,000's) Stage 0: \$225 EA: \$588 SEA: \$					

Firm Members Involved: P. Hays, T. Hunter, J. McDowell, G. Maji

AECOM initially prepared a Stage 0 Feasibility Study to investigate providing additional capacity to the Red River Bridge at Jimmie Davis Highway (LA 511). The feasibility study, including an environmental inventory, is the first step of the DOTD Project Delivery Process. Beginning in 2013, they prepared an Environmental Assessment (EA) that obtained a Finding of No Significant Impact (FONSI) from the FHWA. In 2017, the DOTD initiated a Supplemental Environmental Assessment (SEA) to identify a new preferred alternative that will satisfy the purpose and need of the project.

Project Relevance to US 190

NEPA Coordination

- Roadway/Traffic Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- LG and Steel Girder Design

The project includes providing a full interchange of the Arthur Ray Teague Parkway that parallels the Red River in Bossier City with LA 511, improvements to Jimmie Davis Highway and other roadways

in the immediate area, and a bicycle/pedestrian trail across the Red River to connect the existing trails on each side of the river.



Tasks included environmental data collection, purpose and need statement, development of design criteria, traffic analysis, noise analysis, and preparation of NEPA documents as well as roadway and bridge design. Designs and cost estimates of all concrete and steel bridge alternatives included in the Public Outreach efforts.

Since the existing 2-lane Jimmie Davis Bridge is eligible for the National register of Historic Places and it is not beyond repair, it cannot be demolished. Although its use as the alignment of the trail has been studied, that would require that a third party take responsibility for its maintenance, and no third party has been identified. Therefore, the 2015 Selected Alternative and the 2019 Preferred Alternative both provide a new westbound bridge with 2 vehicular travel lanes and the trail. The eastbound traffic would continue to use the existing bridge, which is scheduled to be rehabilitated under another contract.

Firm name	G.E.C., Inc.		Past Performance Evaluation Discipline(s)* Road, Bridge					
Project name	I-10 Widening, Williams Blvg	s Blvd.	Firm responsibility (prime or sub?) Prime					
Project numbe	r H.003074	Owner's nan	ne LADOT	D				
Project location	n Jefferson Parish, Louisian	а		Owner's Pro	oject Manager	Li Ya	ing, PE	
Owner's addres	ss, phone, email 1201 Capita	al Access Roa	d, Baton Rou	ıge, LA 70804	l, (225) 379-110	0, li.ya	ing@la.gov	
Services comm	nenced by this firm (mm/yy)	07/12 T	otal consulta	tal consultant contract cost (\$1,000's)				\$ 7,981
Services comp	leted by this firm (mm/yy)	ost of consu	Iltant services	provided by this	s firm	(\$1,000's)	\$ 5,088	
Eirm Momboro	puelued C Pourgoois I Loh	lla V Vanka	to A Niccon	C Ninner				

Firm Members Involved: C. Bourgeois, J. Lohmann, K. Rebello, V. Venkata, A. Nissen, C. Nipper

GEC is currently designing the widening of I-10 between Williams Boulevard and Veterans Boulevard interchanges in Jefferson Parish. Final design plans are more than 90% complete. The total project length is 2.13 miles and consists of the construction one 12' additional lane with a 10' shoulder inside along the I-10 eastbound and westbound roadways with median barrier. In addition, concrete sound walls will be constructed along the I-10 westbound and the north side of I-10.

As part of this project, the bridges over Canal No. 3 and Veterans Boulevard will be replaced utilizing 32 custom-designed slab spans, 60 PPC girder spans, and 2 steel girder spans. Sound barriers are included on the north side of the I-10 westbound bridges.

The new GEC-designed bridges over Canal No. 3 and Veterans Blvd. will be constructed in 3

phases to maintain 3 lanes of traffic on I-10 in each direction at all times. PHASE I: a section of the new westbound bridge will be built in the existing median and designed to carry 3 lanes of traffic. The eastbound traffic will be diverted from the existing eastbound bridge to the new Phase I bridge in the median. PHASE II: the existing eastbound bridge will be demolished and replaced with a new bridge designed to carry 4 lanes of traffic and one auxiliary lane. Once completed, the eastbound traffic will be re-routed from the Phase I bridge onto the new eastbound bridge. The westbound traffic will be diverted from the existing westbound bridge onto the Phase I bridge in the median. PHASE III: the existing westbound bridge onto the Phase I bridge in the median. PHASE III: the existing westbound bridge onto the Phase I bridge in the median. PHASE III: the existing westbound bridge onto the Phase I bridge in the median. PHASE III: the existing westbound bridge onto the Phase I bridge in the median. PHASE III: the existing westbound bridge onto the Phase I bridge in the median. PHASE III: the existing westbound bridge will be demolished and the second half of the new westbound bridge will be constructed. Once completed, the entire new

GEC is currently designing roadway and structural plans for this highly congested urban freeway with phased sequence of construction in order to maintain a minimum of 3 lanes of traffic during construction in peak travel hours for Jefferson Parish commuters. westbound bridge will be opened to traffic and will be designed to carry 4 lanes of traffic. Sound barriers are included on the north side of the I-10 westbound bridges.

GEC completed an inspection and bridge load rating report in accordance with Bridge Design Technical Memorandum 40.1 for the Mainline I-10 Veterans Blvd. bridges and the Eastbound Veterans Exit Ramp to determine the suitability of the bridges for widening. Upon completion of this report, it was recommended that the bridges be replaced. This recommendation was accepted by the client and GEC is currently performing final plans.

Project Relevance to US 190

- Roadway Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- ROW on Adjacent Roadway/Property
- Retaining Wall Design
- Pre-stressed and Steel Plate Girder
 Design

.E.C., Inc.	Pas	Past Performance Evaluation Discipline(s)* Bridge						
e Causeway Blvd. – 17th Street Canal, Route I-				-10 Firm responsibility (prime or sub?				Prime
700-30-0287, 450-15- Owner's			ΠΛΟΩ					
0089 name			ADOIL					
Jefferson Parish, Louisiana				Owner's Pro	ject Manager	Davi	d Miller, PE	
phone, email 1201 Capital A	ccess Ro	ad, Batc	on Rou	ge, LA 70804	, (225) 379-153	4		
Services commenced by this firm (mm/yy) 03/9 Total cor					otal consultant contract cost (\$1,000's)			
Services completed by this firm (mm/yy) 06/10 Cost of				ost of consultant services provided by this firm (\$1,000's) \$4,305				
	E.C., Inc. auseway Blvd. – 17th Street C 700-30-0287, 450-15- 0089 Jefferson Parish, Louisiana phone, email 1201 Capital A ced by this firm (mm/yy) ed by this firm (mm/yy)	E.C., Inc. auseway Blvd. – 17th Street Canal, Rom 700-30-0287, 450-15- 0089 Defferson Parish, Louisiana phone, email 1201 Capital Access Rom ced by this firm (mm/yy) 03/9 ed by this firm (mm/yy) 06/10	E.C., Inc.Pasauseway Blvd. – 17th Street Canal, Route I-10700-30-0287, 450-15- 0089Owner's nameLJefferson Parish, LouisianaJefferson Parish, LouisianaLphone, email1201 Capital Access Road, Bateced by this firm (mm/yy)03/9Total colspan="2">Total colspan="2">Total colspan="2">Total colspan="2"	E.C., Inc. Past Performation auseway Blvd. – 17th Street Canal, Route I-10 Past Performation 700-30-0287, 450-15- Owner's name LADOTI 0089 Iname LADOTI Jefferson Parish, Louisiana Iname Iname phone, email 1201 Capital Access Road, Baton Rough Iname ced by this firm (mm/yy) 03/9 Total consultant od by this firm (mm/yy) 06/10 Cost of consultant	E.C., Inc. Past Performance Eval Past Performance Eval auseway Blvd. – 17th Street Canal, Route I-10 700-30-0287, 450-15- 0089 Owner's name LADOTD Jefferson Parish, Louisiana Owner's Prophone, email 1201 Capital Access Road, Baton Rouge, LA 70804 phone, email 1201 Capital Access Road, Baton Rouge, LA 70804 Other consultant contract consultant contract consultant contract consultant services ed by this firm (mm/yy) 06/10 Cost of consultant services	E.C., Inc. Past Performance Evaluation Discipline auseway Blvd. – 17th Street Canal, Route I-10 Firm responsib 700-30-0287, 450-15- 0089 Owner's name LADOTD Jefferson Parish, Louisiana Owner's Project Manager phone, email 1201 Capital Access Road, Baton Rouge, LA 70804, (225) 379-153 ced by this firm (mm/yy) 03/9 Total consultant contract cost (\$1,000's) ed by this firm (mm/yy) 06/10 Cost of consultant services provided by thi	E.C., Inc. Past Performance Evaluation Discipline(s)* auseway Blvd. – 17th Street Canal, Route I-10 Firm responsibility (p 700-30-0287, 450-15- 0089 Owner's name LADOTD Jefferson Parish, Louisiana Owner's Project Manager Davi phone, email 1201 Capital Access Road, Baton Rouge, LA 70804, (225) 379-1534 Davi ced by this firm (mm/yy) 03/9 Total consultant contract cost (\$1,000's) ed by this firm (mm/yy) 06/10 Cost of consultant services provided by this firm	E.C., Inc. Past Performance Evaluation Discipline(s)* Bridge auseway Blvd. – 17th Street Canal, Route I-10 Firm responsibility (prime or sub?) 700-30-0287, 450-15- 0089 Owner's name LADOTD Jefferson Parish, Louisiana Owner's Project Manager David Miller, PE phone, email 1201 Capital Access Road, Baton Rouge, LA 70804, (225) 379-1534 Jefferson Firm (mm/yy) od by this firm (mm/yy) 03/9 Total consultant contract cost (\$1,000's) ed by this firm (mm/yy) 06/10 Cost of consultant services provided by this firm (\$1,000's)

Firm Members Involved: C. Bourgeois, K. Rebello

For this \$66M LADOTD project completed in 2008, GEC implemented acceleration lanes, and deceleration lanes to create an 8- to 12-lane Urban Freeway Section, including soundwalls, over the entire length of interstate. GEC engineers also updated ramp and frontage road alignments to improve the flow of traffic. GEC also designed a new subsurface drainage system for drainage of the entire project.

Project Relevance to US 190

- Phased Construction with MOT
- Hydrology and Hydraulics
- Retaining Wall Design
- Pre-stressed and Steel Plate Girder Design

GEC's design included widening of two major overpasses due to the additions of new lanes at Bonnabel Blvd. and Oaklawn Dr. GEC structural engineers designed these overpasses which

have steel and prestressed concrete girder spans, pile bents, and column bents. GEC designed a new flyover bridge (Ramp 3) carries the North Frontage Road traffic over the exit ramp from I-10 Westbound to Northbound Causeway Blvd. GEC's design of Ramp 3 included two span (440-ft) continuous covered steel plate girder unit supported by an integral steel bent cap. Soundwalls and final signing layout were also added along the corridor.



GEC's roadway lighting design consisted of 120-ft high mast poles with lowering devices, 40-ft and 55-ft barrier mount poles with lowering devices, and underpass lighting. The power distribution system included three new electrical service points, each with pedestal mount lighting controller and associated appurtenances. The project design conformed to LADOTD design and detail standards, as well as industry codes and standards.

In addition, GEC provided construction support for this project and developed sequence of construction to maintain three lanes of traffic in each direction, including maintaining a temporary signing plan for the ever-changing interchange configurations.

Firm name	G.E.C., Inc.	E.C., Inc. Past					ast Performance Evaluation Discipline(s)* Road					
Project name Chevelle Drive and Sarasota Drive Bridge Replacem						nts	Firm responsibility (prime or sub?)			Prime		
Project number	18-BR-US-0016	j	Owner's r	name	City-Pa	rish of East B	aton Rouge					
Project location Baton Rouge, Louisiana Owner's Project Manager Tom								Stephens				
Owner's addres	ss, phone, email 🛛 F	PO Box 147	1, Baton Ro	buge, L	A 70821,	(225) 389-3	186, tstephens@) brla.	gov			
Services comm	enced by this firm	(mm/yy)	04/19	Total	consulta	nt contract c	ost (\$1,000's)			\$ 319		
Services comp	eted by this firm ((mm/yy)	12/21	Cost	of consul	tant services	provided by thi	s firm	(\$1,000's)	\$ 319		
irm Members Involved: V. Venkata												

GEC provided all investigations, preliminary plans, and preparation of final construction contract plans for the replacement of the Chevelle Drive and Sarasota Drive Bridges in East Baton Rouge Parish. Rebuilding of the approach roadways and drainage were also included in the project.

Project Relevance to US 190

- **NEPA** Coordination
- Phased Construction with MOT
- Hydrology and Hydraulics
- Pre-stressed Girder Design

GEC performed final design of both replacement bridges and 98% final plans were submitted. Each replacement bridge provides 30' clear roadway with a 7'-0" walkway on each side. GEC designed 20' approach slabs with sidewalks at each end. Detailed design for each bridge consisted of the following:

- Chevelle Drive Bridge: This bridge crosses the west fork of the north branch of Ward Creek at a 30-degree skew angle. This 80' long slab span bridge consists of four 20' spans supported by pile bents within 16" square PPC piles.
- Sarasota Bridge: This 100' long slab span bridge crosses Engineers Depot Canal with zero skew angle and consists of five 20' spans supported by pile bents with 24" square PPC piles.



GEC's preliminary and final design study tasks included planning, procuring, and preparing environmental studies for preliminary design. GEC performed an alignment study to determine detour routes, typical sections, and horizontal and vertical alignments along with bridge site/watershed evaluations and associated preliminary construction cost estimates.

GEC provided a hydraulic analysis using HEC-RAS, following LADOTD's Guidelines for Off System Bridges. This included an analysis of alternate replacement structures, based on flow and compared replacement alternates to the existing structure, along with recommendations for replacement and scour analyses.

GEC prepared a final report summarizing findings. GEC also conducted a wetland analysis/ delineation for the replacement project, performed in accordance with Section D, Subsection 2 of Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual as well as the Atlantic and Gulf Coastal Plains Regional Supplement. GEC also provided USACE Permitting services including a Pre-Construction Notification (PCN) packet.

Firm name	G.E.C., Inc.		Past Perf	Bridge				
Project name	Leeville to Golden Meadow	Phase II, L <i>I</i>	A 1 Relocation		Firm responsibility (prime or sub?) Sub			Sub
Project number	H.011207, H.011239, H.00	4540 Ov	wner's name	LADOTD				
Project location	n Lafourche Parish, Louisian		Owner's Pro	ject Manager	Tim N	lickel, PE		
Owner's addres	ss, phone, email 1201 Capita	al Access R	Road, Baton Roເ	ıge, LA 70804	, (225) 379-1110), Timo	othy.nickel@la	.gov
Services comm	nenced by this firm (mm/yy)	Total consulta	consultant contract cost (\$1,000's) \$7,98				\$ 7,981	
Services comp	leted by this firm (mm/yy)	Cost of consu	of consultant services provided by this firm (\$1,000's) \$5,088				\$ 5,088	

Firm Members Involved: K. Rebello, V. Venkata

This project involved the design of approximately nine miles of elevated roadway and approaches from Leeville to Golden Meadow (LA 3235). The project design incorporates "top-down" construction methods to protect sensitive wetlands and marshes. A phased construction approach allows for segmented project construction as funding becomes available.

GEC designed the widening of an existing bridge and the construction of a new bridge totaling 6,500 feet in length. The variably widened portion of the bridge consists of prestressed concrete Type III girder spans. The new bridge portions will be supported on special new Louisiana (LG) girders. GEC staff performed the LRFR rating on the existing girders and pile bents to assess the structural feasibility for widening. GEC staff ensured that all updated AASHTO and LADOTD specifications were incorporated into the design. Once the widening was deemed feasible, and all design completed, GEC staff performed an as-designed rating on the entire structure.

Project Relevance to US 190

- Phased Construction with MOT
- Hydrology and Hydraulics
- Retaining Wall Design
- Replacement Structures
- Pre-stressed and Steel Plate Girder Design



Firm name	G.E.C., I	.E.C., Inc.				Past Performance Evaluation Discipline(s)* Road, Bridge					
Project name I-10 & I-12 College Dr Flyover Ramp Design					ign-	Build		Firm responsib	ility (orime or sub?)	Prime
Project number	r H.0	13897		Owner's nar	ne	LADOTI	D				
Project location Baton Rouge, Louisiana							Owner's Pro	ject Manager	Peg	gy Jo Paine, PE	
Owner's addres	ss, phone	e, email	1201 Capita	al Access Roa	nd, B	aton Roug	ge, LA 70804	Phone:			
Services commenced by this firm (mm/yy) 08/20 To						Total consultant contract cost (\$1,000's)					\$ 6,079
Services completed by this firm (mm/yy) Ongoing (Cost of consultant services provided by this firm (\$1,000's) \$6,079					\$ 6,079	
irm Membere Invelvedi C. Beurgeoin, J. Lehmann, K. Bebelle, V. Venketa, A. Nissen, C. Ninner											

Firm Members Involved: C. Bourgeois, J. Lohmann, K. Rebello, V. Venkata, A. Nissen, C. Nipper

Project Relevance to US 190

The BOH/GEC Team was selected to provide bridge design and engineering services for this Design-Build contract. Our Team developed an innovative approach to this Project that exceeds the project goals established by LADOTD. By realigning I-12 WB mainlines to more closely follow I-12 EB mainlines and eliminating a new overpass bridge structure over the existing I-12 WB, our approach eliminated the need to relocate the existing concrete sound barrier near the Bocage and Jefferson Place neighborhoods, greatly minimizing any noise or visual impacts during and after construction. This approach allows us to construct the majority of the project without any significant changes to current traffic patterns, greatly increasing worker and public safety.

-

- Roadway Design
- Phased Construction with MOT
- Hydrology and Hydraulics
- Retaining Wall Design
- Pre-stressed and Steel Plate Girder Design



GEC is designing the widening of the I-10 westbound bridge over Ward Creek. This bridge structure is comprised of three 55' long simple spans composed of rolled steel girders with a cast in place concrete deck. While the bridge is in a curve the girders are parallel with a varying overhang. The spans are skewed at approximately 55 degrees. GEC's design services include the rehabilitation of the existing bridge and replacement of the deck joints. The project required that 5 lanes of traffic be maintained at all times though this heavily traveled corridor. GEC staff developed the bridge plans to construct the widening and rehabilitation in multiple phases in order to maintain the 5 lanes of traffic. GEC's design of the bridge also accommodates a sound barrier.

Firm name	SJB Group, LLC	JB Group, LLC				Past Performance Evaluation Discipline(s)* Survey				
Project name	ct name Rural Bridge Replacement Initiative				Firm responsibility (prime or sub?) Sub-consultar					
Project number	4400017597	ime Lou	Louisiana Department of Transportation and Development – Sub to Bk							
Project location		Owner's Project Manager Rene Chopin								
Owner's addres	ss, phone, email P.O. Box 19	087, New Or	leans, LA	70179	9 Phone: 504	I.486.5901 E-ma	ail: rchopin@bkius	a.com		
Services commenced by this firm (mm/yy) 08/20 To				Total consultant contract cost (\$1,000's)				\$2.5		
Services completed by this firm (mm/yy) Current Co				Cost of consultant services provided by this firm (\$1,000's) \$1				\$1.2		

Firm Members Involved: P. Staiano, C. Jeansonne, C. Mire, A. Burns, T. Iglehart, M. Schexnayder

SJB is performing topographic surveying, right-of-way mapping, and roadway design of the proposed 33 bridge replacements for Districts 03, 07, 61, and 62 as a sub-consultant to Burk-Kleinpeter within their contract to DOTD.

The topographic survey was completed in accordance with all principles and objectives set forth in the latest version of the LA DOTD Location and Survey Manual. A complete topographic survey of the project limits for each site is included with a complete inventory for each drainage structure (type, size, length and invert), and includes cross sections of all drainage ways.

Property surveys and right-of-way mapping are also included in this project.

Roadway design includes vertical and horizontal alignment of the bridge transitions, guard rail and embankment design, roadway typical sections, and roadside drainage (structure and ditches). All work is completed in accordance with LA DOTD Road Design Manual.



Firm name	SJB Group, LLC		Pa	ast Performance Evaluation Discipline(s)* Survey					
Project name	I-12 (LA 21 to US 190) and I-	59)		Firm responsibility (prime or sub?) Pri					
Project number	ct number H.011137.5 & H.011152.5 Owner's name Louisiana Department of Transportation and Developme								nt
Project location St. Tammany Parish, Louisiana Owner's Project Manager Stanley Ard									
Owner's addres	ss, phone, email 1201 Capito	ol Access R	oad, Ba	iton Rou	ge, LA 70802	Phone: 225.37	9.110	1 E-mail: stanl	ey.ard@la.gov
Services comm	nenced by this firm (mm/yy)	07/17	Total c	consulta	nt contract c	ost (\$1,000's)			\$884
Services completed by this firm (mm/yy) 01/19 Cost of con-					ltant services	provided by this	s firm	(\$1,000's)	\$884
in Newberg Invelved O. January O. Mins, A. Dunna, T. Jalabart									

Firm Members Involved: C. Jeansonne, C. Mire, A. Burns, T. Iglehart

SJB performed topographic surveying, Subsurface Utility Engineering (SUE), and an Existing Drainage Map of an 8.89 mile stretch of Interstate 12 from LA 21 to LA 59 for a widening project. The State extended the scope of work on the project several times throughout the delivery. A complete topographic survey of the project limits was performed with a complete inventory for each drainage structure (type, size, length and invert) and cross sections of all drainage ways for preparation of the Existing Drainage Map. The topographic survey was completed in accordance with all principles and objectives set forth in the latest version of the LA DOTD Location and Survey Manual.

The Existing Drainage Map was prepared utilizing the topographic survey information. An Existing Drainage Map depicts open channel and sheet flow directions, catchment areas of each cross drain, drainage structure invert/size/material within 300 feet of survey limits and land use information within 300 feet of survey limits. The map was completed in accordance with the LA DOTD Existing Drainage Map Standards.

The Subsurface Utility Engineering (SUE) included location of all utilities with depths along the routes. Subsurface Utility Engineering was completed in accordance with CI/ASCE Standard 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. The utility information was required to be Quality Level "D."



Firm name	SJB Group, LLC	;		F	Past Perfo	ormance Eval	uation Discipline	e(s)*	Survey	
Project name US 190 Collins Boulevard Widening					Firm responsibility (prime or sub?) Prime					Prime
Project number	umber H.004987.5 Owner's name				Louisiana Department of Transportation and Development					nt
Project location St. Tammany Parish, Louisiana						Owner's Pro	ject Manager	Core	ey Landry	
Owner's addres	ss, phone, email	1201 Capito	ol Access R	Road, B	aton Rou	ige, LA 70802	Phone: 225.37	9.110	1 E-mail: core	y.landry@la.gov
Services comm	nenced by this firr	m (mm/yy)	03/17	Total	consulta	nt contract c	ost (\$1,000's)			\$831.2
Services completed by this firm (mm/yy) 02/18 Co				Cost	of consu	ltant services	provided by this	s firm	(\$1,000's)	\$831.2
irm Members Involved: C. Mire, A. Burns, T. Iglehart										

SJB performed a topographic survey (including surveying the finish floor elevations of all buildings that fell within the survey limits) and an Existing Drainage Map in St. Tammany Parish. SJB Group was tasked through Retainer Contract No. 4400009386 to perform the topographic survey. The survey began approximately 2,770 feet north of the intersection of North Collins Blvd. (Hwy 190) and Branch Crossing Dr. From this point, the project proceeded in a southerly direction along North Collins Blvd. for approximately 3.5 miles, ending approximately 920 feet south of the intersection of Rogers Lane and Hwy. 190. The project allowed for improvements along North Collins Blvd.



A complete topographic survey of the project limits was performed with a complete inventory for each drainage structure (type, size, length and invert) and cross sections of all drainage ways for preparation of the Existing Drainage Map. The survey was completed in accordance with all principles and objectives set forth in the latest version of the LA DOTD Location and Survey Manual.

The Existing Drainage Map was prepared utilizing the topographic survey information. An Existing Drainage Map depicts open channel and sheet flow directions, catchment areas of each cross drain, drainage structure invert/size/material within 300 feet of survey limits and land use information within 300 feet of survey limits. The map was completed in accordance with the LADOTD Existing Drainage Map Standards.

SJB Group, LLC		Past Perfe	ormance Eval	(s)* Survey				
Project name Hooper Road Widening, (LA 3034 – LA 37)				Firm responsibility (prime or sub?)				
H.009300.5	me Louisia	Louisiana Department of Transportation and Development						
East Baton Rouge Parish, L	ouisiana		Owner's Pro	oject Manager	Barrett Smith			
s, phone, email 1201 Capito	I Access Ro	ad, Baton Rou	ige, LA 70802	2 Phone: 225.379	01101 E-mail: barre	ett.smith@la.gov		
enced by this firm (mm/yy)	05/21 7	Total consultant contract cost (\$1,000's)				\$71.1		
Services completed by this firm (mm/yy) 07/21 Co				Cost of consultant services provided by this firm (\$1,000's)				
	SJB Group, LLC Hooper Road Widening, (LA H.009300.5 East Baton Rouge Parish, L phone, email 1201 Capito nced by this firm (mm/yy) ted by this firm (mm/yy)	SJB Group, LLC Iooper Road Widening, (LA 3034 – LA 3' H.009300.5 Owner's na East Baton Rouge Parish, Louisiana phone, email 1201 Capitol Access Rouced by this firm (mm/yy) 05/21 ted by this firm (mm/yy) 07/21 0	SJB Group, LLC Past Performation Iooper Road Widening, (LA 3034 – LA 37) H.009300.5 Owner's name Louisian East Baton Rouge Parish, Louisiana Iouisiana Iouisiana phone, email 1201 Capitol Access Road, Baton Rouge Inced by this firm (mm/yy) 05/21 Total consultation ted by this firm (mm/yy) 07/21 Cost of consultation	SJB Group, LLC Past Performance Eval Iooper Road Widening, (LA 3034 – LA 37) H.009300.5 Owner's name Louisiana Department East Baton Rouge Parish, Louisiana 0wner's name Owner's Program phone, email 1201 Capitol Access Road, Baton Rouge, LA 70802 Owner's contract c	SJB Group, LLC Past Performance Evaluation Discipline Iooper Road Widening, (LA 3034 – LA 37) Firm responsibility H.009300.5 Owner's name Louisiana Department of Transportat East Baton Rouge Parish, Louisiana Owner's Project Manager ophone, email 1201 Capitol Access Road, Baton Rouge, LA 70802 Phone: 225.379 nced by this firm (mm/yy) 05/21 Total consultant contract cost (\$1,000's) ted by this firm (mm/yy) 07/21 Cost of consultant services provided by this	SJB Group, LLC Past Performance Evaluation Discipline(s)* Survey I oper Road Widening, (LA 3034 – LA 37) Firm responsibility (prime or sub?) H.009300.5 Owner's name Louisiana Department of Transportation and Development East Baton Rouge Parish, Louisiana Owner's Project Manager Barrett Smith phone, email 1201 Capitol Access Road, Baton Rouge, LA 70802 Phone: 225.37901101 E-mail: barrett Description Inced by this firm (mm/yy) 05/21 Total consultant contract cost (\$1,000's) ted by this firm (mm/yy) 07/21 Cost of consultant services provided by this firm (\$1,000's)		

Firm Members Involved: P. Staiano, C. Mire, A. Burns, M. Schexnayder, T. Iglehart

SJB performed a topographic survey, Subsurface Utility Engineering (SUE), and an update of an Existing Drainage Map for a one mile stretch of LA Hwy 408, from the intersection of LA Hwy 3034 and LA Hwy 408 and proceeding easterly a distance of one mile. This topographic survey was an update to a survey done previously by SJB and included locating and verifying all changes to the one mile site since the previous survey was completed.

The topographic survey was completed in accordance with all principles and objectives set forth in the latest version of the LA DOTD Location and Survey Manual. A complete topographic survey of the project limits is included with a complete inventory for each drainage structure (type, size, length and invert) and includes cross sections of all drainage ways.

An update to the Existing Drainage Map was also included in this project. SJB located all changes to the existing drainage with within the project limits and prepared an updated Existing Drainage Map. The map was completed in accordance with the LADOTD Existing Drainage Map Standards.



The Subsurface Utility Engineering (SUE) included location of all utilities with depths along the routes. Subsurface Utility Engineering was completed in accordance with CI/ASCE Standard 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.

Firm name	SJB Group, LLC		Past Performance Eva	Past Performance Evaluation Discipline(s)* Survey				
Project name	MovEBR Nicholson Segmen	t <mark>2 (Ben Hur</mark> to	o Bluebonnet Blvd.)	Firm responsibility	(prime or sub?)	Sub-Consultant		
Project number	20-CP-HC-0032	Owner's nam	ne East Baton Rouge Pa	East Baton Rouge Parish – Volkert is the Prime				
Project location	n East Baton Rouge Parish, l	ouisiana	Owner's Pro	oject Manager Ja	n Evans			
Owner's addres	ss, phone, email 🛛 4141 Bienvi	lle Street, Suit	e 102, New Orleans, LA 7	0119 Phone: 225.21	8.9440 E-mail: j	an.evans@volkert.com		
Services comm	nenced by this firm (mm/yy)	03/21 To	otal consultant contract c		\$446			
Services comp	leted by this firm (mm/yy)	Current Co	ost of consultant services	\$446				
Members Invelved D. Staines O. Jansanna, O. Mira A. Duma M. Sabaunaudar T. Jalahart								

Firm Members Involved: P. Staiano, C. Jeansonne, C. Mire, A. Burns, M. Schexnayder, T. Iglehart

SJB is performing topographic surveying, Subsurface Utility Engineering (SUE), property surveys and right of way mapping of a 4.1 mile stretch of Nicholson Dr. (LA 30) from Bluebonnet Blvd to Ben Hur Road in East Baton Rouge Parish, Louisiana for a City Parish MOVEBR widening project. The topographic survey was completed in accordance with all principles and objectives set forth in the latest version of the LA DOTD Location and Survey Manual and MoveBR Design Guidelines. A complete inventory of drainage structures and drainage channels was included for preparation of an Existing Drainage Map by Volkert. Subsurface Utility Engineering was completed in accordance with CI/ASCE Standard 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.

The property survey and right-of-way mapping will include two sets of maps as necessary because the project includes both DOTD and East Baton Rouge Parish rights of way. All property surveys and right of way mapping will be completed using the Standards of Practice for route surveys as outlined in the Laws and Rules of the Louisiana Professional Engineering and Land Surveying Board, and in accordance with both the MovEBR right-of-way guidelines and LA DOTD Location and Survey Manual.



Firm name	SJB Group, LLC		Past Perfe	ormance Eval	and Surv	vey			
Project name	Roddy Road Safety Widenin		Firm responsibility (prime or sub?) Prime						
Project number	r MA-17-04	me Ascens	ion Parish Go	vernment					
Project location	n Ascension Parish, Louisiar		Owner's Project Manager Mike Enlow						
Owner's addres	ss, phone, email 42077 Chur	chpoint Rd, (Gonzales, LA	70737 Phone	: 225.450.1380	E-mail: menl	ow@apg	jov.us	
Services comm	nenced by this firm (mm/yy)	09/17 7	Fotal consulta	int contract c	ost (\$1,000's)			\$639.9	
Services comp	leted by this firm (mm/yy)	Cost of consu	Itant services	provided by this	s firm (\$1,00	0's)	\$613.1		
Eirm Momborol	Members Involved M. Schevneyder, T. Idebert C. Mire, A. Purne								

Firm Members Involved: M. Schexnayder, T. Iglehart, C. Mire, A. Burns

SJB Group, LLC was contracted to work on the Move Ascension Roads program to provide survey, subsurface utility engineering, geotechnical investigation (performed by subconsultant), and design engineering services for safety widening of Roddy Road between LA 931 and LA 933. This project consisted of widening an existing roadway from 10' travel lanes to 12' travel lanes with 4' paved shoulders; which included mill and overlay of existing roadway, replacement of two existing bridges with concrete box culverts, replacing and upgrading (where required) drainage in the area, and improving clear zones in order to meet current standards. SJB Group, LLC provided the Parish with a topographic survey of the area, a subsurface utility engineering investigation, contracted a sub to provide geotechnical investigation and design, preliminary roadway plans, property surveys and right-of-way maps, and final roadway plans.



Roadway plans consisted of typical sections, quantities summary tables, plan and profile sheets, reference points and TBMs sheet, existing drainage maps, design drainage maps, summary of drainage structure table, geometric details, striping and signage layout, suggested sequence of construction, detour details, subgrade soil survey, and cross sections.

Firm name	SJB Group, LLC		Past Per	formance Eval	Survey			
Project name	Highland Road, Siegen Lane	ents	Firm responsibility (prime or sub?) P			Prime		
Project number	20-EN-HC-0004	me City of	Baton Rouge,	MovEBR				
Project location	n East Baton Rouge Parish, I		Owner's Pro	oject Manager	Kate	Prejean		
Owner's addres	ss, phone, email 10000 Perk	ins Rowe, Su	ite 640, Bato	n Rouge, LA 7	0810 Phone: 225	5.368	.2818 E-mail: k	prejean@hntb.com
Services commenced by this firm (mm/yy) 09/20 Total consultar					ost (\$1,000's)			\$3.0
Services completed by this firm (mm/yy) Current Cos				ultant services	(\$1,000's)	\$500		
Manuface Jacob R. Otsiana, M. Estaninal, A. Ruma, O. Min, T. Jalahart, K. Essana								

Firm Members Involved: P. Staiano, M. Estopinal, A. Burns, C. Mire, T. Iglehart, K. Evans

SJB Group was contracted to work on the MovEBR program to provide survey, subsurface utility engineering, and design engineering services for intersection improvements of the Highland Road and Siegen Lane Intersection. SJB Group performed a preliminary topographic survey of the intersection for the design study. SJB Group included survey control and performed the preliminary survey in accordance with MOVEBR requirements.

The limits of the topographic survey were 1,000 ft in each direction from the Highland Road and Siegen Lane intersection. The width of the Survey was from apparent right-of-way to apparent right-of-way. Additional survey limits, property surveys, and right-of-way maps were also done as part of this project. SJB Group's engineering department worked with the survey department to assure all information needed for the design of this project was captured during the field survey. SJB Group contracted Urban Systems to complete the traffic study for this project.



Project is to improve a signalized intersection at Highland Road and Siegen Lane in Baton Rouge. The intersection has nearby ponds and wetland and is heavily traveled. SJB Group, LLC is the prime consultant on the project. The scope included a traffic analysis of the existing conditions as well as an analysis of alternatives to improve the level of service (LOS) at the intersection. Multiple turn lanes are to be added to the already large intersection to move more vehicles through it. John English of SJB Group, LLC is the designer for all aspects of roadway for the project such as horizontal and vertical alignment, drainage, earthwork, right-of-way, pavement markings, and construction sequencing. Matthew Schexnayder will assist with design tasks and construction plan preparation. SJB Group, LLC will employ its SUE department to address utility conflicts during the design stages to minimize construction delays for utilities.

Firm name	SJB Group, LLC		Past Perfe	ormance Eval	Survey			
Project name	Jefferson at Bluebonnet Int	provements		Firm responsibility	Sub-consultant			
Project number	20-CP-HC-0046	Owner's nar	ne City-Pa	City-Parish of East Baton Rouge, Department of Public Works				
Project location	n 🛛 East Baton Rouge Parish, L		Owner's Pro	PE				
Owner's addres	ss, phone, email PO Box 147	1, Baton Roug	ge, LA 70821	Phone: 225.3	389.3186 E-mail: tst	ephens@br.la.g	OV	
Services commenced by this firm (mm/yy) 03/21 Total consultant contract cost (\$1,000's)							\$54	
Services completed by this firm (mm/yy) Current Cos				Cost of consultant services provided by this firm (\$1,000's)				
Manhard Landa D. Christian M. Estavitad O. Januarya O. Mita A. Dama								

Firm Members Involved: P. Staiano, M. Estopinal, C. Jeansonne, C. Mire, A. Burns

The City-Parish of East Baton Rouge selected Meyer Engineers to perform the engineering design and SJB Group to perform the survey and Subsurface Utility Engineering for the MovEBR Jefferson at Bluebonnet intersection improvements project. SJB Group performed a topographic survey for preliminary design considerations and prepared a set of plan and profile sheets of the topographic corridor survey. SJB Group surveyed the tracts adjacent to the project limits and prepared a property survey depicting the property lines of these tracts as well as the existing right-of-way for Jefferson Highway and Bluebonnet Boulevard. SJB Group will prepare right-of-way maps for any required right-ofway based upon the project design.



SJB Group's subsurface utility engineering department performed SUE Quality Level C and D within the project limits. This information was incorporated into the topographic survey deliverables.

Firm name	SJB Group, LLC Past Per			ormance	Evaluation Discipline	(s)* Survey	
Project name	Alphonse Forbes at Sandy Bayou Bridge Replacement				Firm responsibility (orime or sub?)	Sub to Arcadis
Project number	r 18-BR-PT-0017	Owner's nam	ne City-Pa	rish of E	ast Baton Rouge, Dep	artment of Publi	c Works
Project location East Baton Rouge Parish, Louisiana			Owner	's Project Manager	Thomas Stephe	ens, PE	
Owner's address, phone, email PO Box 1471, Baton Rouge, LA 70821 Phone: 225.389.3186 E-mail: tstephens@br.la.gov							
Services commenced by this firm (mm/yy) 02/19 T			Total consultant contract cost (\$1,000's)			\$49	
Services completed by this firm (mm/yy) 09/19 Cost			ost of consu	ltant ser	vices provided by this	s firm (\$1,000's)	\$49
		4 D T					

Firm Members Involved: C. Jeansonne, C. Mire, A. Burns, T. Iglehart



The City-Parish of East Baton Rouge selected Arcadis and SJB Group to perform the engineering design for the replacement of an existing bridge, being Alphonse Forbes Bridge over Sandy Bayou (Recall #800470). East Baton Rouge Parish also requested design alternatives for realigning the Sandy Bayou channel and Alphonse Forbes centerline. SJB Group performed the topographic, existing subsurface utility investigations and determined the apparent existing right-of-way for the bridge replacement project.

Section



AECOM US 50 Re-alignment and New Construction for CDOT's US 50 Bridge over BNSF RR

18. Approach and Methodology:

The AECOM team brings years of successful DOTD experience and has assembled a proven team with design projects following the DOTD Project Delivery Manual, Roadway Design Manual, and the Bridge Design Manual. Our team's staff are very familiar with the preferences and expectations of the DOTD and the approach discussed here will guide us in meeting those expectations in every aspect of our work. For DOTD's US 190 UPRR and Little Teche Bayou Overpasses project, our design team includes **GEC**, **Inc**. and **SJB Group**, **LLC**. We have selected these firms based on our previous experience working as a team, their DOTD transportation project success, and their availability to support this project. Note, we are currently completing the design of the I-49 Connector project with GEC, Inc. and have aligned our team to focus on these bridge replacement projects!

CONTRACT SCOPING MEETING

After selection, the AECOM team will request a scoping meeting with the appropriate DOTD technical and support personnel to develop a Project Work Plan detailing the job scope. This will help make sure all design elements are accounted for and part of the final contract, enabling the project to run smoothly from the Stage 3: Design Process to Stage 5: Construction Support.

KICKOFF MEETING FOR CONTRACT

Following Notice to Proceed, AECOM will request a kickoff meeting with the DOTD PM to request the following existing data, if available:

- Bridge inspection reports to determine any load restrictions or maintenance of traffic requirements
- Stage 0 (Feasibility Studies)
- Stage 1 (Environmental Clearance) documents to review purpose and need and any environmentally sensitive areas
- Traffic studies: traffic data, expected detours, or other recommendations

The project kickoff meeting will be used to (1) establish project design criteria, (2) determine the frequency for project coordination meetings,

(3) schedule an on-site meeting with DOTD, and (4) review questions that the project team may have after reviewing existing documents.
AECOM will develop a Critical Path baseline schedule using decisions made in the Kickoff Meeting. Before finalizing the schedule, we will hold a railroad coordination meeting to consider review times by DOTD and UPRR for each submittal and potential alternatives that could help reduce construction time and costs, and disruption to the public.

The following sections highlight several critical issues impacting the design of these bridge replacements and provide our approach to identifying successful transportation solutions.

RAILROAD COORDINATION

US 190 over UPRR bridges are located approximately ½ mile East of I-49 near Opelousas. These dual bridges go over the UPRR Beaumont Subdivision track and consist of 9 spans, with (4) 40-foot spans on each side of an 80-foot center span, for a total approximate length of 400' each. They were constructed in the 50's and 60's and have fair to poor condition ratings. DOTD proposes to replace both bridges.



US 190 at UPRR. AECOM's approach will confirm structure configuration and profile alignments satisfy UPRR's horizontal and vertical clearance requirements with respect to existing and future track and the substandard vertical clearance at the roadway underpass is mitigated.

Project success will rely on communication and coordination between our team, DOTD's Railroad Coordinator, Jared Ray, and UPRR. *For more than 17 years, AECOM's Rail Coordination Lead, Audra Rodgers, has reviewed grade separation railroad crossing projects for major freight railroads, including UPRR, or acted on behalf of the agency and coordinated with the railroads.* She is familiar with the review and approval process, the UPRR/BNSF Grade Separation Guidelines and has relationships with the reviewers at UPRR. Having been on the reviewing side, Audra knows what potential comments may be expected from the railroad and how to mitigate them.

At the beginning of the project, we recommend a meeting between UPRR, the project team, and DOTD to introduce the project and set the stage for communication moving forward. DOTD will need to set up an agreement with UPRR for project review.

Railroad grade separation projects involving UPRR rail lines must go through the UPRR Public Project review and approval process for overpass grade separation structures. This process includes review of the grade separation structure design and any other work being done within the railroad ROW. *The critical aspects for the Railroad are:*

- Temporary and permanent minimum vertical and horizontal clearances to the new bridge.
- Keeping piers and abutments out of RR ROW to allow for future tracks and potential track relocations
- Amount of time the railroad will be out of service due to construction
- Construction and maintenance agreements
- ✓ Site drainage and bridge deck runoff are directed off railroad ROW.

The submittal process requires progressive submittals for an overhead structure, including concept, preliminary design phases, and 100% final design submittals. *AECOM is familiar with the requirements for each of these submittals and can utilize our experience to reduce the number of comments and negotiation needed.*

HYDRAULIC ANALYSIS AND DESIGN

US 190 over Little Bayou Teche bridges are dual bridges located 4 miles upstream of the confluence with the Bayou Teche. The bridges each consist of (3) 40-foot spans for an approximate total length of 120 feet each. The bridges are slightly offset to fit the channel, with two piers in the channel. Constructed in the early 50's and 60's these bridges have fair to poor condition ratings. DOTD is proposing to replace the bridges at this site. We will work with the DOTD to confirm design solutions that provide a best-valued project approach.

Little Teche Bayou at US 190 is located within the Zone "A" Designation which provides no base flood elevation according to the effective Flood Insurance Rate Map (FIRM) Number 22097C0320D, effective August 5, 2010. The Flood Insurance Study (FIS) indicates that no Detailed or Limited Detailed Study was performed for Little Teche Bayou. The limits of the limited detailed study end approximately a mile downstream. The

AECOM Advantage:

AECOM's Hydraulic Lead, Sarah McEwen, will leverage her design experience on the LA 23 Bridge over Mid Barataria Sediment Diversion project and current understanding of the Little Teche Bayou floodplain to identify hydraulic solutions to minimize bridge costs and potential profile increases.

drainage area at the confluence with the Bayou is 95 square miles, however this is indeterminate due to cross flow through distributary systems. The area is also protected by the West Atchafalaya Basin Protection Levee. The discharges and elevations reported in the effective FIS would be used for model validation and design. Also, gaged stations like USGS 07382500 Bayou Courtableau at Washington, LA would be used for stage calibration.

The design storm considered for evaluation will likely be the 50-year event and design flood stage would be assessed to ensure a minimum one foot of freeboard, or greater, if required at this location. The 500year or overtopping event would be evaluated for bridge scour.

We will use HEC-RAS 6.1 software for modeling. Either a steady or unsteady 1D model will be developed based on the hydrologic analysis and judgement of validity of hydrographs. Most likely peak flow and a steady 1D model will be developed. To assess the reasonableness of design alternatives, an existing model will be developed, then copied and modified to reflect the proposed alternatives. The proposed alternatives will not increase the backwater greater than a foot during the passage of a 100-year event. The design meeting these criteria will be evaluated for scour to ensure that the potential total scour is accounted for in the analysis.

DESIGN SURVEY

The AECOM team will use proven survey technology and techniques to meet the requirements of all DOTD policies. We have extensive experience conducting topographic surveys for DOTD under retainer contracts over many years. A complete topographic survey, including all utilities with depths, and all drainage.

Our team will perform the topographic survey considering traditional survey methods, as well as RTK GPS, terrestrial LiDAR, mobile LiDAR,

AECOM Advantage. Our team will use Continually Operating Reference Station (CORS) for real-time kinematic GPS surveying (RTK). This approach uses a combination of LiDAR scanners, high-definition cameras, and GPS technology on a mobile platform such as a survey crew truck, drone, or helicopter to collect survey data at a much faster speed than traditional surveying methods.



and aerial LiDAR to provide the best option for data collection. We will also utilize our in-house mobile *LadyBug* photogrammetry unit to photograph the entire project site to include with survey deliverables.

To expedite survey efforts, *our team can perform mobile LiDAR scanning for terrestrial and aerial uses*. Mobile LiDAR scanning is not only a significantly faster means of collecting survey data, but also eliminates the need for return trips to collect data. Additionally, it lessens general disruption to the public and significantly *reduces our teams' exposure to potentially dangerous circumstances, such as busy highways or waterways.*

TASK 1: PRELIMINARY PLANS

Table 1: Anticipated Submittals					
PRELIMINARY PLANS	FINAL PLANS				
30% Preliminary Plans	30% Final Plans				
60% Preliminary Plans	60% Final Plans				
95% Preliminary Plans	90% Final Plans				
(Plans-In-Hand)	98% Final Plans				
100% Preliminary Plans	100% Final Plans				

The AECOM design team will follow the DOTD Design Preparation Manual for all required submittals for Stage 3 (Part I and Part II). **30% Preliminary Plans:** During Preliminary Design, AECOM will begin developing 30% Preliminary Plans, including proposed geometric alignments and vertical profiles. At this stage, we will begin to determine viable bridge structure types and construction sequencing to consider during project development. This will allow AECOM to coordinate with DOTD to select the most economical structure types for this project.

Maintaining traffic during construction will be crucial to project success and implementing a traffic management plan that considers:

- evaluating phased bridge construction vs. single bridge closures with temporary roadway crossovers
- ✓ maintaining access control for adjacent LA 743 and I-49 ramps
- maximize safety of vehicle and pedestrian traffic

UPRR Overpasses Our team will evaluate the feasibility of a phased construction approach that constructs a new bridge in the median between the existing structures, by initially offsetting the horizontal alignment of the EB traffic. With EB traffic on the new median bridge, the new EB bridge could be constructed adjacent to and connected to the median bridge with traffic returned to the existing alignment. Upon completion of the new EB bridge, EB traffic will be returned to the original alignment on the new EB structure, and WB lanes can be realigned and diverted to the new bridge in the median. Design impacts associated with the skewed rail alignment will need to be considered. The bridge will be designed such that a future phase could be built to return the WB to the original alignment, with a final configuration for a 6-lane facility. For the structure, our team will evaluate LG PPC Girders supported on PPC piling, with the girder depths and span lengths to be determined following RR coordination, to ensure a sufficient clearance envelope around the RR. For the east approaches, retaining walls are proposed to avoid encroachment of the earth embankment into Prudhomme Street.

<u>Little Teche Bayou Bridges</u> Our team will consider a phased construction approach, similar to DOTD's project SP H.013198 that used a diversion road within the US 190 median for installation of a new 84" RCP. The proposed sequence of construction would be to construct a detour bridge in the median of US 190, detour EB traffic on the median bridge, and construct the new EB bridge along its existing alignment. Once EB traffic is returned to the new EB bridge we would detour WB traffic onto the median bridge and reconstruct the WB bridge. The bridge deck for all construction phases would be tied to one another and when completed, appropriate dividers installed. The detour bridge and roadway can serve as a left turn lane for LA 743, similar to those installed in SM H.013198. For the structure of the Little Teche Bayou bridge we would evaluate the feasibility of using LG-36 PPC Girders supported on PPC piling. The span lengths will be adjusted to miss the location of the existing bents, align the new bents EB and WB, and provide necessary hydraulic opening.

60% Preliminary Plans: For the 60% Preliminary Plan submittal, AECOM will begin development of general bridge plans showing the horizontal configuration of the bridges, along with vertical profiles featuring the top of rail/water and required height clearances and freeboard to the low chords of the proposed bridges. We will coordinate horizontal and vertical alignments through both DOTD and UPRR for their approval to ensure project design criteria are met. A preliminary hydraulics design report will also be included as a part of the 60% Preliminary Plans delivery.

90% and 100% Preliminary Plans: AECOM will participate in a Plan-In-Hand meeting with the PM, Bridge Design Section, and District for review, comments, etc., before finalizing and submitting the 100% Preliminary Plans to DOTD for approval. As part of this submittal, we will prepare any required railroad or environmental clearance permits and begin developing any SWPPP plans to be finalized during Final Plans.

TASK 2: FINAL PLANS

Following NTP for final plans, AECOM will begin development of construction plans. The 100% Preliminary Plans will serve as the basis for AECOM to begin progressing the project to its final completion. The Final Plans stages are shown in Table 1 and are broken into 5 separate submittals: 30%, 60%, 90%, 98%, and 100%.

30% and 60% Final Plans: At 30% Final Plans submittal, AECOM will work with the DOTD PM to finalize roadway typical sections, roadway alignments, and access tie-ins to confirm ROW design requirements. We will also develop detailed bridge construction plans for the

superstructures and substructures, and a suggested sequence of construction phasing presented in the Preliminary Plans. The hydraulics design will be finalized at this stage. At 60% Final Plans submittal, the Hydraulic Design Report will be completed, and we will develop initial summary of quantities sheets.

90%, **98%**, **and 100%** *Final Plans:* After receiving 60% Final Plan comments, AECOM 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 PM to ensure all necessary submittals are made to prepare for 100% Final Plans. After comment resolutions, AECOM will stamp and seal all construction plan sheets for submittal.



QUALITY ASSURANCE / QUALITY CONTROL

A QA/QC program is an essential component of a successful project and we are committed to this DOTD policy. Please refer to AECOM's QA/QC program for this US 190 Overpasses project that is fully detailed and attached in this proposal.

STAGE 5: CONSTRUCTION

Our design team will be available to attend pre-construction meetings, provide RFI responses, review shop drawings, review and evaluate erection plan submittals, and provide plan and calculation revisions, as needed to support questions and design changes in the field.

Sections



GEC

Bridge Reconstruction over Reine Canal and French Branch, I-10 Service Road Bridges in Slidell

19. Workload:

For all contracts where a firm on the team is a prime consultant or sub-consultant and where a) the consultant selection was made by DOTD, and b) a contract was executed by the consultant and the contracting entity by the date the advertisement for this proposal was posted, list all work meeting the following criteria:

1) one of the team's firms is responsible for the performance of the work;

2) authorization to perform the work has been provided, as provided in the contract between the consultant and the contracting entity;

3) the work has not yet been performed and invoiced; and

4) the work is not currently suspended for an indefinite period of time.

For indefinite delivery/indefinite quantity (IDIQ) contracts, list open Task Orders individually.

List only the portion of the fees attributable to firms on the team.

Firm(s)	Past Performance Evaluation Discipline(s) *	State project number	Project name	Remaining Unpaid Balance**
	Road, Bridge	H.004367.5	Earhart Expressway to US 61	\$215,483
	Traffic	H.004367.5	Earhart Traffic Evaluation	\$27,990
	Road, Bridge, Environmental	H.001779.2	Red River Bridge SEA	\$19,173
	CE&I/OV	H.003570	I-220 Barksdale Quality Manager (Sub)	\$271,373
		H.004273.5	I-49 Connector (Sub)	
AECOM	Planning		Tasks 1, 5, 6, 12	\$691,035
	Traffic		Task 2	\$34,207
	Road		Task 4	\$14,923
	Bridge		Task 8	\$477,027
	Environmental		Task 10	\$938,123

(Add rows as needed)

DO NOT SUM

* The past performance evaluation disciplines to be used are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and Other. If a firm has more than one past performance evaluation discipline for any single project, the firm can use multiple rows to express the remaining unpaid balance per evaluation discipline.

** Round to the nearest dollar. **Do not** round to the nearest thousands. If there are no active contracts with a remaining unpaid balance, place N/A in the Remaining Unpaid Balance column. LEAVING THE "REMAINING UNPAID BALANCE" COLUMN BLANK IS NOT ACCEPTABLE.

	Past Performance	State project		Remaining
Firm(s)	Evaluation	number	Project name	Unpaid
050.1	Discipline(s) *			Balance**
GEC, Inc.	Planning	SP# 4400016958	Road Transfer Program Management, Statewide	1,820,002
GEC, Inc.	Planning	4400006551, 4400006552 and 4400006553	Retainer Contracts for Comprehensive Strategic Advisory Related to LTA Participation In PPP (Sub) <i>(No TO)</i>	N/A
		SP# H.004273.5	I-49 Connector (I-10/I-49/US 167 Interchange) (Sub)	
	Road		Geometrics	70,810
	Bridge	Design on hold	Bridge Study	131,597
GEC, Inc.	Environmental	In planning phase	Environmental	67,715
	ITS		ITS	19,447
	Other		Program Management (\$190,688), Electrical (\$301,419)	492,107
	Geotechnical		Geotechnical (Task Closed)	51,213
GEC, Inc.		S.P.# H.004100	I-10 Baton Rouge Widening CMAR Segment 1 (Sub)	
	Bridge		Bridge	235,086
	ITS		ITS	195,152
	Other		Project Management (\$525,183), Retaining Walls (\$213,520), Sound Walls (\$130,407) & Electrical (\$1,539,564)	2,408,674
		S.P.# H.013897	I-10 & I-12 College Drive Flyover Ramp Design-Build (Sub)	
	Road		Road	677,810
GEC Inc	Bridge		Bridge	226,100
	ITS		ITS	46,183
	Other		Project Management (\$133,336), Sound Walls (\$44,640) & Electrical (\$26,317)	204,293
GEC, Inc.	Bridge	SP# H.008145.5	Leeville to Golden Meadow (Phase 2) Route LA 1 Relocated (Sub)	N/A
		SP# H.003074.5	Williams Blvd – Veterans Blvd., Route I-10, Jefferson Parish, LA	
GEC, Inc.	Bridge		Bridge	148,795
	Other		Electrical	134,774
	Bridge	4400010099	Retainer Contract for Off-System Complex Bridge Load Rating (Sub)	
GEC, Inc.		TO# H.012485.1	Rating of Off-system Bridge Structures	19,056
	ITS	4400009327	Retainer for Intelligent Transportation Systems	
GEC Inc		TO# H.014512	Monroe Regional ITS Architecture Update (Note: Contract Expired)	44,245
		TO# H.012381.5-1	Fiber Optic Mapping and Management (Note: Contract Expired)	38,242

F ()	Past Performance Evaluation Discipline(s)*State project numberProject nameOther4400011354IDIQ Contract for Electrical Statewide(Electrical)TO# H.013442.6I-10: Crowder Boulevard Interstate LightingTO# H.013617.5I-610E Interchange Lighting (Opelousas)TO# H.014552.5I-49: LA 31 Interchange Lighting (Opelousas)TO# H.014553.5I-49: US 190: BRB-Navigation Light ReplacementTO# H.014553.5I-49: US 190 Interchange Lighting (Opelousas)TO# H.014555.5I-49: US 190 Interchange Lighting (Opelousas)TO# H.014557.5I-49: Judge Walsh Drive Interchange Lighting (Opelousas)TO# H.014557.5I-49: Judge Walsh Drive Interchange Lighting (Opelousas)CherS.P. # H.004774.5 & H.007300.6Kansas Lane - Garrett Road Connector and I-20 Improvements, (Sub)Cher4400002746Retainer Contract for Electrical Services (Sub)CherTO# H.012601.6I-10: Read Boulevard Interstate LightingTO# H.012602.6I-10: Morrison Road Interstate LightingTO# H.01400314.6I-10 Widening and Reconstruction (LA 37 to ATCR BR.)C, Inc.CE&I/OV4400023074IDIQ for CE&I Services Staff Augmentation, D 61 (No 70)C, Inc.CE&I/OVS.P. # H.011670.6I-10/Widening and Reconstruction (LA 37 to ATCR BR.)TO# H.002735.6Bayou Vermillion BridgeTO# H.002735.6Bayou Vermillion BridgeTO# H.002735.6Bayou Vermillion BridgeC, Inc.CE&I/OVS.P. # H.011670.6CE, Inc.TO# H.002735.6 <th>State project</th> <th></th> <th>Remaining</th>	State project		Remaining
Firm(s)		Unpaid Balance**		
	Other	4400011354	IDIQ Contract for Electrical Statewide	Dalance
	(Electrical)	TO# H.013442.6	I-10: Crowder Boulevard Interstate Lighting	49,043
		TO# H.013617.5	I-610E Interchange Lighting	42,222
		TO# H.014552.5	I-49: LA 31 Interchange Lighting (Opelousas)	N/A
GEC, Inc.		TO# H.014553.5	I-49: LA 3233 Interchange Lighting (Opelousas)	N/A
		TO# H.012469.5	US 190: BRB-Navigation Light Replacement	29,841
		TO# H.014556.5	I-49: US 190 Interchange Lighting (Opelousas)	N/A
		TO# H.014557.5	I-49: Judge Walsh Drive Interchange Lighting (Opelousas)	N/A
GEC, Inc.	Other (Electrical)	S.P. # H.004774.5 & H.007300.6	Kansas Lane - Garrett Road Connector and I-20 Improvements, (Sub)	2,100
	Other	4400002746	Retainer Contract for Electrical Services (Sub)	
GEC, Inc.	(Electrical)	TO# H.012601.6	I-10: Read Boulevard Interstate Lighting	N/A
		TO# H.012602.6	I-10: Morrison Road Interstate Lighting	N/A
	CE&I/OV	440013710	Retainer Contract for CE&I, Statewide District 03	
GEC, Inc.		TO# H.003014.6	I-10 Widening and Reconstruction (LA 37 to ATCR BR.)	N/A
		TO# H.010601.6	I-10 Widening and Reconstruction (LA 328 - LA 347)	403,035
GEC, Inc.	CE&I/OV	4400023074	IDIQ for CE&I Services Staff Augmentation, D 61 (No TO)	N/A
GEC, Inc.	CE&I/OV	S.P. # H.011670.6	I-10/Loyola Interchange Improvements, Jefferson Parish	204,751
	CE&I/OV	4400019950	IDIQ for CE&I, Statewide, with Majority of Work in District 03	
GEC Inc		TO# H.002735.6	Bayou Vermillion Bridge	144,942
		TO# H.003003.6	I-10: I-49 - LA 328	201,512
		TO# H.002151.6	Bayou Parc Perdue and Creek Bridges	273,258
GEC Inc	CE&I/OV	440005410	Retainer Contract for CE&I, Statewide (Sub)	
		TO# H.009479.6	W. Larose Vertical Lift Bridge Rehab., Route LA 1	N/A
GEC Inc	CE&I/OV	4400006762	Retainer Contract for CE&I, Statewide (Sub)	
		TO#H.012739.6	I-20 Mississippi River Bridge at Vicksburg	N/A
	CE&I/OV	440014315	Retainer Contract for CE&I, Statewide (Sub to GPI)	
GEC, Inc.		TO# H.003370.6	1-220/1-20 Interchange IMP & BAFB Access	192,006
		TO# H.010000.6	US 1 71 : Calcasieu River Bridge Repairs	200,185
GEC, Inc.	CE&I/OV	4400017329	Retainer Contracts for Innovative Procurement (Sub) (No TO)	N/A

Firm(s)	Past Performance Evaluation Discipline(s) *	State project number	Project name	Remaining Unpaid Balance**
	Other	N/A	DBE Supportive Services – Region A (2020 – 2023)	80,993
	СРМ	H.013579.6	Pecue Lane/I-10 Interchange II – East Baton Rouge Parish	7,691
	СРМ	H.009620.6	I-10: West of LA 108 to I-210 Interchange – Calcasieu Parish	3,311
	СРМ	H.012901.6	US 90Z (Magnolia St. – Bodenger Blvd) – Orleans Parish	14,944
	СРМ	H.002375.6	Amite R. Br Near French Settlement – Livingston Parish	39,886
SJB Group, LLC	СРМ	H.010018.6	I-10: NO East Drain Canal Bridge Replace – Orleans Parish	40,238
	СРМ	H.003184.6	I-10: Texas State Line – E. of Coone Gully – Calcasieu Parish	164,826
	СРМ	H.012588.6	I-10: Atch Basin Br – W Baton Rouge P/L – Iberville Parish	38,231
	СРМ	H.001234.6	LA 1: Port Allen Canal Br Repl (Ph1) (HBI) – West Baton Rouge Parish	63,996
	СРМ	H.000665.6	UP R.R. Overpass Near Bonita (HBI) – Morehouse Parish	73,337
	Survey	H.012851.5	UP RR Corridor (Plaquemine) – Iberville Parish	46,227
	Survey	H.011310.5	Ford Street Extension – East Baton Rouge Parish	9,028
	Survey	H.004100	I-10: LA 415 to Essen on I-10 and I-12 – East Baton Rouge Parish	81,148
	Survey	H.012685.5	LA 385: Ryan Street Intersection IMPRS – Calcasieu Parish	229,080
	Survey	H.009300.5	Hooper Road Widening (LA 3034-LA 37) – East Baton Rouge Parish	164,073
	Other	H.012851.5	UP RR Corridor (Plaquemine) – Iberville Parish	930
Burk-Kleinpeter		H.013952; H.013963;	Contract No. 44-17597 16 State Project Numbers (33 Structures)	
(Prime) SJB		H.013966; H.013968;	Rural Bridge Replacement Initiative, Districts 03,07,61, and 62	
Group, LLC	Survey / Road	H.013982; H.013984;		261,059
(Subconsultant)		H.013996; H.013976;		
		H.013997; H.013970		

20. Certifications/Licenses:

If the advertisement requires submission of licenses and/or certificates, include them here. Otherwise, leave this section blank.


AECOM, Jonathan McDowell



AECOM, Daniel Helms



AECOM, Greg Trahan



GEC, Christopher Napper







Created by SJB LIDAR Point Cloud Overlooking UPRR Overpass Bridges

21. QA/QC Plan and/or Work Plan:

If the advertisement requires submission of a QA/QC plan or Work plan, include them here. Otherwise, leave this section blank.



US 190: UPRR OVERPASS NEAR OPELOUSAS

QC/QA PLAN

Contract No. 4400023434

State Project Nos. H.000445

Louisiana Department of Transportation and Development

February 10, 2022

AECOM

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• AECOM QMS Document Transmittal

1.0 INTRODUCTION TO THE UPRR OVERPASSES PROJECT QC/QA PLAN

A QC/QA program is an essential component of a successful project. The process, when executed properly by a committed design team, will eliminate critical errors and conflicts in the design and improve plan completeness and accuracy. Most importantly, the process promotes confidence in the owner and engineer that the design and construction documents reduce liability and risk to them. The QC/QA plan for the UPRR Overpasses project, will meet or exceed the LADOTD's QC/QA policy described in the LADOTD Bridge Design and Evaluation Manual (BDEM). The LADOTD has detailed a Bridge QC/QA policy which sets forth the Department's requirements for this process for all bridge designs performed on LADOTD projects. The LADOTD Bridge QC/QA policy was developed based on the joint FHWA/AASHTO publication *"Guidance on QC/QA Plan has been developed in coordination with both the LADOTD and AECOM policies specifically for the UPRR Overpasses near Opelousas project.*

1.1 Alignment of LADOTD and AECOM QC/QA Policies

The LADOTD policy is well aligned with AECOM's QA/QC program, internally named Quality Management System (QMS). AECOM's QMS is BS EN ISO 9001:2015 International Standard certified; AECOM's QMS policy specifics, as described in the paragraphs below, meet or exceed the directives provided in the LADOTD's Bridge QC/QA policy. A copy of our current certification can be provided upon request. One key difference in the two policies is that the LADOTD Bridge QC/QA policy is specific to the design of bridges exclusively, while the AECOM QMS is applicable to all disciplines associated with a specific project.

AECOM is fully committed to the quality management principles underlying the ISO 9001:2015 standard and to AECOM's QMS. These principles emphasize the need to understand our clients' needs and preferences, and to strive to meet or exceed their requirements and expectations. To accomplish this goal, AECOM's Executive Management provides leadership that engages all AECOM employees in the quality processes. By identifying, understanding, and managing interrelated processes as a system, AECOM increases its efficiency and effectiveness in meeting its organizational objectives as well as the objectives of our clients. This approach includes continuous reassessment and improvement of the underlying processes and promotes decision-making based on factual information and data. Through consistent application of this QMS, AECOM's opportunity to create mutually beneficial values is enhanced, which in turn enhances our clients' ability to create value for their end users.

1.2 Responsibility for QC/QA and the LADOTD's Oversight Role

From review of the LADOTD's Bridge QC/QA policy, it is apparent that the primary expectation is that consulting engineers contracting with the LADOTD take full responsibility for their submittals at all stages of the bridge design process. By the assignment of this responsibility, the LADOTD's design staff expects to provide oversight on the design process but does not expect to be responsible for the

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checking of designs and plan documents. The role of the LADOTD's design staff is primarily to oversee the design process. Specifically, the LADOTD's Task Manager will be responsible for the following project tasks, as described in the LADOTD's Bridge QC/QA policy:

- Develop the scope of work, man-hour estimate, design team minimum personnel requirements, selection evaluation criteria and to obtain the approval of the Task Manager's direct supervisor for these items. In addition, the Task Manager will coordinate directly with the LADOTD's project manager on all bridge design requirements for preparation of the project kickoff.
- Initiate a kickoff meeting, covering items such as the staffing plan, QC/QA plan, project schedule and budget, share expectations and consultant rating criteria, bridge design criteria, and other project management agenda items per the LADOTD checklist.
- Review and approve the Design Criteria and TS&L submittals. Coordinate revisions in the Design Criteria with the design team for the project duration.
- Monitor the Design Team's implementation of their QC/QA plan.
- Maintain a Project Log sheet recording all major project activities (Project Meetings, Submittals, LADOTD Review Comments, Major Decisions, etc.).
- Review all Design Team submittals, intended to be a cursory review for constructability, consistency, and clarity. These reviews are not intended to be a secondary QC of the Design Team's work.
- Monitor project schedule and milestone deliverables.
- Monitor Design Team effort with respect to scope and budget; process supplemental agreements; monitor claims avoidance.
- Review and approve invoices; verify Design Team staff is consistent with the scope and fee; Review and approve qualifications of replacement staff proposed by the Design Team, if necessary.
- Perform a consultant rating for each formal submittal by the Design Team; share ratings and provide feedback to Design Team.
- Archive final design files.

1.3 Definitions of QC and QA

An understanding of the definition of quality control (QC) and quality assurance (QA), as well as the responsibilities contained in these processes is an important component of AECOM's QMS and the LADOTD's Bridge QC/QA policy. These key definitions are summarized below:

 Quality Control (QC): This process involves the procedure of checking the accuracy and consistency of inspection reports, movable bridge recommendations and preliminary cost estimates, calculations and drawings, detecting conflicts, design errors and omissions, and the procedure for resolution of internal comments, correcting and verification of revisions. Also, specific to this bridge replacement project, the process verifies that all bridge components are adequately designed for the specified limit states in the AASHTO LRFD Bridge Design Specifications and the LADOTD BDEM and Technical Memoranda. • Quality Assurance (QA): This process involves the review of the QC documents to verify that the quality control (QC) procedure has been completed in accordance with AECOM's QMS and the LADOTD Bridge QC/QA policy. In addition, the QA process verifies that the QC process was effective in preventing design and plan errors and ensuring consistency.

1.4 Evidence/Verification of QC and QA Activities

AECOM's QMS fully documents the QC and QA processes for all intermediate and final submittals, providing evidence to the LADOTD that our design team has executed the QC/QA procedures in accordance with this system.

2.0 ROLES AND RESPONSIBILITIES

Meeting the provisions of the LADOTD Bridge QC/QA policy, the AECOM QMS requires that the quality control processes be completed for all design disciplines for all submittals. For the UPRR Overpasses near Opelousas project, as it pertains to QC/QA, the roles and responsibilities of the design team are described below.

2.1 Quality Assurance Manager

QA Manager (Gary Maji, PE) will be responsible for verifying that the QC process has been completed, documented, and properly filed in project records. The QA Manager will oversee the communication and training of the QC procedures to the project team, including subconsultants. The QA Manager is responsible for certifying that a submittal deliverable has met the requirements of the AECOM QMS and the LADOTD Bridge QC/QA policy, can be released to the client, and is made available for future auditing purposes.

2.2 Original Designers and CADD Design Personnel

The original designers are responsible for original design calculations, and plan drawings in accordance with the direction provided by the Project Plan and associated pre-planning references and design tools (i.e. – Design Criteria, Technical Task Protocols, Design Tools, Validated Software, etc.). In the QC/QA process, the original designers are responsible for the timely, complete, and effective preparation of the calculations and plans, incorporating weekly design coordination directives during the design development. Original designers will perform a self-check of their work before indicating the work product is ready for QC Review. The original designers may be professional engineers or engineering interns.

The original designers are responsible for actively resolving comments received at each level of QC (Discipline, Independent Peer, and Inter-Discipline) and for making the necessary corrections in advance of the next level of QC or QA reviews. All design personnel (Engineering and CADD designers) will be trained in the QC/QA procedures by the Quality Assurance Manager. Evidence of the training (sign in sheets, copy of training course) will be filed in the project directory, available for audit.

CADD design personnel are responsible for effective preparation of project plans, as supervised by the original designers. Original designers shall work collaboratively with CADD personnel to have project plans match their design. CADD personnel will perform a self-check of their work before the work product is submitted for QC review.

2.3 Discipline QC Reviewers

This level of review will be completed by experienced engineers who are responsible for the detailed checking of all calculations, specifications, special provisions, and plan documents. For the UPRR Overpasses near Opelousas project, we anticipate this level of review will be completed by AECOM staff. The specialized work performed by subconsultants will be reviewed by the appropriate AECOM Task Leader, as indicated by the organizational chart. For the UPRR Overpasses near Opelousas project, the original design calculations for critical components will be prepared by a professional engineer, and the

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Discipline QC reviewer may be another professional engineer or an engineer in training (EIT). This approach is agreement LADOTD's bridge design policy.

The Discipline QC reviewer will be responsible for documenting all comments, pursuing resolution with the original designer or detailer and for progressing the QC documents (calculations, plans and QC forms) to completion prior to forwarding to the Independent Peer QC and Inter-Discipline QC reviewers. The Discipline QC reviewers will be trained in the QC/QA procedures by the Quality Assurance Manager. Evidence of the training (sign in sheets, copy of training course) will be filed in the project directory, available for audit.

2.4 Independent Peer Bridge QC Reviewers

If deemed necessary, an Independent Peer Bridge QC review will proceed after the Discipline QC review has been completed and may take place in parallel sequence with the Inter-Discipline QC review. The Independent Peer Bridge QC team is responsible for documentation of comments, pursuing resolution with the original designer or detailer (with LADOTD representative oversight and documented concurrence). The purpose of this participation is to provide independent oversight of the design development and is intended to identify potential critical conflicts or critical issues in the design that will result in keeping the design team progressing the work on the most effective and desirable path. The Independent Bridge QC reviewers will be trained in the QC/QA procedures by the Quality Assurance Manager. Evidence of the training (sign in sheets, copy of training course, etc.) will be filed in the project directory, available for audit.

2.5 Inter-Discipline QC Reviewers

This level of review will be completed by Discipline Task Leaders (i.e. – Bridge, Roadway, MOT, CADD, etc.) who are responsible for an oversight review of the plans intended to identify conflicts between the disciplines and to identify plan consistency issues not identified in the more detailed Discipline QC review. For the UPRR Overpasses near Opelousas project, we anticipate this level of review will be completed by the Discipline Leads, comprising of AECOM and our subconsultant partners as indicated in the organization chart. This level of review is required by AECOM's QMS policy.

The Inter-Discipline QC reviewer will be responsible for documenting all comments, pursuing resolution with the original designer or detailer and for progressing the QC documents (plans and QC forms, etc.) to completion prior to forwarding to the Quality Assurance Manager for his QA review. All design personnel, including each Inter-Discipline QC reviewer will be trained in the QC/QA procedures by the Quality Assurance Manager. Evidence of the training (sign in sheets, copy of training course) will be filed in the project directory and available for audit.

2.6 Engineer of Record

The Engineer(s) of Record (EOR) for the UPRR Overpasses near Opelousas project will be assigned by the supervisor or discipline lead on the project team. The EOR is responsible for the supervision of the calculations, plan, and special provision preparation, and is responsible for participation in or oversight of the QC and QA review processes. The EOR must be licensed to practice engineering in the State of Louisiana and must have demonstrated experience in the design of similar structures. In addition to overseeing the calculations and plan submittal through the QC/QA process, the EOR is responsible for

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obtaining the seal and signature of any and all co-signed sheets in the plans. The EOR is also responsible for assembling the complete final calculation documents in the format prescribed by the LADOTD, assuring that all plan sheets include the designer's, design checker's, detailer's and detail checker's initials and for sealing and ensuring special provisions are accurately shown on the construction proposal.

The Engineer of Record will be trained in the QC/QA procedures by the Quality Assurance Manager. Evidence of the training (sign in sheets, copy of training course) will be filed in the project directory, available for audit.

3.0 PRE-PLANNING ACTIVITIES

Both the LADOTD's and AECOM's QC/QA policies contain careful project execution planning, document control procedures, communication protocols and specific QC and QA procedures.

3.1 Development of the Project Plan and Design Criteria

The AECOM team will prepare a Project Plan for distribution to the design team. The plan will contain:

- A project background description and scope summary
- A design criteria document prepared in compliance with the LADOTD's checklist. The design criteria document will be submitted to the LADOTD for review and concurrence.
- Identification of the project team members, organization chart, contact information, and guidance on internal and external communication
- Identification of all deliverables
- Project design schedule and task budgets
- Description of the project directory structure, filing of external communication and file naming conventions, etc.
- Organization of calculations documents, in compliance with the LADOTD's QC/QA policy
- QC and QA procedures, responsibilities, and documentation of QC/QA training
- Specific technical task protocols, design tool templates and design tool validation documentation
- Templates of all project forms (Letter, Memorandum, Meeting Minutes, Reports, Cost Estimates, Design tool validation forms, Drawing and Calculation QC forms (LADOTD and AECOM), Quality Assurance forms (LADOTD and AECOM) to use on the project
- Description of internal project quality auditing, continual improvement, and client feedback processes

The project plan is a living document, and will be revised as the design criteria, scope or other internal procedure is revised. As stated in the LADOTD's QC/QA policy, revisions in the design criteria will be forwarded to the LADOTD for review and concurrence.

3.2 Project Directory Structure and Bridge Calculation Document Organization

The AECOM QMS policy has established a standardized project directory structure for the documentation of all projects delivered by AECOM. However, this structure may be modified to meet specific requirements of the client, as is the case with the LADOTD, who has provided the preferred project directory structure in Appendix F of their Bridge QC/QA policy. The structural calculations will be organized as directed in Appendix F of the LADOTD Bridge QC/QA policy.

3.3 Development of Technical Task Protocols, Design Tools, and Validation of Software

The design team will prepare technical task protocols for the purpose of documenting and providing detailed direction on specific design tasks. The protocols will provide direction on the specific use of design tools and validated software involved in the completion of the task. The documents will be controlled; revisions to the protocols will be noted by revision number and updated in the Project Plan.

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All revisions to task protocols will be communicated to design staff. Design Tools (i.e. – Spreadsheets, MathCAD sheets, etc.) will be developed and utilized for specific design calculation functions. All design tools that are prepared will be validated as required by the AECOM QMS, documented, filed and available for audit.

To the extent possible, the design team will select from the pre-approved list of software posted on the LADOTD Bridge Design website. Before using the pre-approved software, the program will be validated as directed in the AECOM QMS prior to use. For special applications where software not included in the pre-approved list must be used, a synopsis of the software will be provided to the LADOTD Bridge Design Engineer for approval prior to use. Similar to the pre-approved software, all specialty software will be validated as directed in the AECOM QMS prior to use.

4.0 QUALITY CONTROL AND QUALITY ASSURANCE REVIEWS

4.1 Design Deliverable Activities

As indicated by the Scope of Services, formal submittals for review by LADOTD staff are expected at the preliminary (30%, 60%, 90%, 100%) and final plan (30%, 60%, 90%, 98% & 100%) development phases. The plan-in-hand meeting will be performed based on the preliminary submittal. In addition, an independent review of the preliminary submittals will be performed by the LADOTD. Comments from these reviews must be resolved prior to proceeding to the final plan milestone.

Prior to each of the formal submittals, a 3-tiered quality control (QC) design review will be performed as well as a quality assurance (QA) review. A flowchart describing the QC/QA process for design plans on the UPRR Overpasses near Opelousas project and our approach to implementation of these procedures is described below.



QC/QA Plan - Contract No. 4400023434 UPRR Overpasses near Opelousas



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4.2 Discipline Level QC Review of Inspection & Condition Assessment Reports, Calculations and Drawings

In this first tier of QC review, a detailed review of inspection findings is performed. A similar QC review will be performed on design calculations and drawings if required by the project's scope. Preceding the review, design development for the design phase is completed. Design activity is in a "pencils down" mode and review sets are produced. In the Discipline QC, all inspection findings, design calculations and drawings are thoroughly checked for accuracy, completeness, and for compliance with the project's design task protocols. The reviewer is designated as an engineer within the Quality Control Team. The review is documented in the calculations and drawings using a check print stamp and a color-coded mark as indicated below:

- Yellow Confirmed
- Black General comment or suggestion
- Red Correction to be made
- Green checkmark or text Backcheck and concurrence with comment or other resolution
- Blue circle Indicates correction was made
- Pink circle verification by the reviewer that the comment was addressed

Once the Discipline QC review of the reports, drawings, and calculations is completed, verified, and documented using AECOM-based and LADOTD-based checklists, the reports, drawings, and calculations are designated as ready for an independent peer review for LADOTD in parallel with an Inter-Discipline QC Review. Issues that cannot be resolved between the Discipline QC reviewer and the original designer will be elevated to the design team leader or deputy project manager for resolution. These processes are described below.

4.3 Independent Peer QC Review of Inspection & Condition Assessment Reports, Calculations and Drawings

In the next tier of QC review (for items deemed necessary), an independent peer review is performed by an independent design team. AECOM will coordinate any independent reviews deemed necessary. The peer review of the structural design drawings and calculations will be completed using the independent design check method. Preceding the Independent Peer review, the Discipline QC review will be completed, and design activity is in a "pencils down" mode. If structural replacement is deemed necessary, drawing and calculation sets are produced for review and comparison with the independent design, as described in the paragraphs below.

Using the drawing review set, the peer review team will perform analysis and design calculations by independent means and design tools. The independent review will confirm the adequacy of the design and resolve any design discrepancies between the designer and reviewer. Once resolved, if necessary, the original calculations will be further revised to reduce or eliminate the difference in design results. This process is documented in forms, with participants, including LADOTD staff, signing off on resolved issues. The independent calculations will be documented in a separate volume of the calculation set. In addition, the post-Discipline review drawing set will be reviewed by the peer review team. Comments will be documented in the forms noted above and resolved in a similar fashion.

In addition to formal review periods, the peer reviewer may participate in "over the shoulder" review meetings during the design process. The purpose of these reviews is to identify potential pitfalls with the direction the design team is taking and to assist in developing corrective action in a timely manner to avoid significant rework in later stages of the design completion.

4.4 Inter-Discipline QC Review of Drawings

The Inter Discipline Review is a discipline leader and project manager review of the documents and is intended to be an overall design coordination review to identify potential conflicts in the plans between disciplines (i.e. – Roadway and Geometry, Structures, Geotechnical, Traffic Engineering, etc.). Preceding the Inter-Discipline review, the Discipline QC review will be completed, design activity is in a "pencils down" mode and a drawing set is produced for review. Similar to the Discipline Review process, comments are provided in black or red, concurrence or other resolution in green (checkmark), corrections in blue (circle), and verification by the reviewers in pink (circle). Issues that cannot be resolved between the Inter-Discipline QC reviewer and the original designer will be elevated to the design team leader for resolution. This review is documented in the Drawing QC checklist form previously discussed.

4.5 Quality Assurance Review of Calculations and Drawings

Once the drawings and calculations have completed the tiered, Discipline QC, Independent Peer QC (for items deemed necessary) and Inter-Discipline QC review processes, the submittal is ready for a Quality Assurance review. This review is performed by AECOM by a specifically trained senior engineer designated to be the QA Manager for the project. For the UPRR Overpasses near Opelousas Project, Gary Maji, PE will fill the role of QA Manager. The QA reviewer will examine all documented review materials, including plans, calculations, and QC forms for compliance with the AECOM and LADOTD policies and for completeness. In addition, the QA process verifies that the QC process was effective in preventing design and plan errors and in assuring consistency. Any comments provided by the QA reviewer approving the design package (plans and calculations) may be submitted. Comments that are systemic in nature (e.g., repeated multiple times) will require a repeat of the quality training or a protocol will be added to ensure systemic issues are corrected and not repeated.

4.6 Post QA Review Revisions

If for any reason (e.g., late inputs or other issue not anticipated) revisions are necessary during or after completion of the QA review, all revisions will be documented in drawing or calculation check prints and forwarded with revised drawings or calculations to the QA reviewer for a secondary review, prior to submittal. If the changes are substantial, LADOTD Design Lead and AECOM QA Manager will evaluate and determine if the QC/QA process needs to start over.

4.7 Submittal and Filing

Once the QA reviewer has verified that the QC process was completed satisfactorily, he will complete and sign the Document Release Record, allowing the submittal to be released to the client. All calculation, drawing and QC/QA documents will be filed and archived in the project folder, organized, and filed by submittal.

5.0 DOCUMENTATION OF COMMENTS/RESPONSES

5.1 Documentation of Internal Comments and Responses

The documentation of all internal comments and resolution will be contained within Discipline QC drawing check prints and forms, calculation review check prints and forms, and in Independent Peer Bridge QC calculation review forms and drawing check prints. Similarly, the documentation of the Inter-Discipline QC comments and resolution will be contained within the drawing check prints and forms. All QC documents will be stored electronically in the project folder and be available for audit.

5.2 Documentation of Client Comments and Responses

At formal submittal client reviews, a comment log will be used to document all comments, by page number. A plan markup may also be provided by the client. The design team will promptly review all comments received and schedule a comment resolution meeting to resolve the comments and set forth an action list to be completed prior to the next formal submittal. Revisions required by the action list will be documented in drawing and calculation Discipline QC review check prints for the next formal submittal. The QA Manager is responsible for tracking the resolution of comments.

5.3 Quality Assurance Records

Finally, the documentation of the QA review will be contained within the Document Release Record form at the completion and verification of all QC and QA review activities. All QA documents will be stored electronically in the project folder and be available for audit.

6.0 CONTROL OF SUBCONSULTANT QC PROCESS

AECOM's approach to project management and delivery is to fully incorporate subconsultants into an integrated project team, as opposed to an approach where subconsultants operate independently, with their deliverables "plugged into" the overall formal submittal. Subconsultants are integrated into the project communication process through weekly project coordination meetings. Individual subconsultant resources are expected to work as an extension of, and inclusive with, AECOM's staff resources. As such, subconsultants are expected to be fully trained in the AECOM QMS policy and to participate the Discipline QC and Inter-Discipline QC reviews.

As described previously, all project personnel (including subconsultants) will be trained in both the LADOTD's Bridge QC/QA policy and AECOM's QMS policy. The training will be done by the Quality Assurance Manager, or designated Project Manager or Deputy Project Manager familiar with and experienced in the LADOTD's Bridge QC/QA policy or AECOM's QMS policy.

7.0 CLIENT FEEDBACK AND QUALITY AUDITS

7.1 Administrative Oversight and Continuous Improvement

A desired outcome of the AECOM QMS policy is continuous improvement. The process identifies issues where the design team (collectively and individually) can improve design processes and skills. Most importantly, feedback from the client is solicited and incorporated into our process of continuous improvement, for each formal submittal. All project performance issues are discussed internally with the design team in weekly design coordination meetings throughout the project.

7.2 Internal and External Quality Audits

AECOM performs independent internal audits of projects to ensure that the QC/QA program is being implemented correctly. As all quality records are maintained for each formal submittal in the project directory, all QC and QA documents are available for LADOTD quality auditors at their request.

APPENDIX A – PROJECT PRE-PLANNING GUIDANCE & FORMS

- LADOTD Design Criteria Checklist
- LADOTD Project Activity Log Sheet
- LADOTD Bridge Design Section Records Retention Policy
- LADOTD Consultant Project Kick-Off Meeting Agenda Checklist
- AECOM QMS Project Plan Procedure and Example Form
- AECOM QMS Project File Index
- AECOM QMS Technical Task Protocol Procedure and Example Template
- AECOM QMS Software Validation Procedure and Example Form
- Sample QC/QA Training Module Technical Quality Review Job Aid

APPENDIX A-DESIGN CRITERIA CHECKLIST

Design criteria 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
- Revision date
- The Supervisor or Team Leader'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 Π_D , redundancy factor Π_R , and operational importance factor Π_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 Railing

The design criteria, types, and test levels for bridge barrier railings shall be listed in this section. Standard Plans 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 should be listed if they are utilized.

____ Approach Slab

Design criteria for approach slab shall be included in this section. Standard Plans 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 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 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 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 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 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 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 should be listed if they are utilized.

____ Mechanical Design

All mechanical design criteria shall be included in this section if applicable. Standard Plans should be listed if they are utilized.

____ Electrical/Lighting Design

All electrical design criteria shall be included in this section if applicable. Standard Plans should be listed if they are utilized.

As-Designed Bridge 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 J-PROJECT ACTIVITY LOG SHEET

Project No.:

Project Name:

Bridge Task Manager:

Date	Project Activity	Comments

APPENDIX F—BRIDGE DESIGN SECTION RECORDS RETENTION POLICY

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (by Conoral Files)	Archiving Instruction	Responsible Party
001	Design Manuals/Guidance and Bridge Design Technical Memoranda	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project- wise under <u>Documents_Reference</u> <u>Materials\Bridge Design Section</u> <u>Archive\Design Manuals-Guidance</u>	Assistant Bridge Design Administrator responsible for design manuals
002	Bridge Design Standard Plans	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project- wise under <u>Documents_Standard</u> <u>Drawings</u>	Bridge Design Standards Manager
003	Final Plans, Revisions, and Change Orders (CAD files)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project- wise under <u>Project folder\Bridge-</u> <u>Facilities\Discipline\Plans</u> (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)	ACT* + 1 CY**	Final Project Acceptance Date + 5 Years	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)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project- wise under <u>Project folder</u> \ <u>Published Submittals\Project</u> <u>Drawings_Final Plans</u>	Bridge Task Managers
006	Shop Drawings , Erection Drawings, RFIs, and Other Construction Submittals (Final Distribution Copy in pdf format)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project- wise under <u>Project folder</u> \ <u>Published Submittals\Project</u> <u>Drawings\Construction</u> <u>Submittals\Shop Drawings</u> or Erection Drawings or RFIs or Other Construction Submittals (See BDTM.49 for instructions)	Bridge Task Managers

*ACT = End of activity or final project acceptance date for project related items

**CY = Calendar Year

APPENDIX F—BRIDGE DESIGN SECTION RECORDS RETENTION POLICY (CONTINUED)

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (by General Files)	Archiving Instruction	Responsible Party
007	Shop Drawings (Final distribution hard copies and pdf files)	ACT* + 1 CY**	Life of the Agency	Transmit to General Files and archive electronically in DOTD Network Plan Room by General Files (See BDTM.49 for instructions)	Bridge Task Managers
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)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Project- wise under Project Folder\ _Published Submittals\Project Documents\Final Design Calculations & Reports	Bridge Task Managers
009	Bridge Rating Reports	ACT* + 1 CY**	Life of the Agency	Archive electronically in Content Manager under Load Rating.	Bridge Rating Engineer
010	Truck Permits Calculations	ACT* + 1 CY**	Life of the Agency	Archive electronically in a designated folder on the Bridge Design server.	Bridge Rating Engineer
011	Chief Engineer Orders (Bridge Posting)	ACT* + 1 CY**	Life of the Agency	Archive electronically in Content Manager under <u>Chief Engineer</u> <u>Orders</u> .	Bridge Rating Engineer
012	Project Related Correspondences (Original Hard Copies)	ACT* + 1 CY**	Final Project Acceptance Date + 5 Years	Archive electronically in Content Manager under Design Projects. 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

*ACT = End of activity or final project acceptance date for project related items.

**CY = Calendar Year

APPENDIX F—BRIDGE DESIGN SECTION RECORDS RETENTION POLICY (CONTINUED)

Item No.	Record Title	In Office Retention Period (by Bridge Design Section)	DOTD Total Retention (by General Files)	Archiving Instruction	Responsible Party
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.)	ACT* + 1 CY**	Final Project Acceptance Date + 5 Years	Archive electronically in Project- wise under <u>Project Folder\</u> <u>Published Submittals\Project</u> <u>Documents\Project</u> <u>Correspondence Emails</u>	Project Managers/Bridge Task Managers
014	Administrative or Other Types of Correspondences	ACT* + 1 CY**	Life of the Agency	Archive electronically in Content Manager under <u>Bridge Design</u> <u>Subject Files</u>	Everyone

*ACT = End of activity or final project acceptance date for project related items

**CY = Calendar Year

APPENDIX H—CONSULTANT PROJECT BRIDGE DESIGN 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 be 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 QC/QA 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.)



Project Plan Procedure

DCS

Q2[DCS]-221-PR1

	WHO	WHAT	WHEN
	PM or BM/CM	 Complete CRM opportunity record in CRM system, as applicable. 	Go/No Go Gate 1
Proposal/		 Include research in <u>iJet/WorldAware</u> for any location threat risks. 	
Prelim Plan	PM or BM/CM and TL	 For C2, C1 and C0 projects, draft a preliminary Project Plan. 	
(Pre-Award)		 Develop a preliminary technical approach to include in the proposal per the <u>Technical Approach - Planning & Review</u> <u>Procedure - DCS</u>. 	Proposal Gate 2
	PM P&LM or Project Approver	 Prepare proposal in accordance with <u>Go/No Go Procedure</u> <u>– DCS</u> and <u>Proposal Review Procedure – DCS</u>. 	
Executable Project Plan (Post-Award)	PM and TLs	• Following award, contract review and Healthy Start Review (where required), complete the Project Plan (using appropriate template) ensuring it captures/reflects any changes made between proposal submission, award and contract review, and includes any context or changes as discussed with the client during the client kick off meeting.	Execution Gate 3
	РМ	• Submits the current version of the Project Plan for review and approval in accordance with the Risk Category (C- category) graded approach approver requirements – Refer Section 2.	
Approval of Project Plan	P&LM or Project Approver	 Responsible for being involved in the process of reviewing the Post Award versions of the Project Plan prior to the approval and submission of the proposal and execution of project in Oracle. 	Execution
		 Confirm the project has been appropriately baselined in accordance with the negotiated, agreed proposal with the client. 	
\checkmark	РМ	 Communicate and distribute to the project team prior to work commencing. 	
Project Plan		• Review the Project Plan regularly and update with changes throughout the lifecycle of the project and save in the Project UFI.	
Management		• Significant changes in the Project Plan are to be identified clearly and communicated to all team members.	Execution
		 Control distribution (e.g. note revision and revision date in file name) so most current revision of the Project Plan is in use by team members. 	
		 Consider any client-required controls in the management and distribution of the Project Plan. 	



Related PPI

- Enterprise Approval Matrix – AECOM Global R1-001-PL1
- <u>Project Review</u>
 <u>Procedure AECOM</u>
 <u>Global R1-200-PR1</u>
- Project Document and <u>Records Control</u> <u>Procedure – DCS</u> <u>Q2[DCS]-222-PR1</u>
- <u>Project Meeting</u>
 <u>Procedure DCS</u>
 <u>Q2[DCS]-251-PR1</u>
- Project Risk
 Management Procedure
 DCS Q2[DCS]-231 PR1
- Graded Risk Approach: <u>Project Delivery</u> <u>Requirements – DCS</u> <u>Q2[DCS]-231-WI1</u>
- <u>Technical Approach –</u> <u>Planning & Review –</u> DCS Q2[DCS]-321-PR1
- <u>Technical Quality</u>
 <u>Review DCS</u>
 <u>Q2[DCS]-351-PR1</u>
- SH&E Management
 System Manual –
 AECOM Global S2-001 SM1
- <u>Subs Management</u> <u>Procedure – DCS</u> Q2[DCS]-141-PR1

References

• N/A

Terms & Definitions

AECOM Glossary

Change Log

1. Purpose and Scope

The DCS Project Plan Procedure defines the minimum requirements of the Project Plan and the methodology for preparing and updating the Project Plan through the life of the project. It has been demonstrated through AECOM trends and metrics and external client benchmarking that poor project planning leads to delivery performance issues including lost margin, late delivery, inconsistent quality of deliverables, and client and AECOM team dissatisfaction.

All projects shall have a Project Plan of sufficient detail to manage the risks of the project. Where appropriate, the Project Plan should link to reference documents either attached or hyperlinked. Citation of these in the relevant Project Plan section constitutes conformance to this required Procedure.

The Project Plan will at a minimum:

- describe how the scope of services as specified in the contract (or as subsequently agreed to with the client) will be accomplished to meet the expectations and objectives of both the client and AECOM team and to achieve the expected business results and client outcomes.
- identifies project and business risks with a plan to manage these through exclusions and contingency.
- describes the agreed communication plan with the client (method, timing and approach to project changes with client and project team).
- is the overarching control document. Any Sub-Plans or Project Plan elements (e.g., master schedule, risk register, registers, project quality plan, etc.) must be controlled as per the Project Plan.
- is used as a planning and management tool and means to share project information and expectations with the Project Team.
- shall address joint venture relationships and work- sharing between AECOM offices and geographies, where applicable.
- must be developed using the Project Plan Template (Long or Short, or C3A Project Plan) or project plan document required by the client if equivalent to the Project Plan Template.
- Is fit-for-purpose, appropriate for the risk and complexity of the project.
- **N.B.** For projects involving multiple AECOM locations or geographies, it is the managing entity's responsibility to develop the overall Project Plan and communicate it with its global stakeholders. Of special note is the need to clearly define how checking and verification is to be accomplished, coordinated and documented.



2. Graded Approach

The graded risk approach applies to this procedure. To determine the project risk category (C-category), click here for the <u>AECOM Risk Assessment Tool</u>. Use the below matrix for the required rigor of this procedure based on the risk category of the project.

Geography	C3A	C3	C2	C1	C0
DCSA EMEA ANZ	C3A Project Plan or equivalent document content approved by PM and Project Approver	Short Form – Project Plan or equivalent document content approved by PM and Project Approver.	Long Form – Project Plan or equivalent document content approved by PM and Project Approver.	Long Form – Project Plan or equivalent document content approved by PM and Project Approver.	Long Form – Project Plan or equivalent document content approved by PM and Project Approver.
GC and SEA	Nil	Project Plan – APAC – Asia or equivalent or Project Plan – Short Form – APAC - Asia (if the C3 project meets all the criteria listed on the form) document content approved by Project Approver and Local Quality Manager.	Project Plan – APAC – Asia or equivalent document content approved by Project Approver and Local Quality Manager.	Project Plan – APAC – Asia or equivalent document content approved by Project Approver and Local Quality Manager.	Project Plan – APAC – Asia or equivalent document content approved by Project Approver and Local Quality Manager.

Exceptions and modification to the requirement for a Project Plan are as follows:

- MSA's or IDIQ programs may have a Program Project Plan and then use either the <u>Project Plan C3A DCS</u> or the <u>Project Plan - Addendum - DCS</u> to the Program Project Plan Vs. creating a stand-alone project plan for each task.
- b. Projects with continuing services where Finance requires a new project number is initiated year-over-year, should review and confirm the current Project Plan remains applicable. If it does, the existing Project Plan can be used for the new project number (prepare 1-page addendum noting the new project number or note in plan revision the old/new project numbers).
- c. AECOM seconded employee projects do not require an AECOM Project Plan.
- d. The client or certain project circumstances may require exception to AECOM standard operational procedures. These variations (e.g., document and records control for confidential projects) shall be described in the Project Plan and reviewed/approved by Project Approver.

3. **Procedure**

3.1 Implementation

The Project Plan shall contain a level of detail commensurate with the complexity of the project and knowledge of special concerns and issues at the time using the Project Plan template options above as per the project risk category.

Action By		Action			
Project Manager (PM) and/or Deputy PM (DPM)	1.	Develop Project Plan using the template according to the project risk category and issue to the project team at the kickoff meeting.			
	2.	Update Project Plan throughout the lifecycle of the project for reference by the project team to the most up-to-date scope, standards, budget, schedule and client communication requirements.			

The content of the Project Plan is driven by the Project Plan template options according to the project risk category. If, another Project Plan is developed, the contents of the Project Plan must be equivalent to the templates.



- a. Other project-related plans may be required by the client as a part of our scope of services (e.g. Quality Assurance Plan or Project Quality Management Plan) or internal AECOM policy (e.g., Health and Safety Plan, Operational Security Plan). These stand-alone plans should be developed in accordance with the Project Plan and referenced, attached or hyperlinked to the Project Plan where appropriate. Generic templates for these plans are available for use in the geographies on the PDS or the functional area home page on the AECOM intranet.
- b. When AECOM is the primary or majority joint venture partner, PM will prepare an overall Project Plan in conformance with this procedure and/or any client requirements (topics and approvals) and direct the joint venture partners conform to the requirements of the Project Plan, when included as part of our contract agreement.
- c. When AECOM is a secondary or minority joint venture, PM will prepare a Project Plan for those portions of the work being performed by AECOM in conformance with this procedure.

4. Records

- a. Approved Project Plan and Referenced Documents
- b. <u>Project Plan Long Form DCS Q2[DCS]-221-FM1</u>
- c. Project Plan Short Form DCS Q2[DCS]-221-FM2
- d. Project Plan C3A DCS Q2[DCS]-221-FM3
- e. Project Plan Addendum Q2[DCS]-221-FM4
- f. Project Plan APAC Asia Q3AS-221-FM1
- g. Project Plan Short Form APAC Asia Q3AS-221-FM2
- 5. Appendices
- a. N/A

6. Change Log

Rev #	Change Date	Description of Change	Location of Change
0	11-May-2011	Initial Release as Q2-221-PR1	
1	01-Oct-2012	2012 Review – minor editorial changes	All
2	10-Oct-2014	2014 Review – minor editorial changes and issued as I2-221- PR1	All
3	21-Mar-2016	2016 Review – updated to new IMS Template and implemented ePM elements.	All
4	07-May-2018	2017 Review – put into new IMS Template, changed to 2 column layout, updated cross-references and issued as Q2[DCS]-221-PR1.	All
5	20-Jan-2020	2020 Review – minor edits; removal of references to ePM; introduced Graded Approach; removal of Appendices 1 and 2 – Flow Diagram and Project Plan Content Descriptions.	All
6	04-Aug-2020	Minor edits; new exception of Asia using own Project Plan Template; introduced the Project Plan – Addendum option	Section 2, 4
7	11-Sep-2020	Addition of Asia requirement on the use of the Project Plan – Short Form – APAC – Asia Q3AS-221-FM2.	Section 2, 4



Project Plan Template - Long

Project Name Project No.			
Approvals			
Project Manager			
		Click or	tap to enter a date.
Name	Signature		Date
Project Approver			
See attached signature page, dig	jital signature or e-mail confirmation, or:		
		Click or	tap to enter a date.
Name	Signature	0.1011 01	Date
		Click or	tap to enter a date.
Quality Manager (if required by Project or Region)	Signature		Date
Change Log			
Revision #	Brief Description of Changes		Date
Instructions: The following template is AECOM Risk Assessment Tool. Minimu Approach: Project Delivery Requirement Delivery System (PDS). Project Manager required for significant changes.	to be used for projects with risk level of C0, um requirements for Project Plan elements a <u>nts - DCS Q2[DCS]-231-WI1</u> and execution ger (PM) to make this Project Plan available	, C1, or C2 a are found in t guidance is f to the projec	s determined using the he <u>Graded Risk</u> ound in the <u>Project</u> t team and update as

1.	Project Information	2
2.	Client Information & Contract	2
3.	Scope of Services, Schedules and Budget	3
4.	Execution Approach	4
5.	Technical References	7
6.	Risk Management	8
7.	Communications and Records Management	9
8.	Project Safety, Health and Environment	. 11
9.	Project Closeout and Miscellaneous	.12
Appen	dix 1 Summary of Attachments	. 13



1. **Project Information**

a. Project Details

Project Name								
Project Number	F	Risk Catego	ry 🗆 C) 🗆 C	1 □C2		Risk Score	
Project Manager	Technical Lead							
Project Approver								
Region / Area		Lead Off	fice			Business Line		
Gross Revenue	1	Net Service	Revenue				GM% or NM%	
Contract Type	□ FPLS □ Target Cost □ GMP □ T&M w/ cap □ Unit Price □ T&M no cap							
Start Date	Click or tap to ente	Click or tap to enter a date.		n				

b. Overview Description

Provide summary description of the Project function, size, location, site and its basic parameters. (This description may be used for marketing purposes, so it should be written as a narrative.)

2. Client Information & Contract

a. Client Details

Client Name (Company)	
Client PM	E-mail
Key Contact / Responsibility	E-mail
Key Contact / Responsibility	E-mail
AECOM CAM / SAM	

b. Client Expectations

Describe the client's goals and expectations, how they will measure Project success, budget and schedule constraints, and agreed-upon client expectations.

	See Appendix 1	1 for the hy	perlink to the	Client's	expectations	and ob	jectives;	or
--	----------------	--------------	----------------	----------	--------------	--------	-----------	----

Briefly describe	2
------------------	---

c. Contract Requirements

Briefly outline key elements of the client contract and whether any confidentiality agreements apply to the Project.

Contract:	is project-specific
-----------	---------------------

MSA. MSA #: Click or tap here to enter text.


See **Appendix 1** for the hyperlink to the contract or contract brief; and/or

See Appendix 1 for hyperlink or attachment to AECOM's confidentiality agreement(s); or

Briefly describe key contract terms:

Are there Project-specific billing requirements?

If 'Yes', see **Appendix 1** for hyperlink to the Project billing requirements or contract

d. Client Feedback

Describe how the Client will provide Project performance feedback.

	See Appendix '	I for the	hyperlink to	the Client's	feedback	form; or
--	----------------	-----------	--------------	--------------	----------	----------

Briefly describe how Client feedback will be gathered:

3. Scope of Services, Schedules and Budget

a. Scope of Work

Brief description of the services that AECOM has agreed to provide to accomplish the Project goals and for which the client has agreed to pay. Include key assumptions and limitations.

See **Appendix 1** for the hyperlink to the AECOM scope of work; or

Briefly describe:

b. Schedule, Key Deliverables and Milestones

See Appendix 1 for hyperlink to the Project schedule and deliverables; and/or

Complete the following:

Brief Description of Contracted Deliverables and Key Milestones	Target Date Due to Client

* Add rows as necessary

c. WBS, Revenue and Cost Budgets

See **Appendix 1** for hyperlink to the Project WBS, revenue and cost budgets



d. Staffing Plan

- See **Appendix 1** for hyperlink to the **Project staffing plan**
- e. Is Earned Value being used on the Project?
 Ves
 No
- See **Appendix 1** for hyperlink to planned value curve
- f. Change Management
- See **Appendix 1** for hyperlink to Change Management Plan; or
- Standard change management approach and forms will be used in accordance with the <u>Change Management</u> <u>Procedure - DCS</u>

4. Execution Approach

a. Key Execution Objectives

Briefly describe the key execution objectives and approach for this Project, driven by Client expectations, risks and opportunities, Project conditions, constraints, etc.

Briefly describe key objectives:

b. Technical Lessons Learned

Technical Practice Group lessons learned from similar projects have been reviewed and have been incorporated into the Project risk register

c. Project Directory, Roles and Responsibilities

See **Appendix 1** for hyperlink to organization chart and roles/responsibilities, including subs and key stakeholders; and

□ Identify key roles and responsibilities

i. Key AECOM Staff (Include GDS and JV Staff when applicable)

Name	Company	Office	Responsibility

* Add rows as necessary

ii. Subs (when applicable)

Name	Company / Organization	Phone No.	Responsibility



* Add rows as necessary

iii. Other Key Stakeholders (e.g. regulatory agencies, permitting authorities etc.)

Name	Company / Organization	Phone No.	E-Mail	Responsibility

* Add rows as necessary

d. Global Delivery Services (GDS)

GDS staff and resources will be used to complete this Project

GDS staff and resources will **not** be used to complete this Project

If used, briefly describe the role of GDS on the Project, including disciplines and support functions, location/offices, scope, and time frame. If not used, briefly describe why your Project will not use GDS

e. Management of Subcontractors

There are no subcontractors (subconsultants, suppliers, or construction contractors)

See Appendix 1 for hyperlink to the methodology for subcontractor management and subcontract(s); or

Complete the table below to outline arrangements for managing the deliverables and quality of sub consultants / suppliers.

Subcontractor Name	Brief Scope	AECOM 'Owner'	How quality will be managed

* Add rows as necessary

f. Technical Approach and Technical Quality Reviews

i. Technical Approach

Technical Approach: Describe how the approach/methodology is documented:

Technical Approach Review: Describe how the approach review was/will be performed:

TAR Checklist TAR Meeting with meeting minutes

Other, explain:



ii. Is a Project-specific Quality Management Plan (QMP) required to be submitted to the client?

□ Yes □ No

See **Appendix 1** for the hyperlink to the Project Quality Management Plan and forms and/or other appropriate documentation; or

Describe the design quality management processes that will be used for the Project, where more stringent than the <u>Technical Quality Review Procedure - DCS</u>:

iii. The associated competent staff for reviewing/checking is:

Technical Reviewer / Checker	Discipline/Department

(Add rows as necessary)

iv. The associated competent staff for verification is:

Approved Lead Verifier	Discipline/Department

(Add rows as necessary)

v. Where applicable, the independent peer review team will be

Independent Reviewer	Discipline/Department

*Add rows as necessary

vi. The Technical Quality Review Schedule will be as follows:

See **Appendix 1** for hyperlink to the technical quality review schedule; or

The Technical Quality Review Schedule will be as follows:

Task/Deliverables	Discipline/Department	Date (approx.)

* Add rows as necessary



g. Permits and Regulatory Approvals

Are any permits other regulatory approvals required by the Project? \Box Yes \Box No

If '**Yes'**, list the permits required and indicate if the AECOM team is responsible for preparing applications and/or securing them.

See **Appendix 1** for hyperlink or attachment to the **Project permit requirements**.

5. Technical References

- a. Applicable Local or Regulatory Codes and Standards
- Identify who will obtain and maintain up-to-date codes:
- Jurisdictions applicable to project:
- Agencies with approval authority:

Applicable regulatory codes, standards, or other regulatory requirements that apply to the Project:

Code, Design Standard, or Requirement	Location of Document
	·

* Add rows as necessary

OR

See **Appendix 1** for document location, hyperlink to the applicable codes and standards.

□ Not applicable

b. AECOM Technical Standards

List AECOM technical standards, e.g., CAD, GIS, BIM, that will apply on this Project

References	Client Specified? (Y)	Location of Document

* Add rows as necessary



c. Applicable References

List design guidelines, client standards, and other non-regulatory references that govern work on this Project

References	Client Specified? (Y)	Location of Document

* Add rows as necessary

OR

See **Appendix 1** for hyperlink to the applicable references and design criteria.

Not applicable

d. Technical Software

List technical software to be used by the AECOM Project team on this Project.

Software	Discipline	Function / Use	Validated? (date)

* Add rows as necessary

e. Professional Engineering

List AECOM staff who will sign/seal technical documents for this Project.

□ No signing or sealing of documents is required

Document signers are listed below:

Name	License Type and State	Discipline(s) Covered

* Add rows as necessary

6. Risk Management

a. Approval Matrix Conditions

- i. Was an AECOM DCS Risk Committee Approval (or regional Risk Committee) required for this Project?
- ii. Was approval conditional? \Box Yes \Box No

If 'YES', identify approval conditions and mitigation strategies:



Approval Condition	Strategy to Mitigate

* Add rows as necessary

b. Risk Management Plan

See Appendix 1 for hyperlink to the Project Risk Management Plan; or

Standard risk management approach will be used in accordance with **Project Risk Management Procedure - DCS**.

c. Risk Register

See **Appendix 1** for hyperlink to the **Project Risk Register**; and

The top, key technical and Project execution risks, opportunities and mitigations are listed in the table below. A full project risk register is developed and updated in accordance with the <u>Project Risk Management Procedure -</u> <u>DCS</u>.

Risk / Opportunity Description	Mitigation / Strategy	Risk Owner

* Add rows as necessary

7. Communications and Records Management

Indicate how Project Team and Client communications will be maintained and records will be managed, and by whom:

See **Appendix 1** for the hyperlink to the Project Communication Plan; or

Briefly describe:

a. Communication Roles

Responsible Team Member (Name)	Role	Contact with: Client / Sub / Partner / Others

* Add rows as necessary



b. Project Meetings

E.g., team kickoff, client kickoff, Healthy Start, regular team meetings, client reviews, internal reviews

Meeting	Frequency or Date (approx)	Meeting Owner (Name)

* Add rows as necessary

c. Project Reporting

E.g., client reports, internal reports, JV reports

Report	Frequency	Report Owner (Name)

* Add rows as necessary

d. Document Control

- i. Hard copy Project files are located at: <a>

 <a>

 <a>

- ii. Electronic Project files are maintained in (insert electronic file path address): < Type>
- iii. Is this a US Federal project?

Yes, contact IT for FBS Access Control - U.S Federal project server set-up

🗌 No

iv. Is the <u>Unified File Index - DCS</u> being used? Yes No

If 'No', describe how documents are being stored/maintained in accordance with <u>Project Document and Records</u> <u>Control Procedure - DCS</u>:

v. The Document Controller in this Project is: < Type>.

vi. Describe (if applicable) how confidential or secured documents and records developed or obtained for this Project will be controlled, distributed and ultimately destroyed.

vii. List any special or unusual documents or records requiring control on this Project.

viii. Copyright Information

No copyright issues on the project.



All copyright issues will be addressed by – <Type> – prior to submittal of deliverables. Identify any specific copyright issues to be addressed (include requirements):

Project Safety, Health and Environment

a. Health and Safety

8.

i. Does this project involve activities in a field location or environment which could place staff at risk of injury or ill health?

🗌 Yes 🗌 No

If 'No', office health and safety plans and systems are to be used.

If '**Yes'**, briefly describe hazard analysis, safety training, budget for safety equipment, etc in accordance with corporate/regional safety guidance – see <u>AECOM Safety Playbook</u>:

See Appendix 1 for hyperlink to Project Health and Safety Plan and Forms as indicated above.

ii. Describe how Safety in Design will be employed during the design phase of the Project:

Environmental Management and Sustainability
i. Will this Project work impact the environment:
If ' Yes' , briefly describe the environmental legislation, code of practice, green design standards, or Client sustainability objectives relevant to this work and how these are being addressed.
See Appendix 1 for hyperlink to Project Environmental Management Plan and Forms.

ii. Does the Project scope provide any opportunity for sustainability? \Box Yes \Box No

If 'Yes', briefly describe the sustainability goals and framework for the Project, and how these are being addressed.

See **Appendix 1** for hyperlink to **Project Sustainability Framework**.

9. **Project Closeout and Miscellaneous**

a. Custody and Maintenance of Property

i. Wil	there be	Client-owned	propert	y under the	e custody	of AECOM?		Yes		No
--------	----------	--------------	---------	-------------	-----------	-----------	--	-----	--	----

If '**Yes'**, outline arrangements for the control and protection of this property and its safe return to the Client. This may include reports, samples, archaeological finds, etc.

ii. Will the company be required to maintain any physical material or products other than records after the conclusion of the Project?
Yes No

If 'Yes' describe the arrangements for handling, packaging, storing and protecting such items.

b. Maintenance of Equipment

Are there company-owned or leased monitoring or measuring devices or equipment used on the Project needing to be maintained or calibrated? Yes No

If '**Yes'**, outline arrangements to identify, calibrate, adjust, protect and maintain such devices. Also, describe where records of calibration activities will be kept.

c. Project Closeout

Briefly describe any special requirements for a) closing the project out with the Client, and b) archiving the project for AECOM records.



Appendix 1 Summary of Attachments

Instructions: This section is provided for ease of retrieving linked or attached documents.

Noto:	Documonto	linkod to	tho	Drainat	Dlan	must ho	controllad
NOLE.	Documents	iii ikeu it	<i>uie</i>	FIUJECL	гап	must be	controlled

Section No	Items	Hyperlink
2	Client Expectations and Objectives	
2	Contract or Contract Brief	
2	AECOM Confidentiality Agreement(s)	
2	Project Billing Requirements	
2	Client's Feedback Form	
3	Scope of work	
3	Schedule	
3	Deliverables	
3	WBS, Revenue and Cost Budgets	
3	Staffing Plan	
3	Planned Value Curve	
3	Project Change Management Plan	
4	Project Team Directory / Org Chart	
4	Subcontractor Management	
4	Subcontract(s)	
4	Project Quality Management Plan and forms	
4	Technical Quality Review Schedule	
4	Project Permit Requirements	
5	Codes and Standards	
5	References and Design Criteria	
6	Project Risk Management Plan	
6	Project Risk Register	
7	Project Communications Plan	
8	Project Health and Safety Plan and Forms	
8	Project Environmental Management Plan and Forms	
8	Project Sustainability Framework	
	Other (describe)	
	Other (describe)	

 Legend

 C0-C3A
 Level 1 = for Risk Categories C0, C1, C2, C3, C3A - cannot be deleted

 C0-C2
 Level 2 = for Risk Categories C0, C1, C2

 C0-C1
 Level 3 = C0, C1 - at the discretion of the Project's Requirements

 RN
 = Renameable Folder, folder's name can be changed to suit project needs

 Note
 1: Padrain from upinaliteon characteria in the folder parameteria in the folder parameteria.

Note	1: Refrain from using illegal characters in the f 2: Where necessary, use an 'underscore'.	folder naming convention: # % & * * / : < > ? \ + , . ; = [] { }			
LvI 1	Lyl 2 yl 3 (C0-C1)	Guidance	Fo	Restrict Deletion	ns
			Cannot Delete	BUT May Add To	RN = Renameable
(Project	t Number and Name)		C0 - C3A	C0-C2	RN
	Name and Project Name (if project na	This folder is intended as a repository for records of activities leading up to the client's notice-to-proceed on a project. Some of this information may need to be obtained	Optional		RN
000_110	010_Go_NoGo [GNG]	from marketing/business development group. In lieu of copy saved here, can be held in approved system.	CU-CSA		
	020_RFP_RFQ [RFP]	The document, as received from the eventual client, that requests or invites the submittal of a proposal for the project.			
	030_Pricing [PRICE] 040_Proposal [PROP]	Records of pricing strategies, calculations, projections, etc. used to submit a cost quotation, either prior to, or after, selection. The actual signed version of the final proposal submitted, and any relevant records leading up to it.			
	050_Presentation [PRES]	When applicable, a copy of the PowerPoint or other media used in a presentation to elaborate on our qualifications for the project.			
	060_Legal_Review [LEGAL] 070_Negotiations [NEG]	Records of legal review of contract and terms and conditions; copy of Contract Review form if online tool not used. Records of negotiations regarding scope, schedule and pricing between AECOM and client.			
	080_Superseded [SS]	Superseded version of documents in the Pre-Contract folder.			
100_Co	ntract [CONT]	This folder is intended to hold all legal agreements, contracts, POs, insurance certificates or other documents that bind AECOM in a business relationship with another entity.	C0 - C3A		
	110_Client_Contract [CL_CONT]	General records related to contracting process and signed version of the primary contract between AECOM and the Client; establish Level 3 folders as needed for Changes.			
	120_TO_PO [PO] 130_Approval_Matrix [APPVI_MTX]	Signed and executed task orders, purchase orders and notice to proceed as required by the client's contract. Must include corresponding scope of work, cost estimate and schedule.			
	140_Risk_Committee [RSK_COM]	Store correspondence for RA/RFA/RFPAs, especially when required to submit quarterly Risk Committee approval update forms.			
	150_Subcontracts [SUBS] 160_Vendors_Suppliers [VENDOR]	Signed versions of contracts with technical/professional subs; establish Level 3 folders as needed for Subs Invoices, QA/QC, Insurance Certificates.			RN
	170_Superseded [SS]	Signed versions of contracts/POS with materials, equiphent, supply providers, establish Lever's folders as needed. Superseded versions of documents in the Contract folder.			KIN
200_Pr	oject_Control [PROJ_CONT]	This folder is intended to contain records related to the overall project management and business administration of the project.	C0 - C3A		
	220_Risk_Assessment_Register [RISK_REG]	Save project plan and updates throughout project execution. Save here for risk assessment (if online Risk Assessment Tool not used) and risk register (if not a part of the project plan) or electronic tool. Update throughout project.			
	230_WBS_Schedule [WBS_SCH]	Work breakdown structure and schedules. Include schedule bar charts, MS Project output/file, critical path analyses, other supporting documentation. Staffing worksheets, projections, assignment memos, etc.			
	240_Budget [BUDG]	Main budget is in APIC; here include supporting budget worksheets, projections, summaries for project team, etc.			
	250_Client_Invoices [INV] 260 Healthy Start Reviews [HS]	Invoices submitted to the client. Level 3 folders, as needed, for things like Progress Reports. Healthy start reports, action items, follow-up documentation for evidence of closure			
	270_Project_Reviews [PROJ_REV]	Review schedules, agenda, discussion summaries, action item lists. This is for overall status reviews; EACs, monthly/quarterly project status reviews, etc. QC reviews go in 420.			
	280_Closeout [CLOSE]	Records related to the pending or actual closure of the project.			
	290_Superseded [SS]	Superseded versions of documents in the Project Control folder. This folder is intended to house correspondence, records of calls, emails (depending on local IT requirements), meeting minutes and other forms of communication			
		between AECOM and outside entities as well as internally within the AECOM team.			
		* Meeting minutes can linked to meeting minutes in this folder.			
300_Co	mmunications [COMM]	It is anticipated Level 3 subroiders would be used appropriately according to the complexity of the project's organizational structure and as-needed to facilitate quick and easy retrieval.	C0 - C3A		
		* As email is a primary form of communication, a separate email folder should not be necessary as the different file types (.pst, .pdt, etc.) of emails can be stored in the same folders with hard-copy scans of .doc, .ppt, .xls or other file types. Alternatively, a PM may elect to set up Level 3 subfolders within each			
		of the four Level 2 folders as separate folders for emails, or for "incoming" and "outgoing" communications. * When documents that carry signatures are stored, these should either be electronically signed versions, or scans of wet-signed documents.			
		Note: Must defer to local IT requirements/practice for storing email (e.g. '.msg' and '.pst').			
	310_Client [CLIENT]	Emails, meeting minutes, communications to and from client. Can add a Level 3 to differentiate between different types of communications.			
	330_External [EXT]	General communication outside contract negotiations. Can add a Level 3 set of rolders to differentiate between multiple Subs. Outside/Third Party/Regulatory entities other than those AECOM has a contractual relationship with (agencies, authorities, commissions, etc.)			
	340_Internal [INT]	File notes, records of conversations.			
	350_Feedback [FEEDBK] 360_Superseded [SS]	Include informal and/or formal client feedback, evaluations, ratings, etc. Superseded versions of documents in the Communications folder.			
		Store data, input, standards, guidelines, manuals, calculations, software information and validation and other similar materials that support the development of the technical			
400_Te	chnical [TECH]	aspects of the work.	C0 - C3A		
		* Examples of Level 2 folders: Reports, Calculations, Data, Information, etc. Includes all non-CAD, non-GIS working documents. * Replace "431_TechnicalArea_X" with appropriate naming convention.			
	410_Technical_Approach_Review [TAR]	Record of Technical Approach Review and follow-up; resolution of TAR comments.			
	420_Technical_Quality_Reviews [TQR]	Supporting evidence of quality review activity (markups, check sets, comments log, TQRRs, etc.). May include optional QC Review checklists or other discipline-specific checklists.			
	425_Calculation_Review [CALC]	Record of Calculation Review and follow-up and resolutions.			
	431_TechnicalArea_X				RN
	432_TechnicalArea_X				RN
	434_TechnicalArea_X				RN
	440_Field_and_laboratory_data [DATA]	Intended as a location for field forms, field data, boring logs, laboratory data and analyses, research data, permits, etc. Used to develop deliverables.			RN
	450_Photos [PHOTO] 460_Superseded [SS]	Project photos, field photos and corresponding photo logs. Superseded versions of documents in the Technical folder.			RN
		File the record set (.pdf/locked version) of issued deliverables submitted to the client / outside entities (e.g. funding agencies, permitting agencies, etc.):			
500_De	liverables [DELIV]	* Replace "50X_Deliverable_X" with the appropriate naming convention matching the deliverable naming convention. * It is a requirement that these deliverables will be reviewed in accordance with the Technical Quality Review Procedure - DCS_Records of this	C0 - C3A		
		review (TQRR) are stored in the respective deliverable folder (501, 502, etc.), or storage in folder 420 as determined by the PM.			
	501_Deliverable_X				RN
	502_Deliverable_X 503_Deliverable_X				RN RN
	504_Deliverable_X				RN
	580_Other 590 Superseded [SS]	Where superseded drawings exist as a deliverable, include in this folder for a record of the entire issued set.	-		RN
600 Co	Instruction Support [CSUP]	This folder is intended to house records of AECOM's interaction with third-party contractors that are building the work designed by AECOM. Projects where construction			RN
	610_Addenda [ADDENDA]	management or administration is the primary service may be required to follow a different file organization structure by contract. Copy of issued contract addenda, as well as other supporting documents leading up to the addenda release.			
	620_Communications [COMMS]	Use Level 3 subfolders as desired to separate among various entities and/or types of communications (emails, meeting minutes, claim documents, etc.).			
	630_RFIS [RFI] 640_Shop_Dwg_Submittals [SHP_DWG_REV	Requests for Information submitted by contractors and our replies. Review of shop drawings and other submittals received from contractors.			
	650_Pay_Applications [PAY_APPL]	Pay requests from the contractor, including AECOM's review and response.			
1	670_Site_Visits_Inspections [SITE_INSP]	Use Level 3 subfolders as needed to contain information related to each change order including permit approvals. Records and notes resulting from AECOM inspections of the work performed.			
	680_Punch_List_Closeout [PUNCH]	Documentation and progress records of contractor efforts to complete the work. Add Level 3 folders for items such as Maintenance Manuals, etc.			
700 0	DSU_Superseded [SS]	Superseded versions of documents from Construction Support folder. The electronic tools (iQT, AECOM U) serves as the primary repository for some of these documents. When desired, or when electronic tools are not accessible to a project	60 6		
100_QU		this folder is used to house these records. Project-specific quality, environmental management and sustainability plans requested by plants above and beyond the sections in the project plan. If a deliverable can be the work	C0-C3A		
	720 Audits and CARCIAUDIT CAR	product in this folder with the final deliverable in a deliverable folder above.	ļ		
	730_Training [TRAIN]	Evidence of EMS, QMS, etc. training performed for the project.			
	740_Reserved_for_PMs_option	Purparended untriese of desumants in the OFO fails -			RN
800_Sa	fety [SAFETY]	Superseueu versions or documents in the QES tolder. This folder would be used on projects that involve field work or other-than-ordinary office-based physical activities that present a safety hazard.	C0 - C3A		
	810_Safety_Plan [SFTY_PLN]	Project-specific safe work plan, safety and health plan, Task Hazard Analyses (THAs), and hazard checklists as applicable.	[
ĺ	830_Meetings [MTGS]	Include records or project-specific Sam training. Include attendance/agenda of on-site tool box meetings, attendance at contractor mtgs, etc.			
I	840_Incidents [INCID]	Investigation of safety incidents. Coordinate with SH&E and Legal regarding records to keep in project files.			
I	860_Superseded [SS]	Superseded versions of documents in the QES folder.			
900_CA	ID_GIS	Intended as a location for CAD/BIM files, GIS graphics, works-in-progress and collaborative working documents. Finished deliverables are stored in Section 500. If clients	C0 - C3A		
	910_CAD	Intended as folder structure for design working documents that use CAD technologies, processes, and procedures to create, compose, and deliver project deliverable content. For			
		example, AutoCAD (and design apps), Micro Station (and design apps), and Revit (design apps.) are examples of CAD/BIM technologies that will use this folder structure to manage and deliver project content. Other design technologies such as water modeling, traffic simulation, or structural analysis applications may choose to use these folders to integrate data more			RN
	911_Discipline_X	efficiently with CAD/BIM technologies.			
I	911_1_WIP				
ĺ	911_2_Shared 911_3_Published				
I	911_4_Archived				
ĺ	912_Discipline_X 912_1_WIP				
	912_2_Shared				
	912_3_Published		<u> </u>		
ĺ	920_929_(GIS_Graphics)	Customizable based on scope of services and GIS and/or Graphics needs.			RN
1	930_BIM	Intended as folder structure for design working documents that use BIM technologies, processes, and procedures to create, compose, and deliver project deliverable content. For example, BIM (and design apps) or REVIT will use this folder structure to manage and deliver project content. Other design technologies such as water modeling, traffic simulation, or			RN
1	940 999 Received for DMc action	structural analysis applications may choose to use these folders to integrate data more efficiently with BIM technologies.			PN
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Q2[DCS]-222-WI1

Rev	Rev Date	Details
1	15-Jul-16	Initial Release as Q2[DCS]-222-WI1
2	15-Jul-16	Minor edits.
3	23-Oct-16	1. Level 2 folder abbreviations added in [].
		If abbreviations are not used, do not add the brackets or information inside of the bracket in the folder set up.
4		1. Instruction not to use illegal characters in folder naming convention - use 'underscore' instead.
5	07-Dec-16	1. Updates to CAD_GIS folder per Global CAD/BIM teams request
6	01-Feb-17	1. Updated 130_DOA [DOA] to 130_Approval matrix [APPVL_MTX]
		2. Updated CAD Discipline and CAD_GIS folder to correct sub-folder structures.
		3. Removed further illegal characters i.e. dashes and forward slash.
		4. Amended '400' + '500' renamable and put in their numbers.
7	02-Mar-17	1. Updated 270_Project_Reviews_APIC [PROJ_REV] to 270_Project Reviews [PROJ_REV]
		Corrected number sequence for 700 740_Training is now 730_, 750_Reserved_for_PMs_options is now 740.
		3. Removed references to Q-Dash and VPO
8	27-Jan-20	1. Updated to address Graded Approach and transition from ePM to APIC.
		2. G18, replaced Salesforce for CRM System.
		3. G52, removed statement 'May be in electronic tool (ePM, ePMP) as meeting minutes.
		4. G81, removed 'Healthy Start audit review.
9	21-Oct-20	1. Moved 'Change Log' detail from main page to its own Tab called 'Change Log'.
		2. I8 – Replaced 'Cannot Delete' with 'Restrict Deletion'
		3. G12 – Replaced 'CRM System.' with ' approved system.'
		4. G29 – Deleted ' and Risk Register'
		 G38 – Reworded to highlight local IT requirements/practices are deferred to when storing email (e.gmsg and .pst).
		 G45 – Reworded to better explain content to be stored in this location.
		7. Row 48 - Added '425_Calculation_Review [CALC]'
		 G57 – Reworded to better explain content to be stored in this location.
		9. G62 – Replaced ' CD Set.' with ' Issued set.'
		10. G81 – added 'hazard checklists' as an another example of content type for this area.
		11. Row 85 - Renamed '850_Superseded [SS] ' to '850_Safety_in_Design [SiD]
		12. Row 86 - Added '860_Superseded [SS]'



1.0 Purpose and Scope

- 1.1 This Tier IV procedure supplements and supports the Tier II and III Project Approach Review procedures.
- 1.2 The purpose of this procedure is to outline a process for using a Technical Task Protocol (TTP) that helps guide the performance of specific technical work tasks in accordance with established requirements and full knowledge of input sources and guidance documents.
- 1.3 The Technical Task Protocol (TTP) is one of the legacy discipline-specific processes that has remained in place which may help fulfill the technical review elements of the PAR process. Although mainly practiced in AECOM's North America Transportation business line, the TTP process can be used throughout the organization as deemed appropriate.

2.0 Terms and Definitions

- 2.1 **Technical Task Protocol (TTP)** A document that provides instructions on how to set up, plan, and conduct a specific technical work activity.
- 2.2 **Discipline Lead** The manager or supervisory level person that is responsible overall for the project's technical work in a specific discipline.

3.0 References

- 3.1 Tier II Project Approach Review Procedure (Q2-321-PR)
- 3.2 Tier III Project Approach Review procedure (Q3NA-321-PR1)
- 3.3 Tier IV Guidelines for the Preparation of Calculations (Q4NA-331-GL1)

4.0 Procedure

- 4.1 The intent of a Technical Task Protocol (TTP) is to provide those preparing technical documents with the input, references, criteria, direction, and background information necessary to carry out the task in a complete and efficient manner. TTPs are mainly useful for calculations, and may be used as input to specifications, drawings, and technical reports and studies. Exceptions are cases where the tasks are simple or for information only, or where the input information is readily available or developed in another manner for the project (e.g. Design Criteria Document). Depending on the scope and complexity of a task, TTPs may be developed for individual tasks or a series of tasks. In addition, standard TTPs may be developed by offices or other business units to address work that is performed for a given client on an ongoing or repetitive basis. Typically, **discipline leads** determine the value, necessity and scope of TTPs on the projects their discipline is working on, or for their departments in general.
- 4.2 **Discipline leads** shall assign competent individuals the task of preparing calculations. Guidance for the preparation of calculations is found in the Tier IV document referenced in Section 3.3 above.
- 4.3 Technical Task Protocol preparation **Discipline leads**, or **designee**, prepare TTPs prior to the performance of technical tasks. TTPs generally include the information as described in the sample Technical Task Protocol outline included as Attachment 1. Content is also based on the complexity of the task, size of project, project team familiarity with design requirements, new design requirements, etc.
- 4.4 Technical Task Protocol format TTPs are to be formatted in a manner that provides a clear understanding of the task and the conveyance of the required information. An example TTP format is provided in Attachment 1.
- 4.5 Control of Technical Task Protocols TTPs are to be kept up to date throughout the development of technical documents and assigned revision numbers as appropriate. TTPs that have been superseded or



cancelled are to be so noted. Revisions to TTPs should be given the same review and approval as the original.

- 4.6 Review and Approval of Technical Task Protocols TTPs shall be reviewed and approved by a **competent individual other than the preparer** to ensure the information is identified and presented correctly. The date and signatures of the preparer and reviewer appear on the cover sheet or first page of the TTP, signifying their review and approval for use.
- 4.7 Approved Technical Task Protocols should be kept with the related calculations.

5.0 Records

5.1 Approved Technical Task Protocol

6.0 Attachments

6.1 Attachment 1 – Sample Technical Task Protocol outline



ATTACHMENT 1 Sample Technical Task Protocol Outline

Technical Task Protocol No.:	Revision No.:
Project:	Job No.:
Design Task Element:	
Originator / Date	Reviewer / Date

Some of the items to be considered in the preparation of a Technical Task Protocol include, but are not necessarily limited to:

Objective

- Briefly describe the goal of the task
- Scope of work statement

Prerequisites (Input)

- Required formats
- Technical results from other disciplines
- Technical output from other technical task elements
- Existing test data or analyses
- Required test data

<u>Design</u>

- Technical criteria (Client directed)
- Client specifications
- Design manuals
- Codes and Standards
- Design Loads
- Safety factors
- Standard corporate or local design protocols
- Preferred analysis methods and design approaches
- Assumptions
- Appropriate Validated Software

Interdiscipline Coordination

Identify disciplines that interface with the design element and provide output



Validation of Software and Data Management Tools

Q2[DCS]-311-PR1





Related PPI

- IMS Manual DCS Q2[DCS]-001-PR1
- Improvement Procedure
 <u>– DCS Q2[DCS]-003-</u>
 <u>PR2</u>
- <u>Technical Quality</u>
 <u>Planning and Review -</u>
 DCS Q2[DCS]-351-PR1

References

- <u>Project Plan Template –</u> <u>DCS Q2[DCS]-221-FM1</u>
- Project Plan Short Form – DCS Q2[DCS]-<u>221-FM2</u>
- Project Plan C3A DCS Q2[DCS]-221-FM3
- <u>Software Validation</u>
 <u>Form DCS Q2[DCS]-</u>
 <u>311-FM1(Fillable PDF)</u>
- <u>Software Validation</u> <u>Form - DCS Q2[DCS]-</u> <u>311-FM1 (MS Word)</u>
- DCSA Validated
 Software List
- Geo/Regional Validation
 Software Registers
- <u>Technical Practice</u> Groups (TPGs)

Terms & Definitions

<u>AECOM Glossary</u>

Help & Training

• None

Change Log

1. Purpose and Scope

This procedure describes minimum requirements to ensure software, including data management tools, used on AECOM DCS projects has been adequately selected and validated before use. Project Managers shall validate data management tools and software used to collect, store and process data used to develop project related deliverables, to ensure they meet the technical discipline and client requirements.

2. Procedure

When software is used to create inputs to work products or advice to clients, the validity of the software and its outputs, and its ability to satisfy the intended application, must be established. Software must be validated prior to initial use, and reconfirmed as necessary.

During the proposal stage, the Technical Leader should include in the Technical Approach development a list of appropriate technical software that will be used on the project, along with if the software has been/or needs to be validated. This list should be provided to the Project Manager to include as a link in the project plan and resources appropriately budgeted for where validation is needed.

If the software (and current version) is not already included on the geography/region software registers, the technical team member utilizing the software shall perform a validation that would be logged on the appropriate register for use by other technical team members.

The validation must be documented using Software Validation Form – DCS or equivalent and the documentation must be readily available (e.g., in the project central file or central register of validated software). Technical team members are required to confirm validation has occurred or are responsible for software validation for their technical software. Control of the software (including licenses, loading onto computer and addressing software errors and maintenance) is the responsibility of the IT Department.

This document focuses on the software validation, output review and testing and applies to "technical software" which is used for any of the following:

- a. Performing calculations;
- b. Developing input for use in calculations;
- c. Creating designs or drawings using embedded calculations;
- d. Generating output provided directly to clients;
- e. Generating output included in deliverables to clients; or
- f. Developing software for delivery to a client as a contractual obligation.



2.1 Technical Software Includes

- a. Advanced or complex programs developed within standard office-type platforms such as MS Excel and MS Access which are not amenable to standard checking/verification.
- b. Mathematical, formulaic, and logic-based programming developed within standard office-type platforms such as MS Excel and MS Access that cannot be validated as simple calculations.
- c. Industry Standard and non-standard software performing technical calculations to confirm/develop designs (e.g. STAAD, GT STRUDL, etc.).
- d. AECOM Data Management Tool (e.g. MS Excel macros, software developed to analyze data for a deliverable, etc.).

2.2 Technical Software Excludes

- a. Software that does not conform to the definitions provided in the list above;
- b. Used to produce output that is checked and verified manually;
- c. Inherent to equipment for measuring and testing, which is periodically verified and calibrated in accordance with the manufacturer's specifications; or
- d. Designed to enable the operation and maintenance of a computer system and its associated programs (systems software).
- e. Simple MS Excel and MS Access formulas or logic that can be validated as calculations in accordance with the Technical Quality Planning and Review Procedure DCS.

The project technical lead and/or lead verifier are to confirm the appropriate technical software is being validated and implemented.

Geographies/Business Lines may develop supplemental procedures to include additional details or specifics. These may include the establishment of higher-level management control or coordination of the validation process.

3. Software and Data Management Tool Development Considerations

Stability

Prior to selecting or developing software, including data management tools, the PM and developers must agree on a few key elements of design as follows:

- Functionality
 Capability
- Scalability

Compatibility

Desired Output

- Speed
- Method of validation

consistent with the intended range of applications.

"Non-standard" software (e.g. written in programmable third-party software such as C++, Visual Basic, MathCAD, MS Excel models, and extensions or revisions of verified software such as MS Excel macros or advanced formulas or logic based programming) or procured and employed by AECOM (STAAD, Roof View, etc.) shall be adequately documented, including authorship, revision history, description, applicability, testing and references. Such software shall be validated taking into account the applicable range of intended use, and software options and parameters

Where software not developed by AECOM is to be used to conduct AECOM business, that software must be currently licensed for use by AECOM.

- All software to be used on the AECOM network must be licensed and approved by the Information Technology (IT) group before it can be utilized.
- AECOM staff may not use software that they privately own in the conduct of AECOM business.



3.1 Purchased Technical Software Validation

Follow the flow diagram on Page 1 of this document (and itemized below) to add technical software to the validated software listing/register:

- a. Identify software to be used in the Project Plan;
- b. Determine whether validation is required;
- c. If validation is required, determine if validated, if not, assign technical team member to validate;
- d. Discipline lead review validation process and confirm accurate results are being output by the software;
- e. Transmit the validation documentation to the Software Approver (defined on Geo/Region/Location register);
- f. Software Approver request the software to be added to the register; and
- g. Perform a verification after use of the software to confirm the software provided reasonable results (could be in the Technical Quality Review process).

3.2 Client Specified Software

Follow the flow diagram on Page 1 of this document (and itemized below) to add technical software to the validated software listing/register:

- a. Identify software and confirm the software is fit for purpose and included in the Project Plan;
- Assign technical team member to prepare the validation form with links to the client/regulatory internet site with the clients/regulatory software verification and validation process or request documentation of verification and validation and attach to the Software Validation Form – DCS;
- c. Discipline lead review validation package and confirm accurate results are being output by the software;
- d. Transmit the validation documentation to the Software Approver; and
- e. Perform a verification after use of the software to confirm the software provided reasonable results (could be in the Technical Quality Review process).

3.3 AECOM Software/Data Management Tool Verification and Validation

Software developed by AECOM starts at the proposal stage and is included in the project schedule and budget, the table below identifies specific assignments for originators, reviewers and lead verifiers for the verification and validation process.



Proposal & Planning

- Project Manager and Technical Lead identify technical quality reviews applicability based on the project's data management and software validation needs and review software and tool development considerations.
- Categorize software as Legacy, Industry Standard, or Non-standard per Section 4.0, Terms and Definitions.
- For each non-standard software, confirm validation has occurred or assign Validator, Verifier and Approver to perform validation, and if appropriate, specify the method to be used for validation.

Check

- · Originator should conduct self-check and test prior to release to reviewer.
- Reviewer should select test data and perform validation following the specified validation method and address applicable Technical Quality Review needs.
- Reviewer will conduct validation tests to ensure that results are consitent with technical practice and expected outcome, provide results, comments and documentation.
- Reviewer does the initial testing of end user interface such as forms, filters, commands, reports, etc. to ensure proper functionality and error handling.
- The originator addresses the comments, either making corrections or stating why the comment is not accepted. Disagreements are taken to the lead verifier; if the lead verifier cannot resolve the disagreement, the Department Lead/Manager makes the final decision.

Verify

- The Lead Verifier confirms that all comments have been addressed appropriately and that the software includes all required elements.
- The Lead Verifier conducts a discipline specific technical review of the deliverables or deliverable elements generated using the data and/or software.
- Verify that any comments or errors during testing of final user interface elements such as forms, filters, commands, reports, etc. have been resolved and confirm proper functionality and error handling.
- If the Lead Verifier has additional comments or disagrees with something in the software, the
 originator addresses the comments or states why the comment should not be incorporated.
 Disagreements are resolved by the Department Lead/Manager.
- The Lead Verifier completes and submits validation form to Software Validation Approver once all comments have been resolved.
- Provide results and documentation of the validation process to the assigned Approver. Changes
 that may affect previous output shall be noted and communicated to Approver and Department
 Lead/Manager.

Approve

- The Department Lead/Manager approves the software and requests the software be added to the validated software register.
- The PM approves deliverables or deliverable elements created with the software.

3.4 Validation of Software Revisions

New versions of previously validated software shall be validated again in accordance with the original process. Consideration shall be given to whether only the latest version of the software is to be maintained, keeping in mind that the use of older versions may still be required by clients or for continuity with earlier output.



3.5 Software Error and Errata Data

Errors identified by software vendors or by project team members during the use of the software must be reported to the Discipline Manager and the contact person identified on the relevant software register. The Discipline Manager shall:

- a. Notify the software developer/vendor and AECOM IT.
- b. Identify projects that have used or are using the software. Assess the impact of the error on both completed and ongoing projects.
- c. Notify the affected project managers.
- d. Notify the affected client if necessary.
- e. Develop a corrective action plan for all affected work products and deliverables.
- f. Revise the validation documentation, including the software register, as necessary.

3.6 Documentation

Validated Software records such as those listed below must be maintained in the local 'approved' Geography/ Business Line/Location validated software register:

- Completed the Software Validation Form DCS (or equivalent) and supporting records, calculation check, comment sheets and software revision/version history maintained by the geography and business line Software Approver.
- Whenever possible developer should include the corresponding "About" Section and summarize licensing, copyright, and version information.

4. Terms and Definitions

a.	Data Management Tool	Any software, programming, template, spreadsheet or platform used to store, evaluate, format or manipulate data in any way from an Excel table to advanced software.
b.	Discipline Manager/ Approver	Leader that supervises and is responsible for the work performed in a specific discipline, market sector or practice area. Responsible for reviewing validation records from technical team members under his/her direction and providing to the Business Line Approver.
С.	Industry Standard Software	Commercially available technical software that is widely used and accepted in a discipline, market sector or practice area, and that does not require significant adaptation for use by AECOM (i.e. Primavera, ArcGIS, REVIT, etc.)
d.	Legacy Software	Technical software validated and regularly used in the current version at an AECOM legacy or newly acquired company for at least three years and for which no problems have been reported, or for which problems have been reported and corrected.
e.	Non-standard Software	Technical software that is not widely used and accepted in the industry.
f.	Software Approver	The individual, independent of the validator, who reviews the validation output and accepts the software for use by AECOM.
g.	Software Register	An up-to-date listing of validated technical software maintained by each Geography/Business Line/Location and posted in a location accessible to all staff.
h.	TL	Technical Lead; An individual competent in a technical discipline accountable to the PM for technical excellence on the project and for delivery of the technical tasks or technical packages of work within the scope, budget and schedule.
i.	Validation	The process of accepting technical software for use by AECOM. Validation may include verification of conformance with requirements.



- The process, normally performed by the software vendor, demonstrating that the software will perform its intended function prior to distributing to users of the Verification j. software (AECOM). k.
 - Validator The individual who performs the validation – technical team member.

Appendices 5.

N/A a.

6. Change Log

Rev #	Change Date	Description of Change	Location of Change
0	05-11-2011	Initial Release as Q2-311-PR	All
1	04-18-2016	2015 Annual Review and released as Q2[DCS]-311-PR1	Minor edits throughout.
2	05-07-2018	2017 Review, in new IMS Template, major changes including title change from 'Software Validation Procedure – DCS'.	Read as new document.
3	20-Jan-2020	2020 Review; removal of all ePM references.	Page 1; S3.1
4	12-Oct-2021	2021 Review; put into new AECOM branded template; swapped order of "Approve" and "Track" in flow diagram; removed reference to the AECOM Software Catalog; new section for Client Specified Software; general edits.	Page 1, References, Section 2, 2.2, 3.2, 3.6,



Software Validation Form

Instructions:

- 1. Refer to the <u>Validation of Software and Data Management Tools DCS Q2[DCS]-311-PR1</u> for information on this process.
- 2. Completed and approved forms are to be maintained in the local 'approved' Geography/Business Line/Location validated software registers.

1. Software Information			
Software Name		Version	
AECOM Contact Person		Date	
Source	🗌 Internal* 🔲 External	Business Line	
Vendor/Developer			
Software Classification	🗌 Legacy 🔲 Indu	ustry Standard	Non-Standard
* Validation of software develop	ed by AECOM may not be performed by the	software developer.	

2. Software Validation								
Validation Type	🗌 Init	ial Revision						
Purpose & Description								
Validation Method								
Legacy	Doc	umented evidend	ce of previous satisfact	tory use.				
Industry Standard	Sigr	Signed Statement / Certification of QC validation by vendor / developer. Sample data run for proper functioning on AECOM computers / system.						
Non-Standard	Soft	ware run w/input nual calculation v	having a known soluti erification.	ion / output r	natches solution.			
Other (specify method)								
Validation Performed by								
Name			Signature		Date			

3. Validation Approved by									
Discipline Approver:									
Name	Signature	Date							
Software Approver:									
Name	Signature	Date							

4. Notes/Comments



5. Documentatio	n			
Attached (check)		Previous i	nternal use documentation.	Known solution input data & output.
		Vendor / D	Developer Statement or Certification.	Manual calculation verification.
		Other:		

DCS **Technical Quality Review - Job Aid**

Technical Quality Review Scope

Purpose:

- 1) Clarify the nature of technical quality review (TQR) by outlining the various technical review types and related scope. This complements existing procedures which provide more detailed guidance for implementation. 2) Provide guidance on TQR roles and responsibilities, realizing the Project Manager has the ultimate accountability to ensure the quality of the project and deliverables in accordance with scope, budget and schedule.
- 3) Refer to the Technical Quality Review Procedure DCS Q2[DCS]-351-PR1 for additional information: Click here

4) In the spirit of continuous improvement, we welcome comments and suggestions to keep this document relevant and useful. You can find the current version in the:



Recommended scope when TQR Type is conducted Determine need based on project scope



Technical Quality Review Type

Technical Approach Review (TAR)

A review of the Technical Approach (including the technical solution) conducted to confirm that a project's creative, technical and client objectives are being addressed during the initial stages of the project to minimize risks resulting from an inadequate technical approach.

Calculation Check

Performed to validate the accuracy and completeness of discipline specific calculations prior to deliverable hand-off to other task owners, disciplines, sub-contractors or the client.

Discipline Review/Check

A detailed examination performed within a single discipline to verify the correctness, completeness and technical adequacy of work, conformance with referenced standards, compliance with input requirements, acceptance criteria, relevant laws and regulations, anticipate safety standards (Safety in Design), basis and validity of assumptions, opinions, conclusions, recommendations, appropriate standard of care and potential for errors or omissions.

Interdisciplinary Review

Conducted to align critical design elements and eliminate possible conflicts and gaps between elements developed and reviewed in different disciplines, office locations, and/or companies, including sub consultants.

Specification Package Review

A review that references to standards and codes are correct and the relevant specification sections are included. Usually coordinated with drawings and applicable conditions.

Bidability / Contract Documents Review

A comprehensive review of pre-final (90%) or final (100%) contract documents to determine if the documents are ready to bid in an effort to reduce the risk of RFIs, change orders, disputes and claims resulting from the quality of the contract documents.

Constructability Review

Intended to identify issues in designs and contract documents that could adversely impact the construction process, such as standards, compatibility, existing facilities/utilities, interface with existing operations, access and egress, availability of building materials and, long lead procurement and labor resources. This enables rational bidding, reduces uncertainties and minimizes potential changes during construction. An independent review of design documents to ensure work requirements are clear, documents are coordinated, and that they assist the contractor in bidding, construction and project administration to result in reduced adverse impacts to the project. To minimise delays and costs associated with the need to revise design after commencement of construction.

Independent Peer Review (C0 projects)

A critical evaluation of work products, deliverables, material or data to verify or validate assumptions, plans, results, opinions, analysis, recommendations or conclusions at key milestones and prior to delivery to the client or other non-company entity.

Sub Consultant, Client, or Third-party Info Review

A review of materials for completeness and verification that appropriate quality assurance and control checks have been completed by the sub consultant, client or third party.

TQR Review Types © AECOM Restricted Technical Quality Review - Job Aid (Q2[DCS]-351-WI2) Revision 4 June 28, 2021

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																Performed at or before the project reaches 15% complete or as described in the Project Plan. Document on TQRR, TAR checklist or meeting notes from TAR meeting, or equivalent.	с	с	с	R/A				I
																Project or client needs may also require an Independent Reviewer on calculations. Document calculation check on the calculation checklist.	с	Α	с		R			I
ľ						-		-	-	-		-		-		Perform mark-ups and document on a TQRR as applicable to Graded Approach and Geography.	с	A	с	с	R			I
ľ																Perform mark-ups and document on a TQRR as applicable to Graded Approach and Geography.	с	Α	с	с		R		I
ľ												-				Perform mark-ups and document on a TQRR as applicable to Graded Approach and Geography.	С	A	с	С	R			I
ľ																A bidability review team, which may be different than the TQR Team members, may need to be engaged.	A	С		С	R			I
ľ																A constructability review team, which may be different than the TQR Team members, may need to be engaged.	A	С		С	R			I
ľ									-			-				The Independent Reviewer is completely independent from the team. This review is required on C0 projects or as required by the client, Geo-specific graded approach or other requirements. The review is documented on the TQRR or approved equivalent.	A	С	с				R	I
																Perform mark-ups and document on a TQRR as applicable to Graded Approach and Geography.	A	R			I			I

Project Delivery System

Comments/Suggestions?

Roles & Responsibilities

R - Responsible (completes the task)

A - Accountable (approves the task)

C - Consulted (has information or capability to

help complete the task)

I - Informed (needs to be notified of task result)

Click here



DCS Technical Quality Review - Job Aid

Technical Quality Reviews - Overall

In addition to the Review Types on the Technical Quality Review Record - DCS Q2[DCS]-351-FM1 (TQRR), the below reviews take place in the overall process of the deliverable review, verification and approval process.

Туре	Who	Responsibility	Record
Self-Check	The Originator	Check that the work product (deliverable) is complete and appropriate to the deliverable phase before sending to other reviewers or checkers.	No specific record required.
Reviews	Refer to the RACI* Page 1	Refer to the RACI	Signed and dated Technical Quality Review Record (TQRR) or equivalent documentation in the form of mark-ups with stamps/signatures, spreadsheets, etc.
Verification & Validation	Lead Verifier	Confirm the deliverable satisfies the technical approach/solution/methodology developed at the start of the project through a high-level review of the overall submittal. Confirm that the required quality checks and reviews have been performed. Achieve correction as needed by resolution with Originator and technical lead.	Signed and dated Technical Quality Review Record (TQRR) or equivalent documentation in the form of mark-ups with stamps/signatures, spreadsheets, etc.
Deliverable Approval and Issue	Project Manager	Final review of deliverable and authorization to issue.	Signed and dated Technical Quality Review Record (TQRR) or equivalent documentation in the form of mark-ups with stamps/signatures, spreadsheets, etc.



Q2[DCS]-351-WI2

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DCS Technical Quality Review - Job Aid

Q2[DCS]-351-WI2

Rev	Change	Description of Change				
0	02-February-2017	Initial Release as O2IDCSI-351-WI2				
1	20-July-2018	Minor editorial changes to accommodate ePM updates and referencing	A5, S5, A57-Q87			
2	27-January-2020	2020 Review – minor edits; removal of references to ePM; introduced Graded Approach. Incorporate equivalent information from the Technical Quality Review Summary - DCS Q2[DCS]-351-WI1 and Technical Quality Review Types - DCS Q2[DCS]-351-WI3 and retired both these 2 Instruction documents.	All			
3	09-April-2020	 Revised 'TQR Review Types' tab: 1. Removed the word 'holistic' from Point (1) of 'Purpose'. 2. Reworded the 'Specification Package Review' section. 3. Reword the 'Independent Reviewer' wording. Revised 'TQR Reviews' tab: Changed 'Checks' to 'Check' Provided explanation for 'RACI' acronym Corrected capitalization of 'technical' in the title of the TQRR. Added 'if not performed by a Project Quality Manager' at the end of the sentence: <i>Confirm that the required quality checks and reviews have been performed,</i> Added 'transmittals' and clarified 'submittals' by adding 'shop drawing' - Exception to TQQR Requirements section. 	All A3 A26 R38 C4 A9 D5 C6 B13			
4	28-June-2021	 Updated to new AECOM colors and logo. TQR Review Types tab: Added box to against TAR x Verification of Technical Solution. Added ' or equivalent' to the end of the Notes for TAR. Changed 'R' to 'C' against Technical Lead for TAR. Added 'C' to Lead Verifier against Discipline Review/Check, Interdisciplinary Review, Specification package Review, Bidability / Contract Documents Review. Added a new sentence to the end of the 'Constructability Review' description. Added ' or other requirements.' to the 2nd last sentence of the 'Notes' for Independent Peer Review. Changed 'C' to 'A' against PM for 'Sub Consultant, Client, or Third-party Info Review'. Changed 'A' to 'R' against Technical Lead for 'Sub Consultant, Client, or Third-party Info Review'. Changed 'R' to nothing against Originator for Sub Consultant, Client, or Third-party Info Review'. TQR Reviews tab: Deleted ' if not performed by a Project Quality Manager.' from the end of 2nd last sentence of the 'Verification and Validation' responsibility wording. 	J9 R9 T9 V18, V22, V26, V30 A34 R38 S42 T42 U42 C6			

APPENDIX B – DISCIPLINE & INTER-DISCIPLINE QC FORMS

- LADOTD Final Calculation Book Index Checklist
- AECOM QMS Technical Quality Review Procedure
- AECOM QMS Guidelines for the Preparation of Calculations
- AECOM QMS Calculation Cover Page Forms
- AECOM QMS Calculation Log Form
- AECOM QMS Calculation Discipline QC Review Checklist Form
- AECOM QMS Drawing Discipline and Inter-Discipline QC Review Checklist Form
- AECOM QMS Specification Discipline QC Review Checklist Form
- AECOM QMS Study/Report Discipline QC Review Checklist Form
- AECOM QMS Document Review Comment Sheet

APPENDIX B—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
- ____ QC/QA 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 (Including the As-Designed Rating Report)
- ____ All Electronic Design Files

____ A PDF File of the As-Designed Rating Report Only

The final calculation book for in-house projects shall include the same files listed above for consultant projects. The final calculation book and other final design documents for all projects including in-house and consultant projects shall be uploaded to the archiving location designated in the record retention policy within 30 calendar days after the stamped final plans are delivered.



DCS

Technical Quality Review Procedure

Q2[DCS]-351-PR1

	Who	What/How	When (before a deliverable is submitted to 3 rd party)
ORIGINATOR Checks own work Initiates TQR Addresses comments	Originator	 Checks the work for accuracy and completeness before submitting the work for review or check. Initiates the TQR. After a review or check, addresses all comments, either by accepting the revision or discussing the comment with the reviewer. After the review and/or check is complete, submits the deliverable to the PM for approval. 	Execution Gate 3
REVIEWER Checks/reviews work	Reviewer	Checks (reviews) the work for accuracy etc, in line with the review scope on the Technical Quality Review Record - DCS.	Execution Gate 3
INTERDISCIPLINARY REVIEW as applicable (multi-discipline projects) Checks interfaces of different disciplines	Inter- disciplinary Reviewer(s)	Confirms compatibility among portions of deliverables that were developed, checked and reviewed by different disciplines, offices and/or companies. Document and review comments with Originators and confirms that comments are addressed.	Execution Gate 3
INDEPENDENT PEER REVIEWER Performs technical check/review of the deliverable or alternative calculations to cnfirm the deliverable satisfies the techncial requirments of the contract	Independent Peer Reviewer (IPR)	When required by the project scope, client or AECOM risk committee the IPR will provided a extra level of coordination review confirming the work product is correct and complete.	Execution Gate 3
LEAD VERIFIER Verifies comments, addresses and work meets contractual requirements Signs TQR	Lead Verifier(s)	 Verifies the solution meets contractual requirements and professional standards of care. Verifies that the reviews have been completed and the comments have been addressed appropriately. If the project does not have an assigned Project Quality Manager, the Lead Verifier or Project Manager (below) verifies that the TQR process has been followed. 	Execution Gate 3
PROJECT QUALITY MANAGER Confirms the TQR process was performed and documented	Project Quality Manager	For projects that have identified a Project Quality Manager (PQM), the PQM verifies that the TQR process has been followed – otherwise the Lead Verifier performs this responsibility.	Execution Gate 3
PROJECT MANAGER Approves Deliverable	Project Manager / delegate	Approves the deliverable.	Execution Gate 3



Related PPI

- IMS Manual DCS Q2[DCS]-001-PR1
- Improvement Procedure
 <u>DCS Q2[DCS]-003-</u>
 <u>PR2</u>
- <u>Subs Management -</u>
 <u>DCS Q2[DCS]-141-PR1</u>
- <u>Project Plan Procedure -</u> <u>DCS Q2[DCS]-221-PR1</u>
- Project Document and <u>Records Control</u> <u>Procedure – DCS</u> <u>Q2[DCS]-222-PR1</u>
- <u>Project Risk</u> <u>Management –</u> <u>Q2[DCS]-231-PR1</u>
- <u>Validation of Software</u> and Data Management <u>Tools – DCS Q2[DCS]-</u> <u>311-PR1</u>
- <u>Technical Approach –</u> <u>Planning & Review –</u> <u>DCS Q2[DCS]-321-PR1</u>
- <u>Technical Quality</u>
 <u>Review Job Aid DCS</u>
 <u>Q2[DCS]-351-WI2</u>
- <u>Calculation Preparation</u> <u>Instructions – DCS</u> <u>Q2[DCS]-351-WI5</u>
- <u>Records Management &</u> <u>Retention Procedure –</u> <u>AECOM Global Q1-004-</u> <u>PR1</u>

Records & Checklists

Section 6

Terms & Definitions

Glossary + Section 5

Help & Training

TBD

Change Log

1. Purpose and Scope

This procedure establishes the process, roles, responsibilities and requirements for conducting a Technical Quality Review (TQR) of an AECOM deliverable. It is mandatory for any project deliverable to a 3rd party.

2. Graded Approach

The graded risk approach applies to this procedure. To determine the project Risk Category (C-category), click here for the <u>Risk Assessment Tool</u>. The matrix below defines the graded requirements of this procedure according to the risk category of the project.

Table 1. Technical Quality Review Graded Approach

C3A	C3	C2	C1	C0
	 Lead Verifier approval that deliverable meets approach and client requirements. 	 Lead Verifier approval that deliverable meets approach and client requirements. 	 Lead Verifier approval that deliverable meets approach and client requirements. 	 Lead Verifier approval that deliverable meets approach and client requirements. Independent Peer Review as appropriate to project scope.
Calculation Checklist*	Calculation Checklist *	Calculation Checklist *	Calculation Checklist*	Calculation Checklist*

All categories: Retain evidence of internal deliverable review using TQRR or equivalent documented content in UFI. Retain client comments and dispositions (resolutions) in UFI. * = is optional in ANZ, Asia and EURIMEA.

3. Procedure

The basic process for a TQR is illustrated at the right. Specific requirements are included in the Procedure Map on page 1.

This process is required for all deliverables, although its application should vary for the risk grading of the project as described in Section 2, Graded Approach. Each project and deliverable are different; the review requirements are subject to the type and complexity of the deliverable, the requirements of the client or regulatory agency, and the character of the personnel actively involved with the work. Recognizing these differences, the Project Manager and project team must determine what level of effort will be necessary to routinely meet or exceed the requirements of this procedure.





- a. This process applies to:
 - i. all types of deliverables, including reports, documents, plans, drawings, 3D models, data models, data tables, specifications, fact sheets, figures, logs, and presentations etc. For projects involving more than one discipline, an *interdisciplinary review* is required to be conducted refer Section 4.
 - ii. deliverables provided by our subcontractors, even though we may not conduct a thorough review of their work ourselves. See Section 4 for more detail on reviewing subcontractor work.
- b. All drafts, versions, and iterations of deliverables shall be reviewed and edited prior to delivery.

Notes:

- 1. When deliverables must be signed and sealed, follow applicable statutory registration requirements and document on the Technical Quality Review Record DCS or equivalent, making sure to have at least one person, other than the Originator or registered party, a part of the review process.
- Where stand-alone calculations are prepared, the Calculation Checklist DCS and Technical Quality Review Record – DCS should both be completed, unless the calculation is simple arithmetic included in a report where the calculation will be checked as a part of the report review and documented on a TQRR or equivalent.
- 3. <u>Check with the applicable Geography statement of limitations/disclaimers for applicability to deliverable</u> <u>documents.</u>

4. Type of TQRs

- a. The TQR process encompasses all aspects of deliverable preparation as outlined in outlined in the Technical Quality Review Record DCS.
- b. TQRs may be conducted at various phases of a deliverable, depending on the type of deliverable and its complexity. There may also be several *types* of TQRs but regardless of type, the process is the same as shown on Page 1.
- c. Information about TQR Types, Review Scope, and Roles and Responsibilities for personnel involved in the Technical Quality Review process is found in Appendix 1 for C3A and C3 projects and the <u>Technical Quality</u> <u>Review Job Aid DCS</u> for all project risk category projects.

4.1 Internal TQRs

- a. Each deliverable is planned and scheduled in the Project Plan and/or a list of deliverables with a TQR set up in a timely manner to notify the project team and reviewers of the upcoming required review.
- b. TQR evidence must be retrievable for long term evidence that AECOM used qualified personnel to prepare, review, verify and approve its deliverable for issuance. TQRs are documented by using the Technical Quality Review Record (TQRR) form, which must be maintained in the project file or through stamps and markups directly on the document. Refer to the geography specific documentation requirements below:

Table 2. Technical Quality Review Documentation Requirements by Geography

Geography	C3A	C3	C2	C1	C0
DCSA	TQRR or Equivalent Evidence	TQRR	TQRR	TQRR	TQRR
EMEA	TQRR or Equivalent Evidence				
India	TQRR or Equivalent Evidence	TQRR or Equivalent Evidence	TQRR or Equivalent Evidence	TQRR	TQRR
Asia	TQRR or Equivalent Evidence				



Geography	C3A	C3	C2	C1	C0
ANZ	TQRR or Equivalent				

- Evidence
 Evidence
 Evidence
 Evidence

 Exception:
 A TQRR is not required if a deliverable is general correspondence e.g., emails, letters, monthly reports (without technical content). RFIs and Shop Drawing Submittals should go through the technical review process but a TQRR record is not
- required.
 c. When a client asks for a preliminary copy of the deliverable, prior to the internal TQR, a disclaimer "Draft has not gone through internal review" must be applied.
- d. Evidence of the review, such as written comments made during a TQR (all internal types), must be maintained in the project file, as follows:
 - i. Maintain markups, check sets, comment sheets, etc., in the project file until:
 - 1. At minimum, after the next submittal is accepted.
 - 2. Unless otherwise directed by the client or PM. Markups/check sets may be disposed after the submittal unless a TQRR was not used to document the review process.
 - 3. Project closeout. Discard all markups unless a TQRR was not used to document the review process, upon project closeout.
 - i. For additional information on maintaining project records, see the <u>Project Document and Records Control</u> <u>Procedure - DCS</u>.

4.2 External or 3rd Party Review Comments

- a. All comments received from a client or regulatory agency must be reviewed and included as agreed with the client or regulatory agency by the authorised project team member.
- b. Documentation of the reviews and agreement shall be maintained in the project file.
- c. The external drafts containing the client or regulatory agency comments must be retained in the project file in alignment with the <u>Records Management & Retention Procedure AECOM Global</u>, the client contract or regulatory requirements.
- d. Changes to the work product or deliverable resulting from these reviews are subject to the same verification, review and documentation requirements as the original work product (that is, a TQR), except when the changes are editorial or minor in content and do not change the risk content of the document. For these changes, a review process shall be performed but the TQRR form is not required.

4.3 **Project Input from Others (Subs, etc.)**

The PM or Technical Lead is responsible to take steps to confirm the Sub's deliverable or other project input (client or others) is suitable to include in the project deliverable. The confirmation can be performed by:

- a. Requesting evidence input was checked and reviewed by the provider; or
- b. Confirm the inputs meet the requirements of the project by including in the internal review process.



5. Terms and Definitions

The following definitions supplement those found in the AECOM Glossary.

a.	Deliverable	Work product that is intended for delivery to a 3 rd party to meet final, interim, or milestone submittal obligations as defined in the contract or regulatory requirements. Deliverables subject to the TQR process are understood to mean those work products that fulfill the contract obligations (should be listed in the Project Plan). Deliverables can include reports, plans, drawings, data tables, calculations, models, conclusions and recommendations, fact sheets, white papers, letter reports, responses to comments, or any other project related document. Deliverables are not general correspondence (including emails, letters, monthly status reports (without technical content), etc.)
b.	Deliverable Component	A specific piece or part of a deliverable, such as calculations, drawings, specifications, studies and reports. One or more components may be packaged to comprise the overall deliverable. Calculations, even when not submitted to the client, are considered a deliverable component and shall follow the TQR process to the same rigor as the deliverable components. Calculations developed from MSExcel, MathCAD and similar tools shall have internal logic statements, embedded equations and macros checked. The Lead Verifier is responsible for confirming the tool is acceptable for the proposed application and meets these requirements.
с.	Lead Verifier	Reviews the technical approach and each deliverable for overall compliance with SOW, approach, requirements and regulations. Not involved in developing the work. Must be on the AECOM Approved Lead Verifiers list (<u>Lead Verifier Information</u>).
d.	Originator	The individual or team of people who create a deliverable or work product. In the case of a team, the Originator includes the responsible person directing the work and having final decision authority over the work product. For example, a CAD designer may prepare a design under the supervision and direction of a lead engineer. Both the CAD designer and the lead engineer would be considered Originators of the work.
e.	Technical Lead	An individual competent in a technical discipline accountable to the PM for technical excellence on the project and for delivery of the technical tasks or technical packages of work within the scope, budget and schedule.
f.	Work Product	Reports, drawings, specifications, data sheets, virtual deliverables, calculations or other output that may serve as input to subsequent project stages or be delivered to the client, regulatory agency or other stakeholder. Work product goes through stages of development internally and becomes a deliverable when handed over to the client.
•		

6. Records

- a. Technical Quality Review Record DCS Q2[DCS]-351-FM1 (Word / Fillable PDF)
- b. Calculation Checklist DCS Q2[DCS]-351-FM3 (Word / Fillable PDF)

7. Appendices

a. Appendix 1 – Matrix of Acceptability – C3A/C3 Project Roles and Responsibilities.



8. Change Log

Rev #	Change Date	Description of Change	Location of Change
1	01-Oct-2012	Initial Release as Annual Review.	Sections 1, 2, and 4
2	01-Oct-2014	2014 Review – Updated with SHE comments and DEKRA Americas Observations in reference to monitoring and measurement.	Sections 3 and 4
3	18-Apr-2016	Released as Technical Quality Planning and Review Procedure Q2[DCS]-351-PR1.	All
4			
5	22-Jun-2016	Updated to better define actions for non-complex/low risk projects and team members performing multiple roles.	
6	21-Dec-2016	Minor updates to adjust role responsibilities and updates in ePM.	Sections 4, 5 and 6
7	20-Jul-2018	2017 Review; put into new IMS Procedure template and restructured to 2 column format; update references and removal of appendices prepared as independent documents.	All
8	01-Aug-2018	Added instruction around signing/sealing; amended the 'Originator' definition; and updated the responsibility matrix + redefined the 'key quality principles'.	Sections 2, 5 and Appendix 1
9	25-Jan-2019	Qualified that the TQRR form is not required to be used for review of minor-editorial changes to the work product.	Section 4.2
10	08-Aug-2019	Remove link to IMS Policy with its retirement; Updated retired linked location for Lead Verifiers to new location on Ecosystem; Amend 'Interdisciplinary Review' and Project Quality Manager actions in Flow Diagram on Page 1; Bold and underline Section 2, Point 4; Amend Section 4.2 Para 1 around client comments; Amended PQM line in Appendix 1 around who is responsible if a separate PQM is assigned.	Related PPI Section 2 Point 4 Section 4.2 Para 1 Section 5 (c) Appendix 1 – PQM
11	29-Jan-2020	2020 Review – minor edits; removal of references to ePM; introduced Graded Approach.	All
12	15-Jul-2020	Minor edits; added Project Manager as alternative Lead Verifier if project does not have an assigned Project Quality Manager; exemption clarifications on the use of the Technical Quality Review Record – DCS and amendment to 'Deliverable' definition.	Page 1, Sections 2, 3, 4.1, 5 and App 1 - PQM
13	14-Dec-2021	2021 Review; put into new Template; revised Page 1's "What/ How"; general edits; added optional use of Calculation Review Checklist for regions until review of Graded Approach; updated T&Ds updated Appendix 1 to clarify roles and exceptions to overlapping.	ALL


Appendix 1 Matrix of Acceptability – C3A/C3 Project Roles and Responsibilities

The expectation inherent in the TQR process is the PM will coordinate with the Technical Leads to think through the project requirements and risks to verify:

- Technical Quality Review arrangements are appropriate and fit for purpose; and
- The completed deliverable is thorough, correct, accurate, professionally appropriate and meets contractual obligations

In some instances, it may be necessary for one person to fulfil multiple roles on a project. Duplication of roles should be the *exception* (only C3A and C3 projects), not the rule. This matrix illustrates which roles may or may not overlap.

Note: For C0, C1 and C2 no roles should overlap.

Only in exceptional circumstances, the Project Manager and Lead Verifier may agree to overlapping roles and shall be explained in the Project Plan.

	Project Manager	Lead Verifier	Technical Lead	Originator	Reviewer/Checker	PQM
Project Manager		\bigtriangleup	\bigtriangleup	\bigtriangleup	\checkmark	\bigtriangleup
Lead Verifier	\bigtriangleup		×	×	\checkmark	\checkmark
Technical Lead	\bigtriangleup	*		\checkmark	\bigtriangleup	\bigtriangleup
Originator	\bigtriangleup	×	\checkmark		×	×
Reviewer/ Checker	\checkmark	\checkmark	\bigtriangleup	×		*
PQM	\bigtriangleup	\checkmark	\bigtriangleup	*	*	

Legend \checkmark = acceptable \triangle = Proceed with caution \Rightarrow = not allowed

The key quality principle behind this distribution of roles is:

- 1. The Originator *cannot be the* Reviewer (checker) of their own work but is expected to self-check their work before submitting it for TQR.
- 2. Where the PM and Technical Lead are the same person, they cannot be the Lead Verifier.
- 3. Where the PM and Technical Lead are not the same person, the PM could act as the Lead Verifier **only if they** are an approved Lead Verifier.

Note:

РМ	May be the Technical Lead and/or Originator; however, use caution to avoid compromising technical quality delivery due to schedule or budget constraints.
Technical Lead	Focuses solely on project technical quality, its planning and resources.
Originator	Performs the work and self-checks; could also be the PM and Technical Lead but cannot serve in a review/check or verify role. See the Key Quality Principle above.
Reviewer/Checker	Reviews (checks) work prepared by others. See the Key Quality Principle above. May also verify the work.
Lead Verifier	Reviews the technical approach and each deliverable (C3, C2, C1 and C0 risk category projects) for overall compliance with approach, requirements and regulations. Lead Verifier – not involved in developing the work – brings an independent viewpoint to the review process, an industry best practice. Also see PQM role below.
PQM	Confirms completeness of the TQR process per procedure. If separate PQM has not been assigned, LV or PM takes on this responsibility and their signature signifies that they are performing these responsibilities. On C3A projects, the PM must take on the responsibility and their signature on the mark-up, email, TQRR or other equivalent document signifies they are performing these responsibilities.



Calculations Preparation Instructions

Q2[DCS]-351-WI5

	Who	How	Stage
Technical Approach	PM and Technical Lead	Determine appropriate technical team, approach and technical solution.	Planning/Execution
-			
Prepare Calculation		Based on technical approach and	
*		project requirements, prepare/perform calculations in a legible manner.	
Cover Page Needed?	Originator	Include a cover page – refer to the <u>Calculation Cover Page Template –</u> <u>DCS</u> .	Execution
		Self-check calculations using the	
Add Cover Page to calculation set.		Calculation Review Checklist - DCS	
-		Perform checks on the calculations	
Check accuracy of calculation	Checker/Reviewer	results/recommendations from the evaluation/analysis/design has addressed the problem to be solved for the client.	Execution
		Prepare tracking log to identify comments and actions.	
Incorporate/Disposition Comments	Originator	Review comments with Reviewers and incorporate and/or disposition comments.	Execution
Checker/Reviewer complete Calculation Checklist	Checker/Reviewer	Complete calculation checklist and save in project file with calculation or design package that relies on the calculations. When identified by TL, pass calculation to Independent Peer Reviewer for review, comment disposition and checklist signing	Execution



Related PPI

- <u>Project Plan</u>
 <u>Procedure DCS</u>
 <u>Q2[DCS]-221-PR1</u>
- Project Document and <u>Records Control</u> <u>Procedure – DCS</u> <u>Q2[DCS]-222-PR1</u>
- <u>Technical Quality</u>
 <u>Review Procedure –</u>
 <u>DCS Q2[DCS]-351-</u>
 <u>PR1</u>
- <u>Validation of Software</u> and Data Management <u>Procedure – DCS</u> <u>Q2[DCS]-311-PR1</u>
- Project Closure
 Procedure DCS
 Q2[DCS]-401-PR1
- Unified File Index DCS Q2[DCS]-222-WI1
- <u>Records Management</u>
 <u>& Retention Procedure</u>
 <u>- AECOM Global Q1-</u>
 <u>004-PR1</u>

References

N/A

Terms & Definitions

<u>AECOM Glossary</u>

Help & Training

 <u>Quality Insights -</u> <u>Calculation</u> <u>Preparation & Review</u>

Change Log

1. Purpose and Scope

The purpose of this document is to assist technical staff in the preparation of calculations and outlines the mandatory step of checking all calculations as part of the overall preparation and review of a project's deliverables – refer to the <u>Technical</u> <u>Quality Review Procedure – DCS</u>. Checking of calculations occurs throughout the Execution Phase and is to be completed prior to deliverables being approved for use/issue.

The key participants involved are as follows and their role in the process, is outlined in Appendix 1.

2. Graded Approach

The graded risk approach applies to this document. To determine the project Risk Category (C-category), click here for the <u>Risk Assessment Tool</u>. Use the below matrix for the required rigor of this procedure based on the Risk Category of project.

C3A	C 3	C2	C1	C0
Calculation	Calculation	Calculation	Calculation	Calculation
Review	Review	Review	Review	Review
Checklist	Checklist	Checklist	Checklist	Checklist

3. Instructions

- a . For specific projects or programs, the Project Manager, Project Approver and/or Profit & Loss Manager or Business Line technical management group shall indicate in the Project Plan if exceptions to this instruction should occur. The same level of quality is required for the preparation of calculations regardless of the level of complexity of the project.
- b. Checking of calculations is required on all projects, but the rigor and documentation of the check depends on the complexity of the calculation. A calculation review checklist is required for all calculations unless:
 - i. Simple math is included in a technical report and checked as a part of the report review process (documented on the TQRR); or
 - ii. if there is an equivalent evidence of checks (stamps/initials on each page); or
 - iii. there is a client equivalent calculation checklist required.

3.1 Calculation Preparation

- a. Calculations are to be neat, legible, and suitable for reproduction, including a header with space for identifying the calculation title, page numbers, project name and number, and the originator's and reviewer's names, initials, and dates.
- b. Calculations must be organized and logically presented, and are to include sufficient notes, explanations, and sketches to make the calculation easily followed. The intent is to make calculations understandable by an individual competent in the subject matter without going back to the Originator.



- d. The following information should be provided in the calculation, or on a cover or summary page:
 - Objective A statement of the problem or question to be solved (if not obvious from the title).
 - Method Identify the methods to be used, including software.
 - Assumptions Clearly state any assumptions applied.
 - References and Inputs
 Identify the inputs to the calculation and the references for inputs, equations, methods, etc. Design inputs used as the basis for calculations shall be verified by the Originator as obtained from a reliable source. Design equations, tables, field data etc., shall be referenced to the specific section of the applicable design code or manual. Any information not readily available to a reviewer should be attached as an appendix to the calculation.
 - Conclusions Clearly state the conclusions of the calculations including any limitations, conditions and/or exceptions
- e. Confirmations Critical assumptions, as defined in the AECOM Glossary, need to be tracked and confirmed by the Originator as soon as valid and current data becomes available. The impact of any variances between assumptions and confirmed information must be evaluated, and any necessary revisions to calculations made.
- f. In assembling larger sets of calculations, or where providing summary information will be useful, the use of a calculation cover page may be helpful refer to the <u>Calculation Cover Page Template DCS</u>.
- g. Prior to the results of a calculation being utilized for subsequent work, relevant calculations shall be reviewed and verified in accordance with the <u>Technical Quality Review Procedure DCS</u> and documented on the <u>Calculation Review Checklist DCS</u>. As stated in Section 3b, above, C0 projects with technical calculations require an Independent Peer Review, if assigned by the Technical Lead, in addition to the technical review/check.

3.2 Computer Calculations

- a. Computer calculations shall include or reference documentation clearly explaining the program's function, nomenclature, and sign conventions utilized. All technical software must be validated in accordance with the Validation of Software and Data Management Tools Procedure DCS.
- b. Calculations utilizing computer programs to perform analyses or design shall include the following:
 - Name of the program including version or revision level.
 - Identification and/or location of associated electronic files.
- c. Spreadsheet calculations shall be documented and organized so formulae used in the spreadsheet can be checked for accuracy of incorporation into the spreadsheet, using a calculator or other method. After validation of the spreadsheet calculations, the spreadsheet shall be protected to prevent inadvertent modification of the embedded formulae.

3.3 Revisions to Calculations

Revisions (or cancellations) may be required after an initial set of calculations has been reviewed. These revisions may be a result of client comments, scope changes, or errors found during checking. Revisions to the calculations do not necessarily warrant a second review of the entire set of calculations. Only the revised portion of the calculations may need to be reviewed. Required revisions shall, therefore, be completed as follows to appropriately document the revisions made:

a. Revisions shall be reviewed and approved in the same manner as the original. The Originator and Reviewer of the calculations shall be responsible for the revision. The revision to the calculation shall be clearly identified and dated or shall be replaced by a new calculation.



- b. Revisions shall be prepared in a manner that provides a clear record of the content of the calculation, both prior to and after the revision. The reason for the revision should be identified.
- c. Revisions to calculations that impact other disciplines shall be immediately reported to the Project Manager and the affected disciplines.

3.4 Control of Calculations

- a. All calculations shall be organized and adequately indexed to facilitate retrieval of results and verification of completeness. A calculation index may be useful as a tool to help plan and organize the work, or may be developed upon completion of the calculations for record and archival purposes refer to the <u>Calculation Index</u> <u>Template DCS</u>.
- b. The calculation review process shall be documented using the <u>Calculation Review Checklist DCS</u> unless one of the three exceptions noted in Section 3b exist.
- c. Upon completion of the calculation review process, original calculations, including calculation cover pages, checklists, index pages and other associated documents shall be filed in the project's Unified File Index (UFI) with revision numbers and/or version dates for control in accordance with <u>Project Document and Records</u> <u>Control Procedure - DCS</u>.

4. Records

- a. <u>Technical Quality Review Record DCS Q2[DCS]-351-FM1</u>
- b. <u>Calculations Review Checklist DCS Q2[DCS]-351-FM3 (Fillable PDF)</u>
- c. Calculation Review Checklist DCS Q2[DCS]-351-FM3 (Word)
- d. <u>Calculation Index Template DCS Q2[DCS]-351-FM4</u>
- e. Calculation Cover Page Template DCS Q2[DCS]-351-FM5

5. Appendices

a. Appendix 1 – Calculation Preparation RACI

6. Change Log

Rev #	Change Date	Description of Change	Location of Change
0	05-31-2011	Previously Issued as NA Guidelines for the Preparation of Calculations (Q4NA-331-GL1)	Retired
0	05-16-2018	Elevated to a DCS Level 2 instruction and released as Q2[DCS]-351-WI1	All
1	23-Mar-2020	2020 Review; introduced the Graded Risk Approach; minor edits.	All



Appendix 1 Calculation Preparation RACI

R A C I	Responsible (completes the task) Accountable (approves the task) Consulted (has information or capability to help complete the task) Informed (needs to be notified of task result)	Project Manager	Technical Lead	Originator	Reviewer	Independent Peer Reviewer*	Reference/Notes: Procedures (P) Template (T) Forms (F)	
Pr	epare Calculation (Work Product/Project Work)							
1.	Assign originator(s).	А	С					
2.	Confirm design basis in technical approach.		А	R	С			
3.	Develop the calculation cover page, optional.		A	R	С		Calculation Cover Page Template Q2[DCS]-351- FM5.	Т
4.	Perform the calculation.		Ι	R	С			
5.	Assure completeness and accuracy relative to design basis and technical approach.		Ι	R	С			
6.	Complete conclusion portion of calculation cover page, optional.		I	R	С		Calculation Cover Page Template Q2[DCS]-351- FM5.	Т
7.	Perform checks on the calculations including verifying the results/recommendations from the evaluation/analysis/design has addressed the problem to be solved for the client.	I	I	С	R	R*	*C0 technical calculations assigned by Technical Lead.	
8.	Reconcile and incorporate Reviewers comments into Calculation.	I	А	R	С	С		
9.	Sign Calculation Review Checklist.	Ι	С	R	A	R*	*C0 technical calculations assigned by Technical Lead. Calculation Review Checklist – DCS Q2[DCS]-351-FM3	F

* Independent Peer Reviewer is required for C0 project risk category projects when assigned by Technical Lead.

AECOM					С	alculation
Calculation Num #####-#CAL-##	ber: ##	Calculation Title:			Revision: A	Page: 1 of 2
1. Project Number:		2. Project Title:				3. Date:
 Calculation Type Scoping Preliminary Final Voided 	:	5. Design Verification Re	equired?	 6. Superseded by Calc N/A 7. Supersedes Calcula N/A 	ulation No.: tion No.:	
T	Origin he signatures be	al and Revised Calcu	<i>lation</i> / A	<i>nalysis Approval (S</i> ewed the text and attachme	<i>ign and Date)</i> Int portion of the calculation	n.
8.	F	Revision A		Revision	Re	vision
9. Originated By:						
		Date		Date		Date
10. Checked By:		Date		Date		Date
11. Approved By:		Date		Date		Date
12. Other:		Date		Date		Date
	-	Re	ecord of l	Revision		
Revision No.			F	Reason for Revision		
А						
			A 44 m - T	4		
			Allachh	ienis		Total Dawas
			IITIE	9		Total Pages
B						
С						
D				Total (Calculation Page Count:	2

AECOM Calculation		Calculation		
Calculation Nu #####-#CAL-	mber: ###	Calculation Title:	Revision: A	Page: 2 of 2
1.1.1	Introduction	1		
1.2	Purpose			
1.3	Scope			
2.0	Basis			
2.1 1.	Design Inp	uts		
2.2 1.	Criteria			
2.3 1.	Assumptio	ns		
3.0 1.	References	5		
4.0	Methods			
5.0	Results an	d Conclusions		
6.0	Calculation	ns and Analyses		

ECOM		Calcula		
Attachment:	Calculation Number:	Revision:	Page:	
A	#####-#CAL-###	А	1 of 1	
	Attachment A			
	Attachment A			
	Attachment Title			
	Attachment Hite			

ECOM		Calcula		
ttachment:	Calculation Number:	Revision:	Page:	
5	#####-#CAL-###	А	1 of 1	
	Attachment B			
	Attachment B			
	Attachment Title			

ECOM		Calcula	
ttachment:	Calculation Number:	Revision:	Page:
	#####-#CAL-###	А	1 of
	Attachment C		
	Attachmont Titla		
	Allachment fille		

ECOM		Calcula	
Attachment:	Calculation Number:	Revision:	Page:
)	#####-#CAL-###	А	1 of 1
	Attachment D		
	Attachment Title		

AECOM	Calculation Log					
1. Project Number:			2. Project Title			
3. Project Manager:			4. Discipline:			
5. Calculation Number	6. Revision Number	7. Calculation Title	8. Originated By	9. Checked By	10. Design Verification Required? (Y/N)	11. Date of Release



Calculation Review Checklist

Instructions:

- Review of calculations can be guided by the questions listed below but not limited to. Add additional requirements 1.
- where necessary. Independent Peer Review, where required, concurrences as recorded on the Technical Quality Review Record 2. Q2[DCS]-351-FM1. File completed form on the front of the calculation.
- 3.

Det	tails							
Project Name Date								
Proj	ject No.			Discipline				
Clie	ent			Subject				
Calo	culation No.			Rev No.				
Soft (if us	tware Name			Software Version (if used)				
Orig	ginator							
Elec	ctronic File Na	me (if applicable)						
File	Location of V	ersions Checked						
Rev	view					Yes	No	N/A
1.	Is the calculat	tion in accordance v	vith a standard approach to	preparing the design	ı?			
2.	Have input da	ata and information	been verified and accepted	!?				
3.	Have assump	tions requiring follo	w-up been reviewed and co	onfirmed?				
4.	Does the calc	ulation need to be u	pdated when additional dat	ta becomes available	and/or when			
	assumptions	have been confirme	d?				_	
5.	Have calculat equations) be	ions prepared using en confirmed throug	technical software or exce the a secondary method (i.e.	l spreadsheets (with n . manual, alternate so	nacros or ftware)?			
6.	Are results an	nd conclusions consi	istent and reasonable consi	idering the inputs and	approach?			
7.	Have the orig	inator and the check	ker/reviewer signed and dat	ted the calculation?				
8.	Have all previ	ous internal review	comments been addressed	and closed out with t	he originator?			
9.	Have all previ	ous client review co	mments been addressed a	nd closed out?				
10.	Are there any – List if 'Ye	other consideration es'	s which require listing as a	dditional scope to this	review?			
							. I	
11.	11. Is software used validated in accordance with AECOM procedure?							
12.	12. Has an independent review and check of calculation been completed (if required)?							
13.	Calculation/m	odel version is arch	ived in the relevant project	folder structure?				
For	any 'No' respoi	nses, please explair	ו:					



Approvals							
Reviewer Name Date Date							
Independent Calculations		<u> </u>					
A separate, independent set of calculations has	been prepared, validating the original calculations.						
Independent Calculation Preparer	Signature	Date					



DCS - Americas

Drawing Review Checklist

Instructions:

- 1. This form is optional to assist the review of drawings, which can be guided by the questions listed below but is not limited to them.
- 2. It should be attached to the <u>Technical Quality Review Record DCS Q2[DCS]-351-FM1</u> to support this process.
- 3. Attach/add additional information when necessary.
- 4. File completed form with deliverable.

Details

Project Name				Date	Click or tap to enter a date.
Project No.				Discipline	
Client				Rev No.	
Drawing Nos.					
Review Level	Final Submission	Pre-Final Submission	Other:		% Submission
Originator			Reviewer		
Lead Verifier			Project Mana	ager	
Electronic File Na					
File Location of \					

Dis	Yes	No	N/A	
1.	Is the set of drawings consistent with the design intent and the calculation output?			
2.	Do the drawings meet the percent (%) completion for this submission level?			
3.	Is there consistent presentation within the discipline?			
4.	Have drawings been initialled/signed?			
5.	Are the materials properly coordinated with the specifications at this submission level?			
6.	Are the items constructible as shown?			
7.	Have the appropriate CADD/BIM standards been followed?			
8.	Have duplications and redundancy of information, data and dimensions been eliminated?			
9.	Are drawing titles and numbers consistent and do they agree with the cover sheet index of drawings?			
10.	Have sheet cross references been verified?			
11.	Have all previous internal review comments been addressed and closed out?			
12.	Have all previous client review comments been addressed and closed out?			

For any 'No' responses, please explain:

		Click or tap to enter a date.
Reviewer	Signature	Date



Inter- discipline Review

Compatibility, interfaces, and potential interferences/conflicts between the designated discipline and all other disciplines have been reviewed using a complete set of drawings by the following reviewers.

Discipline (please specify)	Signature	Date	ок	Comments Made	Comments Resolved
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			
		Click or tap to enter a date.			

For any 'No' responses, please explain:



DCS - Americas

Specification Review Checklist

Instructions:

1. This form is optional to assist the review of specifications, which can be guided by the questions listed below but is not limited to them.

2. It should be attached to the <u>Technical Quality Review Record – DCS Q2[DCS]-351-FM1</u> to support this process.

- 3. Attach/add additional information when necessary.
- 4. File completed form with deliverable.

Details

Project Name					Date	Click or tap to enter a date.
Project No.					Discipline	
Client					Rev No.	
Specification Sections						
Review Level	Final Submiss	sion	 Pre-Final Submission 	□ Other:		% Submission
Originator				Specificati Coordinate	on or	
Discipline Reviewer				Lead Verifi	er	
Electronic File Name (if	applicable)					
File Location of Versions Checked						

Dis	Yes	No	N/A						
1.	Has the correct specification format been used?								
2.	Is the specification section coordinated with applicable general and special provisions?								
3.	Have duplications or variances between drawings and specifications been eliminated?								
4.	Are nomenclature and item numbering used in specifications exactly as used on drawings and other contract documents?								
5.	Are requirements for shop drawings specified, both as to content and timely submission?								
6.	Have cited products and equipment been checked for updates and availability?								
7.	Have all previous internal review comments been addressed and closed out?								
8.	Have all of the client's review comments to previous drafts been closed out?								
	Additional questions for non-standard specifications (only those which have not been created and maintained as a company or client standard):								
9.	Are material / equipment identification requirements properly identified?								
10.	Are appropriate codes, standards, processes etc referenced and dated?								
11.	Are measurement units and basis of payment properly specified?								
12.	Are shipping, cleaning, storage and handling requirements properly specified?								
13.	Are provisions made for the qualification and approval of special construction processes?								
14.	Are the acceptance criteria tests (tolerances, etc) specified and are they adequate, realistic and in line with industry practice?								
15.	Is test and inspection documentation properly specified?								
16.	Have client's sole-source requirements been followed?								
17.	Are manufacturers' installation requirements referenced?								
For	For any 'No' responses, please explain:								



Approvals

			Click	or tap te	o entei	r a date.		
Disc	ipline Reviewer	Signature	Date					
Sp Dise	Specifications Coordinator or Project Manager Review (to be completed on Lead Yes No N/A Discipline Checklist ONLY)							
1.	Are the specification format, type, nor for all specification sections?	ent						
2.	Have required discipline reviews been completed and documented for all specification							
3.	Have all specification sections been r							
4.	Have methods and measurements of payment been checked for consistency and conflicts?							
For	For any 'No' responses, please explain:							

		Click or tap to enter a date.
Specifications or Project Manager Coordinator	Signature	Date



DCS - Americas

Study/Report Review Checklist

Instructions:

- 1. This form is optional to assist the review of study/reports, which can be guided by the questions listed below but is not limited to them.
- 2. It should be attached to the <u>Technical Quality Review Record DCS Q2[DCS]-351-FM1</u> to support this process.
- 3. Attach/add additional information when necessary.
- 4. File completed form with deliverable.

Details

Project Name						Date	Click or tap to enter a date.
Project No.						Discipline	
Client						Rev No.	
Study/Report Title/Chapter							
Review Level	Final Submiss	ion	Pre-Final Submission	□ Ot	her:		% Submission
Originator				Pro	ject Mai	nager	
Discipline Reviewer				Lea	d Verifie	er	
Electronic File Name (if applicable)				•			
File Location of Versions Checked							

Dis	Discipline Review						
1.	Has the discipline portion of the study/report meet or support the stated objectives of the project?						
2.	Are assumptions, criteria, or basis for evaluation of alternatives clearly described?						
3.	Is supporting material identified appropriate and accessible?						
4.	Have backup calculations been checked, reviewed and documented?						
5.	Have embedded drawings, sketches, figures, and other graphics been checked and reviewed?						
6.	Are results logical and reasonable and are they stated accurately?						
7.	Have embedded tables been checked and reviewed?						
For	For any 'No' responses, please explain:						

Disc	ipline Reviewer	Signature	Click	t or tap t	o ente	r a date.
Pro	Project Manager (to be completed on Lead Discipline Checklist ONLY)					
1.	 Is the study or report format consistent with the client's requirements? 					
2.	2. Are all conclusions and recommendations fully supported and explained in the text?					
3. Has the report been completed in accordance with the scope of work?						
4.	4. Is the index or table of contents complete and accurate?					
5.	5. Is tense consistent and has the text been spell/grammar checked?					



Pro	Yes	No	N/A				
6.	Has the report been properly titled and dated?						
7.	Have all contractually specified alternatives been addressed?						
8.	Have all previous internal review comments been addressed and closed out?						
9.	Have all previous client review comments been addressed and closed out?						
For	For any 'No' responses, please explain:						

		Click or tap to enter a date.
Project Manager	Signature	Date



Document Review Comment Sheet

Instruction:

- 1. Use Action Code "D" only with concurrence of Reviewer.
- 2. Responder: Indicate action in right hand column. Discuss exceptions with Reviewer.
- 3. File completed Document Review Comment Sheet with deliverables.

Document Review Comments

Project Name							Date		Click or tap to enter a date.
Project No.							Project Manag	ger	
Originator							Reviewer		
Responder							Discipline		
Status	🗆 Cri	iteria	□ 100% [□ 90%		□ 60%	□ 30% □		
Review Purpose	🗆 Inc	leper	ndent Peer Revi	ew			ipline		Project Approach Review
	🗆 Int	□ Inter-discipline			□ Othe	er			
Disposition & Reviewer Action Codes (response/agreement required)		A: B:	Agree, will comp Best Practice – S with other project	oly (Share I cts. I	C: D: E:	Critical Delete Excepti	 Must address. comment ion taken 	F: S:	Future incorporation next project. Suggested – Recommended/Not Critical

Comment No.	Drawing, Spec, or Page No.	Comment	Reviewer Action Code	Disposition Action/ Response

APPENDIX C - INDEPENDENT PEER REVIEW BRIDGE QC FORMS

- LADOTD Peer Review Resolution Agreement Form
- AECOM QMS Independent Peer Review Bridge QC Form Technical Quality Review Record

APPENDIX E—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 QC/QA.

Team Members	Name	Signature
Peer Reviewer		
Supervisor or Team Leader		
LADOTD Representative		



Technical Quality Review Record

Instructions

For further information on the Technical Review process, refer to the <u>Technical Quality Review Procedure – DCS Q2[DCS]-351-PR1</u> and the <u>Technical Quality Review Job Aid – DCS Q2[DCS]-351-WI2</u>.

Project Detail	S	TQRR No. (Optional)	
Project No.		Delivery Date	
Project Name		PM Name	
C- Category	Select	Comments Due By	
Client/Client POC		Technical Lead	
Title of Work Product		TQR Team Assigned	

	Calculation Check (complete Calculation		Constructability Review.			□ Other: (e.g. Construction
	Review Checklist - DCS - required).		Interdisciplinary Review.			Services documentation)
be	Independent Peer Review (IPR).		Discipline Review.			Specify
₽	Biddability / Contract Documents Review.		Technical Approach and solution revie	w.		
	Subconsultant, Client, or Third-Party		Specification Package Review.			
	Information Review.		Contract Document Review.			
	Appropriate budget, schedule and		Review of client, sub and third-party		Chec	k of drawings and graphics.
	resources.		information.		Com	pliance with scope.
be	Soundness of approach/design.		Edit for elements such as grammar,		Orga	nization, clarity and
ö	Technical risk and mitigation.		punctuation, formatting and graphics.		comp	pleteness.
3	Validation of assumptions.		Adequacy of Statements of		Spec	ification Review.
vie	Conformance with standards and		Limitations.		Cont	ract Document Review.
Se	regulatory requirements.		Verify technical solution.		Othe	r: Specify.
_	Check of calculations.		Basis and validity of conclusion /			
	Client input review.		recommendation.			

Discipline	Description (Calc/Rpt/Dwg/Specs)	Format / Network Link	Originator Initials	Reviewer/Checker Signature	Da
					-
					+
					+
Reviewer/Che	ecker signature above indicate	es verification of the accur	acy and completen	ess of the work product and	Reviewe

*For additional disciplines/reviewers/deliverables attach a table to this TQRR with the above content.



	Lead Ver approach	Lead Verifier signature indicates confirmation the work product is complete and in accordance with the technical approach/solution.							
I C0 projects)	Lead Ver Lead or Lead not in resolu	 Lead Verifier Select One: Lead Verifier has verified that review(s) have been adequately completed and documented. There are no outstanding issues. or Lead Verifier has verified that review(s) have been adequately completed and documented, except for unresolved items (items not impacting adequacy of submittal). Any unresolved items have been submitted to the Project Manager or Designee for final 							
e, C1 and									
or C3, C2		Lead Verifier Name		Lead	erifier Signature		Date		
ed fe		Lead Verifier Name		Lead	/erifier Signature		Date		
Require									
l) nc		Lead Verifier Name		Lead	/erifier Signature		Date		
ificatio									
Ver	Lead Verifier Name			Lead Verifier Signature			Date		
		Lead Verifier Name		Lead	/erifier Signature		Date		
ects)	Confi contra	□ Confirmation the deliverable has been reviewed for overall completeness, compatibility and conformance with scope and other contract requirements; all applicable reviews have been completed and deliverable is ready for submission to the client.							
val All proj									
pro for /			Project Mar	anager Signature			Date		
A _l tuired									
(Rec	Pro (If	oject Quality Manager N not performed by LV or	lame · PM)	Project Qual (If not per	ity Manager Signatur ormed by LV or PM)	8	Date		
	Commen	ts have been provided	Directly o	ly on work product (electronic or on hard copy)			nment and Disposition Form		
dent view ects)	on:			aste link to network fi	e):	1			
ndepen eer Re 20 proi									
700	Independent Peer Reviewer Name (as applicable)			Independent (a	Peer Reviewer Signa s applicable)	ure	Date		
DISTRIBUTION Project Central File – Quality File Folde				er Othe – Speci	y:				

APPENDIX D – QUALITY ASSURANCE & DELIVERABLE RELEASE RECORD FORMS

- LADOTD QA Information Package Checklist
- LADOTD QC/QA Certification
- LADOTD Consultant Submittal QC/QA Certification
- AECOM QMS Document Transmittal

APPENDIX C-QA INFORMATION PACKAGE CHECKLIST

Project No .:

Project Description:

 Calculation Book
 Plans
 Special Provisions
 Cost Estimate
 Other Documents

APPENDIX D—QC/QA CERTIFICATION

Project No.:

Project Name:

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 LADOTD Bridge Design Section policy on QC/QA.

Team Members	Name	PE Registration No.	Responsible Plan Sheets	Responsible Special Provisions	Construction Cost Estimate	Signature
Designers						
Design Checkers						
Detailers						
Detail Checkers						
Reviewers						
Peer Reviewer						
Geotechnical Engineer						
Hydraulic Engineer						
EOR						

APPENDIX I—CONSULTANT SUBMITTAL QC/QA CERTIFICATION

Project No.: Project Name:

I, the undersigned Supervisor or Team Leader for this project, certify that the information included in this submittal has been prepared in accordance with the QC/QA plan documents and LADOTD Bridge Design Section policy on QC/QA and the information presented is accurate and meets the requirements of this submittal. All CAD drawings meet LADOTD CAD standards.

Submittal Description

Supervisor or Team Leader Name

Signature

Date

AECOM Document Transmittal							ittal		
	Note: Sign a Fax (5	ind return this p 09- 375-5331) oi	age via ^r e-mail.	1.	Date:		2. Technic #####-	al Document ID TTC-###	No.:
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13. A	ction: (A=Approval; R=	Review; I=Infor	mation; and N/A=Nc	ot Applica	able)				
Action	Disciple	Printed Name	Signature	Date	Action	Disciple	Printed Name	Signature	Date
	Project Mgr:					ES&H Mgr:			
	Engineering Mgr/Technical Lead:					Contract/Project Supt Mgr:			
	Business Line Lead					Process Technology Mgr:			
	Quality Assurance:					Other:			
	Program Director:					Other:			
Client Receipt: (Sign and return)									
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22. Sub-consultant information:

If one or more sub-consultants will be used, provide the name, address, point of contact and phone number for each. Otherwise, leave this section blank.

Firm Name (as registered with Louisiana's Secretary of State)	Address	Point of Contact and email address	Phone Number
GEC, Inc.	8282 Goodwood Blvd. Baton Rouge, LA 70806	Cary Bourgeois, PE cbourgeois@gecinc.com	225-612-4121
SJB Group, LLC	P.O. Box 1751, Baton Rouge, LA 70821	Patrick Staiano, PLS Patrick.Staiano@SJBGroup.com	225-769-3400

About AECOM

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