IDIQ CONTRACT FOR BRIDGE LOAD RATING

Contract No. 4400025865
Statewide
January 11, 2023

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

DOTD

SDR

SECTION 1-11

DOTD FORM: 24-102

(Revised March 1, 2022)

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	IDIQ Contract for Bridge Load Rating
2. Contract number(s) as shown in the advertisement	4400025865
3. State Project Number(s), if shown in the advertisement	N/A
4. Prime consultant name (as registered with the Louisiana Secretary of State where such registration is required by law)	**SDR Engineering Consultants, 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)	EF0003263 DUNS Number: 968522367
6. Prime consultant mailing address	2820 Continental Drive, Suite 100, Baton Rouge, LA 70808
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	2820 Continental Drive, Suite 100, Baton Rouge, LA 70808
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Mohsen Shahawy, PhD, PE Principal & COO (850) 222-2737, Ext. 226 shahawy@sdrengineering.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Ann Shahawy CEO (850) 222-2737, Ext. 222 ashahawy@sdrengineering.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 commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.	Signature (shall be the same person as #9):  Date: 1/11/2023	
11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.	Firm(s): APS Engineering and Testing, LLC The Beta Group	Firm(s)' %: 2% 2%

SECTION 12-15

SDR

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	SDR Engineering Consultants, Inc. (Prime)	APS Engineering and Testing, LLC	The Beta Group
Bridge	100%	96%	2%	2%
Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.				
Percent of Contract	100%	96%	2%	2%

Consultants:

SDR Engineering Consultants, Inc.

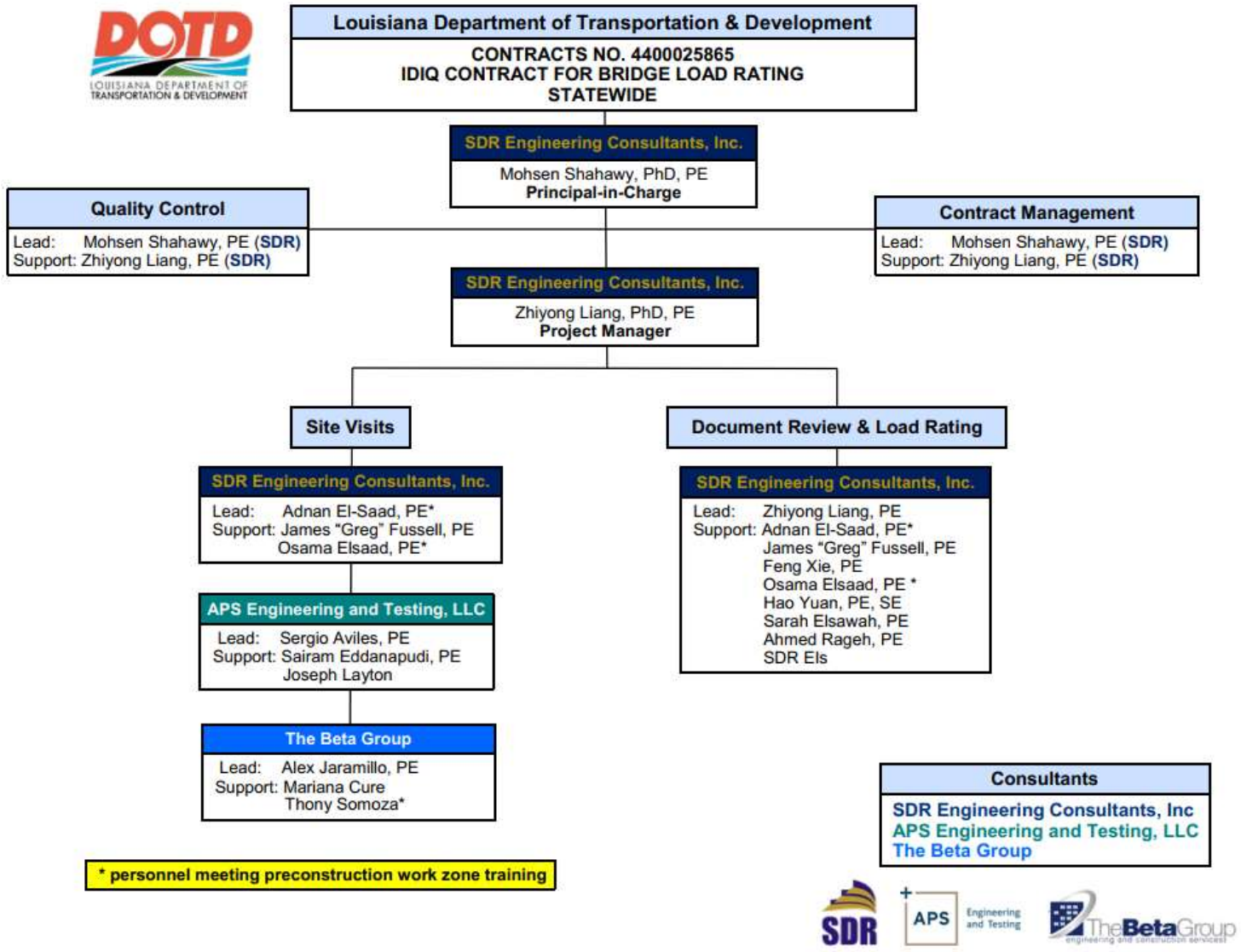
APS Engineering and Testing, LLC

The Beta Group

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)
SDR Engineering Consultants, Inc.	Principal	1	2
	Supervisor Engineer	2	3
	Engineer	7	9
	Engineer Intern	6	8
	Inspector-Bridge	6	8
	CADD Drafter	1	2
	Computer Analyst	1	2
	Administrative	1	2
APS Engineering and Testing, LLC	Engineer	5	5
	Driller	8	8
	Technician	12	12
The Beta Group	Engineer	1	2
	Inspector	2	2
	Technician	7	25

14. Organizational Chart:



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	Mohsen Shahawy, PhD, PE	SDR Engineering Consultants, Inc.	PE.31465	LA	03/31/2023
2					
3					
4	Zhiyong Liang, PhD, PE		PE.34873	LA	03/31/2024
5	Adnan El-Saad, PE		PE.34533	LA	09/30/2023
	James "Greg" Fussell, PE		PE.43706	LA	03/31/2024

SECTION 16

16. Staff Experience:

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Mohsen Shahawy, PhD, PE**		Years of relevant experience with this employer	25	
Title	Principal and COO		Years of relevant experience with other employer(s)	15	
Degree(s) / Years / Specialization			PhD / 1984 / Civil Engineering MS / 1981 / Civil Engineering BS / 1976 / Civil Engineering		
Active registration number / state / expiration date			PE.31465 / Louisiana / 03-31-2023		
Year registered	2004	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Principal in charge, design, management, QC/QA		

Dr. Shahawy is the managing principal of SDR with 40 years of bridge design experience of movable steel bridges, post-tensioned segmental precast/cast-in-place concrete box girders, segmental concrete/steel cable-stayed systems, welded steel plate multi-girders, steel truss structures, precast prestressed concrete U-beams as well as drill-shafts, pile foundations, substructures, and retaining walls. He is an expert in bridge evaluation, structural assessment, and load rating. During his 15 years tenure at FDOT he has inspected, evaluated, and designed over 200 bridges of every possible bridge type. He is a Co-author of the PCI Bridge Design Manual; the first comprehensive bridge design manual dealing with the implementation of the AASHTO LRFD Bridge Design Specifications.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "Bridge Inspection", "condition assessment", "steel and concrete rehabilitation, "Non-destructive Testing", "Project Management".
10/2014–Present	**H.009859: Load Rating of Bridges, Statewide, LA** Led many bridge load rating projects and rehabilitation of various bridge types including concrete slabs, prestressed concrete girders, steel girders, steel trusses, and culverts. Main responsibilities: structural analysis, QC review of FE models, and independent peer reviews. Sample bridge load rating projects include: • H.009859.5: Load Rating of 114 Bridges (07/2022–Present) • H.009859.5: Load Rating of 74 Bridges (04/2017–02/2018) • H.009859.5: Load Rating of 50 Bridges (04/2017–11/2017) • H.009859.5: Load Rating of 100 Bridges (03/2016–06/2017) • H.009859.5: Load Rating of 125 Bridges (10/2014–10/2015)
03/17–Present	**Load Rating of Complex Bridges, Statewide, LA** Led many bridge rehabilitation and load rating projects of various complex bridge types including truss, swing, lift, pontoon bridges. Main responsibilities: leading structural analysis, QC review of FE models, and independent peer reviews. Sample movable bridge projects include: • Bridge No. 054360 (Steel Plate Girder Swing Span)

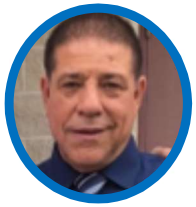
	• Bridge No. 058750 (Steel High Truss Swing Span) • Bridge No. 056430 (Steel Truss Swing Span) • Bridge No. 054480 (Ponton Span) • Bridge No. 000930 (Steel Tower Vertical Lift Span) • Bridge No. 200871 (Steel I-Beam Swing Span) • Bridge No. 200866 (Pontoon Span) • Bridge No. 020447 (Steel Plate Girder Bascule Span) • Bridge No. 200903 (Steel Plate Girder Swing Span) • Bridge No. 200877 (Steel Plate Girder Swing Span)
03/2010–05/2012	**H.005380.5: Evaluation and Load Rating of Three Major Truss Bridges, Statewide, LA** The scope of work included in-depth inspection and 3-D computer modeling of the truss spans to access existing deficiencies and performing load rating of three major truss bridges including the approach spans. • Mississippi River Bridge at Vicksburg (4,210 feet) • Sunshine Bridge at Donaldsonville (3,327 feet) • I-10 Calcasieu River Bridge at Lake Charles (6,617 feet) **Role(s):** Project Manager, lead engineer, Responsibilities included: QC review of all inspection reports, structural assessment of found deficiencies and determining effect of steel section loss for both members and gusset plates on load rating; developing structural modeling parameters and supervising the team developing the 3-D finite element model for the main truss using LUSAS; and load rating all elements of the truss spans.
06/86–10/00	**Complex Bridge Design/Rating, Statewide, FL** Design and load rating of complex bridges in Florida. Sample projects include: • Indian River, Vero Beach, FL, Bridge No. 880054 • Big Carlos bridge (#120028), Lee County, FL • Oakland Blvd., Ft. Lauderdale, FL, Bridge No. 860941 • Longboat bridge (#130057), Sarasota, FL • S.R. 706, Jupiter, FL, Bridge No. 930007 • Laurel street bridge (#105503), Tampa, FL • Delray Beach, FL, Bridge No. 930064 • Blackburn Pt. Bridge (#170064) Sarasota, FL • US A1A, Evans Crary, FL, Bridge Numbers 890058 and 890060. **Role(s):** Lead the load rating and design analysis, and provide guidance to the project team to address review comments at every stage.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Zhiyong Liang, PhD, PE**		Years of relevant experience with this employer	13	
Title	Vice President		Years of relevant experience with other employer(s)	12	
Degree(s) / Years / Specialization			PhD / 2008 / Civil Engineering MS / 2004-2005 / Civil Engineering-Computer Science BS / 1996 / Civil Engineering FHWA-NHI-13055 Safety Inspection of In-Service Bridges		
Active registration number / state / expiration date			PE.34873 / Louisiana / 3-31-2024		
Year registered	2009	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Bridge NDT, load test, and load rating leader.		

Dr. Liang's experience focuses on bridge design, load rating, and conditions evaluation of steel and concrete bridges. He has been a Project Manager and Engineer of Record on many successfully completed bridge load rating, design, testing, and rehabilitation projects, including 20+ movable bridges (Swing/Lift/Bascule/Ponton). He is the main designer of several bridge design and rating software that are currently used by LADOTD, including Smart Bridge Culvert, and COMPSTIL2 Influence Line Program.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
04/11–Present	**Projects on Load Rating of Bridges, Statewide, LA** Lead the load rating of more than 1000 bridges in the past ten years. The bridge types varied from concrete slab, prestressed concrete girder, steel girder, steel truss, timber bridge, multi-pile bent, hammerhead, steel tower bent, two-girder system with floorbeam, movable bridge, and culvert. Simple bridges and culverts were rated using AASHTOWare BrR, & RC-Pier. Complex bridges were rated using refined 3D finite element analysis combined with MathCAD or Excel. Sample projects include: • H.009859.5: Load Rating of 114 Bridges (07/2022–Present) • H.012485.5: Load Rating of 176 Bridges (03/2021–09/2021) • H.012485.5: Load Rating of 617 Bridges (07/2019–06/2021) • H.009859.5: Load Rating of 74 Bridges (04/2017–02/2018) • H.009859.5: Load Rating of 50 Bridges (04/2017–11/2017) • H.009859.5: Load Rating of 100 Bridges (03/2016–06/2017) • H.009859.5: Load Rating of 125 Bridges (10/2014–10/2015) • H.003003, H.003014, H.010601: Evaluation of I-10 Bridges for Widening (22 bridges) (1/2014–9/2014) • H.005382.5: Load Rating of 230 unrated Bridges (04/2011–03/2012) As the project manager and lead engineer for all listed projects, Dr. Liang's responsibilities are as follows:

	• Retrieve and review plans and documents from different sources (online, LADOTD offices, fabricators, digital, film, print etc). • Site visit to collect necessary information to rate bridges without plans and reflect the current field conditions in load rating analysis. • Perform load rating of bridges and culverts, especially the ones with special requirement. • Supervise the load rating team and review the final rating report of all bridges. • Perform refined analysis to avoid posting of bridges with deficiencies based on traditional analysis. • Provide repair or strengthening recommendations to improve or remove load posting.
03/10–08/19	**Projects on Load Rating of Complex Bridges, Statewide, LA** Lead the inspection and load rating of many complex bridges including major truss bridges, swing bridges, lift bridges, pontoon bridges, tapered steel U-girder bridges, and bridges with special layouts such as flared girders or curved deck, etc. Most of the bridges required refined 3-D finite element modeling and/or special analysis to obtain the proper rating. The selected projects are: • H.011487: LA 182 over Berwick Bay (major truss bridge) (09/2018–08/2022) • H.012485.5: Load Rating of 27 Complex Bridges (02/2019–08/2019) • H.009859.5: Load Rating of 18 Complex Bridges (01/2018–06/2019) • H.011484:US 80 Red River Bridge Texas St Rehab (major truss bridge) (12/2015–04/2018) • H.009859.5: Load Rating of 10 Truss Bridges (01/2013–08/2016) • H.009859.5: Load Rating of 18 Posted Bridges (01/2015–08/2015) • H.005380.5: Evaluation and Load Rating of Three Major Truss Bridges (03/2010–05/2012) As the project manager and lead engineer for all listed projects, Dr. Liang's responsibilities are as follows: • In-depth field inspection to assess the deterioration that may affect the bridge rating. • Build 3D finite element model using Midas or Lusas. • Review load rating results and refine the analysis to avoid unnecessary posting. • Provide repair or strengthening recommendations and cost estimate of construction.
07/13–04/15	**H.010498: Luling Bridge Rehabilitation, St. Charles Parish, LA** The project was the evaluation and rehab of Luling Bridge (Hale Boggs Memorial Bridge), a five-span cable-stayed bridge with twin steel towers supporting the cables and a floor beam-stringer deck system. Dr. Liang's responsibilities are as follows: • In-depth inspection of the bridge. • Load rating of the main cable-stayed spans using 3D finite element analysis. • Investigation of the cause of fatigue cracks and development of rehab plans.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Adnan El-Saad, P.E.**		Years of relevant experience with this employer	10	
Title	Senior Project Engineer & GM		Years of relevant experience with other employer(s)	23	
Degree(s) / Years / Specialization			BS / 1981/ Civil Engineering		
Active registration number / state / expiration date			PE. 34533 / Louisiana / 09-30-2023		
Year registered	2009	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Senior Engineer & Deputy Project Manager		

Adnan Elsaad is an expert engineer with over 30 years of experience in non-destructive testing, LRFR load rating, bridge evaluation, and bridge testing. He has planned, instrumented, and executed over 300 bridge tests. He has extensive experience with and a specialized knowledge of testing both steel and concrete structures, as well as load rating and bridge inspection.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
05/20–Present	**H.014288.5-2: LA 82 Mermentau MB Rehab (G Chenier) (HBI), Cameron Parish, LA** This is a swing truss bridge built in 1959, with span length of 204 ft on the truss span and a total bridge length of 1049 ft including the approach concrete slab spans and steel I-beam spans. The major tasks were to inspect, and load test the bridge, then develop the rehabilitation plans to strengthen the bridge so that the posting can be removed. Mr. Elsaad's responsibilities are as follows: • Develop testing plan, install strain gauges, and perform load test. • Prepare rehabilitation plans.
09/19-06/21	**H.009859.5: Load Rating of 617 Bridges, Statewide, LA** The scope of work was to analyze and load rate 617 existing off-system bridge structures. The load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Adnan El-Saad's responsibilities were as follows: • Site visit to gather bridge information as necessary. • Perform load rating of simple bridges and precast girder bridges. • Develop load rating reports. • Supervise field inspection and field measurements. • QCQA review of load rating reports.
02/19–Present	**H.011487: LA 182 Over Atchafalaya River (Berwick bay) Bridge Rehabilitation, Lafayette, LA** The major through truss bridge carries LA 182 over the Atchafalaya River (Berwick Bay). The bridge consists of 47 spans with a total length of 3,746 ft. The approach spans consist of two (2) reinforced concrete slab spans, 40

	reinforced concrete T-beam spans, and two (2) deck truss spans. The navigational spans consist of three (3) identical through truss spans. The substructure is comprised of concrete pile bents, two-column concrete bents, and concrete piers. Mr. Elsaad responsibilities are as follows: • Inspection leader, collecting structure information, review of records, developing inspection plans, performing NBIS element-level inspection, and instrumentation and load testing of the approach spans. • Lead design of the substructure rehabilitation, bridge deck, concrete approach spans, and QC/QA of the superstructure rehabilitation.
05/19–01/20	**H.009859.5: Evaluation & Load Testing of Five Posted Bridges, Statewide, LA** The scope of work was to evaluate five (5) bridges, three (3) of which are movable bridges, that are posted for a load lesser than the Legal Loads and/or Special Hauling Vehicles. The evaluation was carried out utilizing load rating analysis and load testing coupled with detailed 3-D Finite Element Analysis with the aim of removing current load posting. Adnan El-Saad's responsibilities were as follows: • Supervise field instrumentation and testing. • Instrument and field test deficient members. • QCQA review load testing reports and analysis.
11/15-04/18	**H.011484: US 80 Texas Street over Red River Bridge Rehab, Shreveport, LA** The US 80 Texas Street Bridge, built in 1934, is a historic bridge which carries US 80 over the Red River at Shreveport, LA. The bridge consists of 45 spans with a total length of 2,895 feet. The approach spans consist of reinforced concrete T-beam girders, steel girders, and steel deck trusses. The main span consists of a three-span steel truss with a total length of 884 feet. Scope of work included in-depth inspection of the entire bridge structure; evaluation of the structural strength; load rating analysis of the deficient structure; and design of rehabilitation and construction plans production. Adnan El-Saad's responsibilities were as follows: • Inspection team member conducting hands-on element inspection and ultrasonic testing of the steel pins. • QC/QA review activities: load rating analysis; evaluation report; design of substructure rehabilitation; and construction plans.
07/17-02/18	**H.009859.5: Load Rating of 74 Bridges, Statewide, LA** The scope of work was to analyze and load rate 74 existing bridge structures. Load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Adnan El-Saad responsibilities were as follows: • Load rating analysis of simple bridges with deteriorating piles. • Develop load rating reports. • QCQA review of load rating reports.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**James "Greg" Fussell, ME, PE**		Years of relevant experience with this employer	8	
Title	Bridge Engineer		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			ME / 2014 / Structural Engineering BS / 2013 / Civil Engineering		
Active registration number / state / expiration date			PE.0043706 / Louisiana / 03-31-2024		
Year registered	2019	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			PM, Design, Analysis, Load Rating, Inspection, Drafting		

Mr. Fussell has 8 years of experience as a bridge engineer. His current focus is primarily in the areas of bridge design, load rating, and rehabilitation with experience in bridge testing and inspection. His involvement in projects has included new bridge design, emergency repair projects, load rating evaluation and reporting, on-site construction support and inspection, and bridge instrumentation testing. The following projects are the major projects that he served as a lead engineer on.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "Bridge Inspection", "condition assessment", "steel and concrete rehabilitation, "Non-destructive Testing", "Project Management".
03/16-Present	**Bridge Load Rating Projects, Statewide, LA** Performing and overseeing the load rating of over 600 bridges throughout the state of Louisiana. Load ratings encompassed cast-in-place slab, precast slab unit, concrete deck girder, prestressed concrete girder, steel plate girder, various culverts, steel swing, moveable, deck truss, and cantilever truss bridges. Substructures included timber, concrete, and steel bent caps, hammerheads, inverted-t caps, and timber and steel piles. AASHTOWARE BrR and LEAP Bridge Concrete were used for the rating of simple bridges, while FEM or in-house influence line software was used for the rating of complex bridges. Mr. Fussell was actively involved with the following projects: • H.009859.5: Load Rating of 114 Bridges (07/2022-Present) • H.012485.5: Load Rating of 176 Bridges (04/2021–09/2021) • H.012485.5: Load Rating of 617 Bridges (07/2019–06/2021) • H.009859.5: Load Rating of 74 Bridges (04/2017–02/2018) • H.009859.5: Load Rating of 50 Bridges (04/2017–11/2017) • H.009859.5: Load Rating of 100 Bridges (03/2016–06/2017) <u>Mr. Fussell's responsibilities were as follows:</u> • Reviewing the as-built drawings of each bridge to determine the appropriate load rating method and assumptions for the analysis.

	• Performing load rating of bridges using BrR, LEAP, Mathcad, and Midas. Then producing in-depth reports to present load rating overview, results, and schematics. • QC of load rating models and reports for other engineers to ensure accuracy and consistency throughout the project. • Determine efficient, economic repair recommendations for posted bridges in order to improve or remove posting.
01/18-08/19	**Complex Bridge Load Rating Projects, Statewide, LA** Performing load ratings on complex bridges that required in-depth evaluation reports for major bridges throughout the state of Louisiana. These projects consisted of various bridge types including swing, lift, pontoon, continuous steel plate girder, truss, and steel and concrete U-beam bridges. These complex bridges with complicated bridge geometries demanded precise modeling and detailed reporting. The superstructures were rated using AASHTOWARE Bridge Rating (BrR) and/or spreadsheets and the substructures were rated using LEAP Bridge Concrete and MathCad. In some cases, Midas was used for 3D finite element analysis. Projects are presented below that Mr. Fussell was involved in extensively: • H.012485.5: Load Rating of 27 Complex Bridges (02/2019–08/2019) • H.009859.5: Load Rating of 18 Complex Bridges (01/2018–06/2019) Mr. Fussell's responsibilities were as follows: • Field investigation to determine critical members, current structure conditions, and most efficient load rating procedure. • Extensive modeling of the structures using AASHTOWARE Bridge Rating and Midas for 3D FEM analysis. • Detailed reports were developed for each bridge to summarize the load rating results, along with the posting recommendations based on the results.
05/16-04/18	**H.011484.5: US 80 Red River Bridge Inspection, Load Rating, and Rehabilitation, Shreveport, LA** The US 80 Texas St. Bridge is a historic truss bridge in Shreveport, LA that has undergone inspection, load rating, and rehabilitation design. The complex structure consists of a steel cantilever truss, steel deck truss spans, a steel girder span, and 35 reinforced concrete deck girder approach spans of various lengths. The load rating was performed using AASHTOWARE BrR. Mr. Fussell's responsibilities were as follows: • An in-depth field investigation of the entire structure was performed by the SDR team to determine current conditions and critical members. • The load rating was performed using AASHTOWARE BrR for all superstructure elements. • Considering the inspection and load rating findings, investigation of repair procedures such as heat straightening and paint containment systems for truss configurations.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Feng Xie, MS, PE**		Years of relevant experience with this employer	7	
Title	Structural Engineer		Years of relevant experience with other employer(s)	1	
Degree(s) / Years / Specialization			MS / 2014 / Civil Engineering BS /2012/ Civil Engineering		
Active registration number / state / expiration date			PE. 43987/ Louisiana/ 03-31-2024		
Year registered	2019	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Structural Engineer		

Mr. Xie is a seasoned engineer with 8 years of experience in civil engineering. His current work includes bridge inspection, non-destructive testing, load testing, bridge design and detailing, bridge load rating, and quantity/cost estimate preparation. He has encompassed concrete, prestressed concrete, steel, and timber bridges, etc. in his professional career.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "Bridge Inspection", "condition assessment", "steel and concrete rehabilitation, "Non-destructive Testing", "Project Management".
07/22-Present	**H.009859.5: Load Rating of 114 Bridges** This project consisted of the analysis and load rating of 114 bridges statewide. Bridge structures include steel spans, concrete spans, truss spans, and movable spans. Feng's responsibilities and tasks were: • Managed the details of the schedule and tasks. • Developed rating models, load rated the bridges and prepared bridge rating reports. • Conducted site visits and prepared recommendations to improve the posting. • Quality control of the load rating work done by other engineers.
02/22-06/22	**H.009859: Load Rating of 36 Bridges** This project consisted of the analysis and load rating of 36 different types of bridges statewide. Bridge structures include steel spans and concrete spans. Feng's responsibilities and tasks were: • Managed the details of the schedule and tasks. • Reviewed documents, plans for the bridges and existing rating files. • Analyzed the bridges, prepared load rating reports and recommendations to improve the posting. • Reviewed engineers' work and assisted them with technical issues.
04/21-09/21	**H.009859.5: Load Rating of 176 On-System bridges, Statewide LA** This project consisted of the analysis and load rating of 176 on-system bridges located in Louisiana. The culverts were rated using the improved rating method developed by SDR. Others are continuous voided slab bridges, concrete deck girder bridges, and a pontoon bridge. Feng's responsibilities and tasks were: • Managed the details of the submittal schedule and assigned the rating tasks to engineers.

	• Reviewed the load rating work from engineers. • Helped other engineers with technical issues in load rating.
07/19-06/21	**H.012485.5: Load Rating Of 617 Off-System Bridges, Statewide, LA** This project consisted of the analysis and load rating of 617 different types of off-system bridges statewide. Bridge structures include timber spans, steel spans, and concrete spans. Feng's responsibilities and tasks were: • Managed the details of the submittal schedule and tasks for engineers • Reviewed documents and plans for the bridges. • Prepared the load rating reports for the bridges. • Quality control of the load rating work done by other engineers.
03/19-08/19	**H.009859.5: Load Rating of 27 Complex Bridges, Statewide, LA** This project consisted of the analysis and load rating of 27 complex bridges including continuous steel spans, prestressed concrete spans, moveable spans, etc. located in Louisiana. Feng's responsibilities and tasks were: • Managed the details of the project schedule. • Development of rating models and reports for the complex bridges. • Guided the engineers with the load rating procedure and analysis practice. • Reviewed engineers' work and assisted them with technical issues.
02/16-07/17	**H.009859.5: Truss Bridges Rating and Evaluation, Statewide, LA** This project is the load rating of complex truss bridges. The structure type includes steel low truss bridge, steel high truss bridge, and steel deck truss bridge. The work includes analysis and load rating, preparing rating reports, generating repair strategies and plans for these bridges. Feng's responsibilities and tasks were: • Review of existing documents and bridge plans • Preparation of inspection equipment and schedule. • In-depth inspection and evaluation of truss members using a snooper truck. • Load rating of the truss bridges and preparation of the rating reports.
08/14-09/15	**H.009859.5 (A): Load Rating 125 Bridges, Statewide, LA** This project consisted of the analysis and load rating of 125 bridges located in Louisiana State. Bridge structures include timber spans, steel spans, and concrete spans. Feng's responsibilities and tasks were: • Reviewed the inspection report and as-built plans, • Field inspection and evaluated the conditions of the selected bridges • Load rated the superstructures and substructures. • Prepared the load rating reports and made load rating conclusions**.**

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Osama Elsaad, ME, P.E.**		Years of relevant experience with this employer	6	
Title	Structural/Bridge Engineer		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			ME / 2017 / Civil Engineering (Structural) BS / 2016 / Civil Engineering		
Active registration number / state / expiration date			PE.45668 / Louisiana / 09-30-2023		
Year registered	2021	Discipline	Civil Engineer-Structures		
Contract role(s) / brief description of responsibilities			Structural Bridge Engineer, bridge inspection and testing		

Osama Elsaad is a structural engineer with 6 years of experience. His involvement on projects has included on-site inspection, bridge instrumentation load testing, emergency repair projects, load rating evaluation and reporting, rehabilitation projects, and quantity/cost estimate preparation. He is experienced in load rating analysis of concrete bridges, steel bridges, and assisted in developing and reviewing reports. He has also completed the FHWA-NHI Bridge Inspection Training.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "Bridge Inspection", "condition assessment", "steel and concrete rehabilitation, "Non-destructive Testing", "Project Management".
07/22-Present	**H.009859.5: Load Rating of 114 Bridges, Statewide, LA** The scope of work was to analyze and load rate 114 existing bridge structures. The load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Mr. Elsaad's responsibilities were as follows: • Review the as-built drawings of each bridge to determine the appropriate load rating method and assumptions for the analysis. • Performing load rating of bridges using BrR, LEAP, Mathcad, and Midas. Then producing in-depth reports to present load rating overview, results, and schematics. • QC of load rating models and reports for other engineers to ensure accuracy and consistency throughout the project.
07/19-06/21	**H.009859.5: Load Rating of 617 Bridges, Statewide, LA** The scope of work was to analyze and load rate 617 existing off-system bridge structures. The load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Mr. Elsaad's responsibilities were as follows: • Review the as-built drawings of each bridge to determine the appropriate load rating method and assumptions for the analysis. • Performing load rating of bridges using BrR, LEAP, Mathcad, and Midas. Then producing in-depth reports to present load rating overview, results, and schematics.

	• Perform field inspection. • Collect field measurements of bridges with missing plans. • Collect rebar data of concrete structures with missing plans using Ground Penetrating Radar (GPR). • QC of load rating models and reports for other engineers to ensure accuracy and consistency throughout the project.
05/20–10/20	**H.009859.5: RC Box Culverts Testing and Rating, Statewide, LA** The scope of work was to evaluate twelve (12) culverts to develop a load rating process to allow culverts to pass. The evaluation was carried out utilizing load rating analysis and load testing coupled with detailed 3-D Finite Element Analysis. The culverts were chosen to have different sizes, fill heights, and soil types. Mr. Elsaad's responsibilities were as follows: • Coordinate load testing, instrument, and field test twelve culverts. • Perform load rating analysis on 100 culverts AASHTOWare Bridge Rating Software. • Develop in-depth reports to present load rating overview, results, and schematics.
03/19-08/19	**H.009859.5: Load Rating of 27 Complex Bridges, Statewide, LA** The scope of work was to analyze and load rate 27 existing off-system bridge structures. The load rating was performed using AASHTOWare Bridge Rating Software. The structure types consisted of swing bridges, pontoon bridges, and bascule bridges. Mr. Elsaad's responsibilities were as follows: • Performing Load rating analysis of complex bridges using AASHTOWare Bridge Rating Software. • Develop in-depth reports to present load rating overview, results, and schematics. • Review load rating reports.
07/17-02/18	**H.009859.5: Load Rating of 74 Bridges, Statewide, LA** The scope of work was to analyze and load rate 74 existing bridge structures. Load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Mr. Elsaad's responsibilities were as follows: • Performing load rating of bridges using BrR, RC-Pier, Mathcad, and Midas. Then producing in-depth reports to present load rating overview, results, and schematics. • Review load rating reports. • Develop substructure influence line models.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Hao Yuan, PhD, PE, SE**		Years of relevant experience with this employer	3	
Title	Structural/Bridge Engineer		Years of relevant experience with other employer(s)	2	
Degree(s) / Years / Specialization			PhD / 2018 / Civil Engineering (Structures & Mechanics) MS / 2012 / Civil Engineering (Structures) BS / 2011 / Civil Engineering		
Active registration number / state / expiration date			PE.47145 / Louisiana / 03-31-2023		
Year registered	2022	Discipline	Civil Engineering, Structural Engineering		
Contract role(s) / brief description of responsibilities			Engineer / bridge load rating and refined analysis		

Dr. Yuan is a seasoned bridge engineer. His current work primarily includes bridge analysis, design, load rating, load testing, and non-destructive evaluation. He has encompassed concrete, prestressed concrete, steel, timber bridges, etc., in his professional career. He has also completed the FHWA-NHI Bridge Inspection Training and qualified as a bridge inspection team leader. He also has a research background on fatigue cracking and corrosion fatigue of bridge details.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "Bridge Inspection", "condition assessment", "steel and concrete rehabilitation, "Non-destructive Testing", "Project Management".
07/22–Present	**H.009859.5: Load Rating of 114 bridges, Statewide, LA** This project consists of the analysis and load rating of 114 bridges located in Louisiana State. Different types of bridges (including some complex bridges like swing truss bridges) are rated, in accordance with AASHTO and LADOTD codes. Dr. Yuan's responsibilities include: • Modeling, analysis, and load rating of bridges using multiple software. • Review the load rating work from other engineers. • Help other engineers with technical issues in load rating.
02/22–06/22	**H.009859 TO14: Load Rating of 36 Bridges, Statewide, LA** The load ratings are performed for different types of bridges, in accordance with AASHTO and LADOTD codes. Dr. Yuan's responsibilities included: • Modeling, analysis, and load rating of bridges using multiple software. • Review the load rating work from other engineers. • Help other engineers with technical issues in load rating.
07/21–09/21	**H.009859 TO14: Load Rating of 176 Bridges, Statewide, LA** This project consisted of the analysis and load rating of 176 bridges located in Louisiana State. Most of them are culverts. The culverts were rated using the improved rating method developed by SDR. Others are continuous voided slab bridges, concrete deck girder bridges, and a pontoon bridge. Hao Yuan's responsibilities included:

	• Modeling, analysis, and load rating of bridges using multiple software. • Refined analysis and STM analysis for RC arched frame bridges 001780/001790. • Review the load rating work from other engineers.
07/19–06/21	**H.009859.5: Load Rating of 617 Bridges, Statewide, LA** The scope of work was to analyze and load rate 617 existing off-system bridge structures. The load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Dr. Yuan's responsibilities included: • Modeling, analysis, and load rating of bridges using multiple software. • Refined analysis and rating for steel box beam bridge and STM analysis for hammerhead. • Review the load rating work from other engineers.
05/22–01/23	**H.012485.1 TO3: Load Testing and Evaluation of 19 Bridges, statewide, LA** The project is to test 19 bridges to verify the current posting and check the possibility of improvement with load rating modified by load test results. The evaluation is carried out utilizing load rating analysis and load testing coupled with detailed 3D Finite Element Analysis. Dr. Yuan's responsibilities included: • Processing test data, conducting finite element analysis, and preparing the load testing report for three bridges. • Review of other engineers' work.
04/22–08/22	**H.009730.5 TO6: Load Testing and Evaluation of LA 3021 over Southern Railroad, New Orleans, LA** This concrete deck girder bridge with arched frame spans was found to have a low shear capacity in an earlier load rating project. This project consisted of load tests and evaluation for this bridge. Load tests combined with detailed three-dimensional finite element analysis revealed that the bridge can carry higher loads. Dr. Yuan's responsibilities included: • Analysis and load rating of the bridge using the beam-element model and plate-element model. • Developed the load testing and evaluation report.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Sarah Elsawah, MS, PE**		Years of relevant experience with this employer	5	
Title	Structural/Bridge Engineer		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			MS / 2018 / Civil Engineering BE /2016/ Building Engineering		
Active registration number / state / expiration date			PE. 46814/ Louisiana/ 09-30-2024		
Year registered	2022	Discipline	Civil Engineer		
Contract role(s) / brief description of responsibilities			Structural/Bridge Engineer		

Sarah Elsawah has 5 years of experience in bridge engineering. She has assisted in new bridge design, steel rehabilitation, load rating and evaluation and load testing projects. Her expertise is load rating of complex bridges and load test and evaluation of bridges.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "Bridge Inspection", "condition assessment", "steel and concrete rehabilitation, "Non-destructive Testing", "Project Management".
07/22-Present	**H.009859.5: Load Rating of 114 bridges, Statewide LA** This project consisted of the analysis and load rating of 114 bridges located in Louisiana State. Bridge structures include all types of timber spans, steel spans, and concrete spans. Others are continuous voided slab bridges, continuous steel, truss, slab, and a pontoon bridge. Ms. Elsawah's responsibilities and tasks were: • Reviewed documents and plans of the bridges. • Performing load rating of bridges using BrR, RC-Pier and Mathcad. • Producing in-depth reports to present load rating overview, results, and schematics. • QC of load rating models and reports for other engineers to ensure accuracy and consistency throughout the project.
05/19-01/20	**H.009859.5: Load Testing and Evaluation of Five Posted Bridges, Vermilion, Cameron parish LA** The five bridges are posted for a load lesser than Louisiana State Legal Loads. This project consisted of load tests for these bridges. Load tests combined with detailed three-dimensional Finite Element Analysis revealed that these bridges can carry higher loads than those estimated by design codes. Ms. Elsawah's responsibilities and tasks were: • Review of the existing documents and models obtained from LADOTD. • Identifying the bridge members to be tested • Modeling the bridge with detailed three-dimensional Finite Element Analysis (3-D model) using MIDAS software • Analyzing the field data and predicting the behavior of the deficit member. • Create the load testing report
03/19-08/19	**H.009859.5: Load Rating of 27 Complex Bridges, Statewide, LA**

	The scope of work was to analyze and load rate 27 existing off-system bridge structures. The bridge types comprised cast-in-place slab, prestressed concrete girders, steel plate-girders, truss bridges, and swing spans. The superstructures were rated using AASHTOWARE Bridge Rating (BrR) and/or spreadsheets and the substructures were rated using RC-Pier and MathCad Sheets. The structure types consisted of swing bridges, slab bridges, and bascule bridges. Ms. Elsawah's responsibilities and tasks were: • Performing load rating of bridges using BrR, RC-Pier and Mathcad. • Producing in-depth reports to present load rating overview, results, and schematics. • QC of load rating models and reports for other engineers to ensure accuracy and consistency throughout the project.
01/18-06/19	**H.009859.5: Load Rating of 18 Bridges, Statewide, LA** • The project involved the load rating of 18 existing load-posted bridges consisting of swing spans, concrete box girders, truss spans, and continuous steel plate girders to determine if the posting could be removed. This scope includes collecting and compiling all pertinent information, load rating the bridges using standard analysis, performing an in-depth field investigation, analyzing and rating deficient structures, and providing a detailed evaluation report. Ms. Elsawah's responsibilities and tasks were: Performing load rating of bridges using BrR, RC-Pier, Mathcad, and Midas. Then producing in-depth reports to present load rating overview, results, and schematics. • QC of load rating models and reports for other engineers to ensure accuracy and consistency throughout the project.
5/18-06/18	**H.009859.5: Truss Bridges Rating and Evaluation, Statewide, LA** This project is the load rating of complex truss bridges. The structure type includes steel low truss bridge, steel high truss bridge, and steel deck truss bridge. The work includes analysis and load rating, preparing rating reports, generating repair strategies and plans for these bridges. Ms. Elsawah's responsibilities and tasks were: • Computing the capacity of continuous steel members. • Updating the AASHTOWARE Bridge Rating (BrR) based on the computed capacity for continuous members that rating below 1 under legal and SHV vehicles. • Preparation of the updated rating report.

Firm employed by: SDR Engineering Consultants, Inc.					
Name	**Ahmed Rageh, PhD, PE**		Years of relevant experience with this employer	3	
Title	Bridge/Structural Engineer		Years of relevant experience with other employer(s)	12	
Degree(s) / Years / Specialization			PhD / 2020 / Civil Engineering – Structures, USA MS / 2018 / Civil Engineering – Structures, USA MS / 2012 / Civil Engineering – Structures, Egypt BS / 2006 / Civil Engineering – Structures, Egypt FHWA-NHI-13055 Safety Inspection of In-Service Bridges		
Active registration number / state / expiration date			PE. 93229 / Florida / 2-28-2025 PE / Louisiana / In progress		
Year registered	2022	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Bridge NDT, load test, and load rating Engineer.		

Dr. Rageh has 14 years of experience in structural engineering with special emphasis on Rating, design and behavior of steel structures and bridges. He participated in designing of steel and post-tensioned bridges as well as designing and construction supervising of steel structures. He has in-depth knowledge of several national and international design codes including AASHTO, ACI, PCI and AISC.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
07/22–Present	**H.009859.5: Load Rating of 114 Bridges, Statewide, LA.** This project involves the load rating of 114 existing bridge structures by the Load and Resistance Factor Rating method (LRFR). Bridge types included prestressed concrete girder bridges, steel girder bridges, precast and CIP slab bridges, swing bridges. Three-dimensional finite element modeling is used as necessary for the complex bridges. Dr. Rageh served as a bridge engineer with the following roles: • Perform load rating for prestressed concrete box girder bridges • Lead other team members in rating prestressed concrete and multi-steel beam segments • Perform analyses, and develop Mathcad file to rate inverted T caps with Strut-and-Tie model
04/22–Present	**H.012485.1 Load Testing and Evaluation of 19 Bridges, Statewide, LA.** The scope of work was to evaluate the 19 bridge structures that are posted for a load lesser than the Legal Loads and/or Special Hauling Vehicles. The evaluation was carried out utilizing load rating analysis and load testing coupled with detailed 3-D Finite Element Analysis with the aim of removing current load posting. Dr. Rageh served as a bridge engineer with the following roles: • Review and perform load rating utilizing BrR • Perform QCQA on the FEA analyses, test results and final report prepared by other team members

08/22–Present	**SR 5 (US 1) Bridge over Channel No. 5 Jacking, FL** The segmental bridge constructed using span-by-span method is to be repaired including bearings replacement, which requires jacking of the bridge under full live load. Served as a Bridge Engineer to develop jacking plan including jacking sequence, temporary jacking steel frame, operations manual, and inspection/certification of jacking equipment. Dr. Rageh served as a bridge engineer with the following roles: • Perform the analysis of bridge under full operational loads and determining jacking sequence • Develop design, details development, and construction plans
02/22–08/22	**Load Testing and Evaluation of Venetian Causeway Bridge, Miami, FL** The scope of work was to evaluate the arched concrete bridge segments that are posted for a load lesser than the Legal Loads and/or Special Hauling Vehicles. The evaluation was carried out utilizing load rating analysis and load testing coupled with detailed 3-D Finite Element Analysis with the aim of removing current load posting. Dr. Rageh served as a bridge engineer with the following roles: • Perform finite element analysis. • Develop instrumentation planning, and review/validation of diagnostic load testing results • Prepare final reports
05/21–09/21	**Hard Rock Stadium Pedestrian Bridge Independent Peer Review, Miami, FL** The pedestrian bridge Crossing over Turnpike Access Road is a single span, prefabricated truss-type bridge with a total length of 207 ft. Scope of work was to carry out an Independent Peer Review (IPR) of the bridge design to ensure that the bridge can sustain the original design loads and the additional loads imposed by new signs mounted to the bridge in accordance with FDOT Design Manual (FDM). Dr. Rageh roles included: • Perform the structural analysis • Perform Independent design checks of the truss member and connections
07/19–06/21	**H.009859.5: Load Rating of 617 Bridges, Statewide, LA** The scope of work was to analyze and load rate 617 existing off-system bridge structures. The load rating was performed using AASHTOWare Bridge Rating Software. The load rating consisted of concrete slab spans, steel spans, concrete girder spans, pile bents, and hammer head piers. Dr. Rageh roles included: • Perform load rating for cast-in-place concrete culverts • Perform QCQA for cast-in-place concrete culverts rated by other team members

Firm employed by: **APS Engineering and Testing, LLC**					
Name	**Sergio Aviles, P.E.**			Years of relevant experience with this employer	10
Title	President			Years of relevant experience with other employer(s)	10
Degree(s) / Years / Specialization				BS Civil Engineering/2001/Geotechnical	
Active registration number / state / expiration date				0033571/ LA / 03-31-2022	
Year registered	2007	Discipline		Civil Engineering-Structures	
Contract role(s) / brief description of responsibilities				Contract Role: **QA/QC field testing**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/19 - Present	**Project No.2012-FEMA-1B-1: Westend Group** The purpose was to conducted testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
04/19 - Present	**Project No. H.011795: Westwood Drive (WB Expressway to Lapalco)** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
05/19 - Present	**Project No. H.011798: Airline Park Blvd (Camphor-West Napoleon) Phase II** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
05/18-12/20	**Project No.H.009250: I-10: Highland to LA 73** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
04/18-11/18	**Project No. H.011798: Airline Park Blvd Phase I** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.

Firm employed by: **APS Engineering and Testing, LLC**					
Name	**Sairam Eddanapudi, M.E., P.E.**		Years of relevant experience with this employer	10	
Title	Chief Engineer		Years of relevant experience with other employer(s)	8	
Degree(s) / Years / Specialization			ME, Civil Engineering, Lamar University, Dec. 2002 BE, Civil Engineering, Sri Venkateswara University, India Aug. 1999		
Active registration number / state / expiration date			0035129/ LA / 03-31-2022		
Year registered	2008	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Contract Role: **Laboratory QA Manager- Will be in charge all daily operation of the project/QA/Design Engineer**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/19 - Present	**Project No.2012-FEMA-1B-1: Westend Group** The purpose was to conducted testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
04/19 - Present	**Project No. H.011795: Westwood Drive (WB Expressway to Lapalco)** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
05/19 - Present	**Project No. H.011798: Airline Park Blvd (Camphor-West Napoleon) Phase II** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
05/18-12/20	**Project No.H.009250: I-10: Highland to LA 73** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
04/18-11/18	**Project No. H.011798: Airline Park Blvd Phase I** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.

Firm employed by: **APS Engineering and Testing, LLC**					
Name	**Joseph Layton**		Years of relevant experience with this employer	2	
Title	Senior Technician		Years of relevant experience with other employer(s)	8	
Degree(s) / Years / Specialization			Density Testing Embankment and Base Course (C 0303B) Nuclear Gauge Safety Certification ACI Certified		
Active registration number / state / expiration date			N/A		
Year registered	N/A	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Contract Role: **Field Technician**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
01/19 - Present	**Project No.2012-FEMA-1B-1: Westend Group** The purpose was to conducted testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
04/19 - Present	**Project No. H.011795: Westwood Drive (WB Expressway to Lapalco)** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
05/19 - Present	**Project No. H.011798: Airline Park Blvd (Camphor-West Napoleon) Phase II** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
05/18 - Present	**Project No. H.009250: I-10- Highland to LA 73** The purpose was to conduct testing on the subsurface, base course, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures. Mr. Layton is the senior field technician on site assign to perform all field testing for this project.
01/19 - Present	**Project No. 2012-FEMA-1B-1-Westend Group** The purpose was to conducted testing on the subsurface, base course, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures. Mr. Layton is the senior field technician on site assign to perform all field testing for this project.
05/18-12/20	**Project No.H.009250: I-10: Highland to LA 73**

	The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.
04/18-11/18	**Project No. H.011798: Airline Park Blvd Phase I** The purpose was to conduct testing on the subsurface, base, and concrete placement at the site to enable an evaluation of an acceptable standards for the proposed roadway structures.

Firm employed by: **The Beta Group**					
Name	**Alex Jaramillo, P.E.**			Years of relevant experience with this employer	12
Title	Technical Manager			Years of relevant experience with other employer(s)	16
Degree(s) / Years / Specialization				Professional Engineer	
Active registration number / state / expiration date				P.E. 36324/ LA	
Year registered	1999	Discipline		Civil Engineering-Structures	
Contract role(s) / brief description of responsibilities				Technical Manager/ Geotechnical Engineer	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
10/19-02/20	**Innovation Park Blvd. Extension, Baton Rouge LA** Performed a subsurface exploration consisting of five (5) undisturbed soil test borings, each to a depth of 6 ft. below the existing ground surface in the general alignment of the proposed roadway. This project consists of construction a new roadway which includes a roundabout beginning at Innovation Park Dr. extending southwest approximately 1,800 linear ft. towards Nicholson Dr. in Baton Rouge, Louisiana. Analysis included: Pavement Recommendations and General Construction Procedures and Recommendations.
08/17-11/17	**Roadway Borings: Marconi Dr. From City Park Ave. to Florida Ave. / Railroad Underpass (H.012371), Morrison Rd. From Edwards Rd. to Bullard Rd. (H.012372), Martin Luther King Blvd. from S. Claiborne Ave. to St. Charles Ave. (H.012373), New Orleans (Orleans Parish), Louisiana-** Performed a subsurface exploration consisting of twenty-six (26) undisturbed soil test borings each to a depth of 5 feet below the existing ground surface. The undisturbed soil borings are located at various locations throughout New Orleans, LA. Five (5) undisturbed soil borings were performed on Martin Luther King Blvd. between South Claiborne Ave. and St. Charles Ave. Six (6) undisturbed soil borings were also performed on Marconi Dr. between City Park Ave. and Florida Ave. / Railroad Underpass. Fifteen (15) undisturbed soil borings were completed on Morrison Rd. between Edwards Rd. and Bullard Rd. Analysis included: Pavement Recommendations, Earthwork Considerations and General Construction Procedures and Recommendations.

Firm employed by: **The Beta Group**					
Name	**Mariana Cure**		Years of relevant experience with this employer	30	
Title	Senior Technician		Years of relevant experience with other employer(s)		
Degree(s) / Years / Specialization			Asphalt Plant Inspector		
Active registration number / state / expiration date			12/12/2022 (Currently being renewed)		
Year registered	N/A	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Senior Technician/ Asphalt Plant Inspector		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
10/17-03-18	**Lapalco (Victory-Westwood) LADOTD: Certified Asphaltic Concrete Plant Inspector/Technician-** Beta provided construction materials testing for this project which involved concrete paving, concrete plant inspection, soils testing, asphalt field and plant inspection.
02/17-03/18	**St. Charles Avenue (LA Avenue-Calliope St.) LADOTD: Certified Asphalt Concrete Plant Inspector/Technician-** The Beta Group provided construction materials testing for this project which involved concrete paving, concrete plant inspections, soils testing, asphalt field and plant inspections.
06/17-04/18	**LA 18 (4th Steer Ext.- Burmaster) LADOTD: Certified Asphaltic Concrete Plant Inspector/Technician-** Beta provided construction materials testing for this project which involved concrete paving, concrete plant inspection, soils testing, asphalt field and plant inspection.
03/18-Present	**Airport Connector Roads LADOTD: Certified Asphalting Concrete Plant Inspector/Technician-** Beta provided construction materials testing and project management for this project which included concrete paving, soils and asphalt paving.

Firm employed by: **The Beta Group**					
Name	**Thony Somoza**		Years of relevant experience with this employer	12	
Title	Senior Technician/ Resident Inspector		Years of relevant experience with other employer(s)		
Degree(s) / Years / Specialization			Embankment and Base Course-LADOTD ATSSA Traffic Control Supervisor/Technician and Flagger Certified		
Active registration number / state / expiration date			N/A		
Year registered	N/A	Discipline	Civil Engineering-Structures		
Contract role(s) / brief description of responsibilities			Resident Inspector/ Embankment & Base Corse Inspection/ Structural Concrete Inspector		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
04/17-05/18	**LA-46/ LA-39 Improvements LADOTD: Certified Embankment and Base Course Inspector**- Beta provided construction materials testing for this project which involved concrete inspections, soils testing, asphalt field and plant inspection.
02/17-03/18	**St. Charles Avenue (LA Avenue-Calliope St.) LADOTD: Certified Embankment & Base Course Inspector**- The Beta Group Provided construction materials testing for this project which involved concrete inspections, concrete plant inspections, soils testing, asphalt field and asphalt plant inspections.
10/17-03/18	**Lapalco (Victory – Westwood) LADOTD: Certified Embankment & Base Course Inspector**- Beta provided construction materials testing for this project which involved concrete inspections, concrete plant inspections, soils testing, asphalt field and asphalt plant inspections.

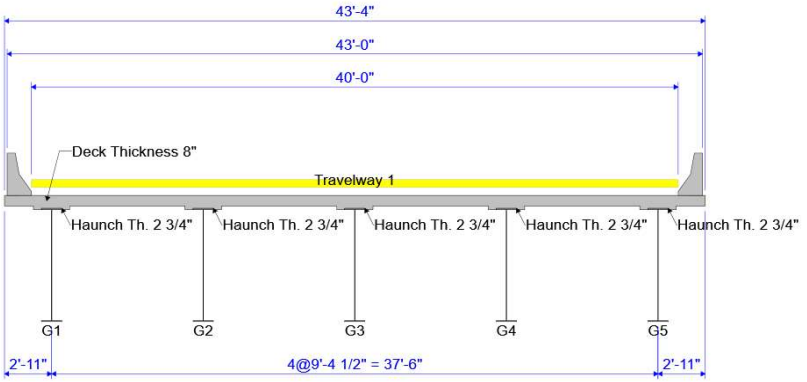
SECTION 17

17. Firm Experience:

Firm name	SDR Engineering Consultants, Inc.			Past Performance Evaluation Discipline(s)	Bridge
Project name	**Load Rating of 114 Bridges**			Firm responsibility (prime or sub?)	Prime
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Statewide, LA		Owner's Project Manager	Danny Tullier	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, (225) 379-1060, Danny.Tullier@LA.GOV				
Services commenced by this firm (mm/yy)	07/22	Total consultant contract cost ($1,000's)		$1,321	
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)		$1,321	

The scope was to perform Load and Resistance Factor Rating (LRFR) load rating analysis of 114 bridges in accordance with LADOTD Bridge Design and Evaluation Manual (BDEM) and AASHTO Manual for Bridge Evaluation (MBE).
The bridge types include:

- reinforced concrete slab
- precast concrete slab
- reinforced concrete T-beam
- precast prestressed concrete girder
- steel I-beam
- steel plate girder
- steel plate girder swing spans
- steel plate girder continuous spans
- steel box girder
- low truss swing spans
- high truss swing spans
- pontoon



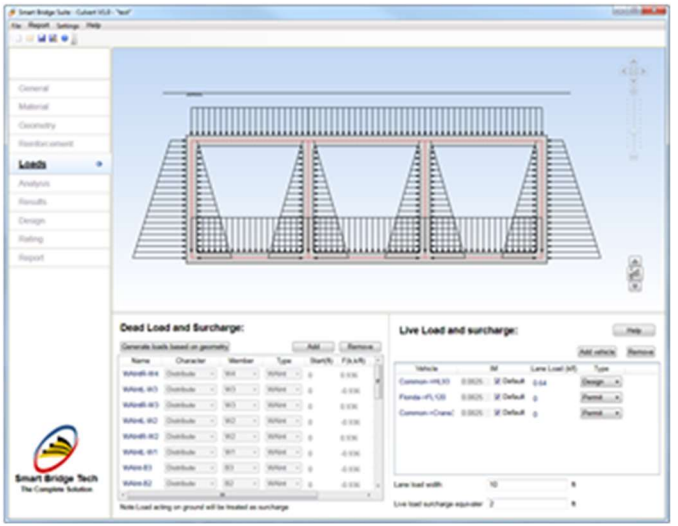
Team: **Osama Elsaad, PE; Sarah Elsawah, PE; James "Greg" Fussell, PE; Zhiyong Liang, PhD, PE; Ahmed Rageh, PhD, PE; Feng Xie, PE; Hao Yuan, PhD, PE, SE; Andres Rodriguez, EI; Parnian Abdi, EI; Mohsen Shahawy, PhD, PE**

Firm name	SDR Engineering Consultants, Inc.		Past Performance Evaluation Discipline(s)	Bridge	
Project name	**Load Rating of 617 Bridges**		Firm responsibility (prime or sub?)	Prime	
Project number	H.012485.5	Owner's name	LADOTD		
Project location	Statewide, LA		Owner's Project Manager	Dana Feng, PhD, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, (225) 379-1060, Dana.Feng@LA.GOV				
Services commenced by this firm (mm/yy)	07/19	Total consultant contract cost ($1,000's)		$3,841	
Services completed by this firm (mm/yy)	06/21	Cost of consultant services provided by this firm ($1,000's)		$3,841	

The scope was to perform Load and Resistance Factor Rating (LRFR) load rating analysis of 617 bridges in accordance with LADOTD Bridge Design and Evaluation Manual (BDEM) and AASHTO Manual for Bridge Evaluation (MBE).

The bridge types include:

- reinforced concrete slab
- precast concrete slab
- reinforced concrete T-beam
- precast prestressed concrete girder
- steel I-beam
- steel plate girder
- reinforced concrete box culverts
- reinforced concrete arched culverts
- timber bridges



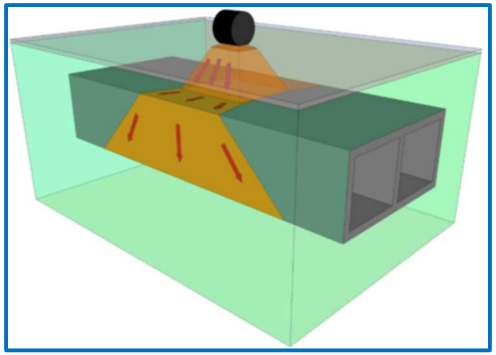
Team: **Osama Elsaad, PE; Sarah Elsawah, PE; James "Greg" Fussell, PE; Zhiyong Liang, PhD, PE; Ahmed Rageh, PhD, PE; Mohsen Shahawy, PhD, PE; Feng Xie, PE; Hao Yuan, PhD, PE, SE, Andreas Rodriquez, EI; Adnan El-Saad, PE;**

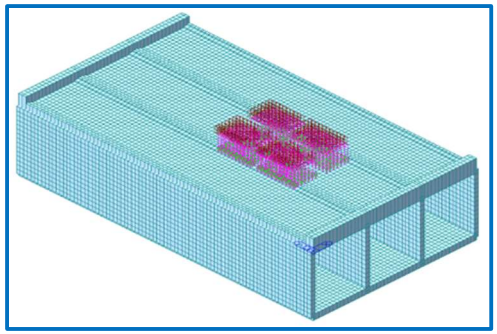
Firm name	SDR Engineering Consultants, Inc.			Past Performance Evaluation Discipline(s)	Bridge
Project name	**RC Box Culverts Testing and Rating**			Firm responsibility (prime or sub?)	Prime
Project number	H.009730.5	Owner's name	LADOTD		
Project location	Statewide, LA			Owner's Project Manager	Dana Feng, PhD, PE
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, (225) 379-1060, Dana.Feng@LA.GOV				
Services commenced by this firm (mm/yy)	12/18	Total consultant contract cost ($1,000's)			$837
Services completed by this firm (mm/yy)	10/20	Cost of consultant services provided by this firm ($1,000's)			$837

The scope was to assess the load rating of representative CIP-RC box culverts from the Louisiana DOTD inventory and to develop a load rating procedure representative of the actual field performance.

The project was carried out in two phases. Phase I comprised literature review of published standards and reports; preliminary analytical study using 2-D frame element models to investigate the influential parameters, and examination of LADOTD culvert inventory.

Phase II comprised performing diagnostic load testing of 12 culverts with different configurations representative of LADOT inventory and conducting a parametric study that included development of 120 3-D finite element models for culverts with different configurations (fill heights, span lengths and culvert lengths) and the corresponding 2D frame element models. The purpose of the parametric study was to develop correction factors to correlate internal forces obtained from 3-D analysis with those obtained from 2-D analysis.





Phase III comprised performing load rating of 100 box culverts using the proposed method in AASHTOWare Bridge Rating Software based on 3-D finite element analysis and diagnostic load testing results.

Team: **Osama Elsaad, PE; James "Greg" Fussell, PE; Zhiyong Liang, PhD, PE; Mohsen Shahawy, PhD, PE; Feng Xie, PE**

Firm name	SDR Engineering Consultants, Inc.			Past Performance Evaluation Discipline(s)	Bridge
Project name	**Load Rating of 27 Complex Bridges**			Firm responsibility (prime or sub?)	Prime
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Lafourche Parish, LA		Owner's Project Manager	Yan "Seraphy" Shen, PhD, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, 225-379-1012, Yan.Shen@LA.GOV				
Services commenced by this firm (mm/yy)	02/19	Total consultant contract cost ($1,000's)		$649	
Services completed by this firm (mm/yy)	08/19	Cost of consultant services provided by this firm ($1,000's)		$649	

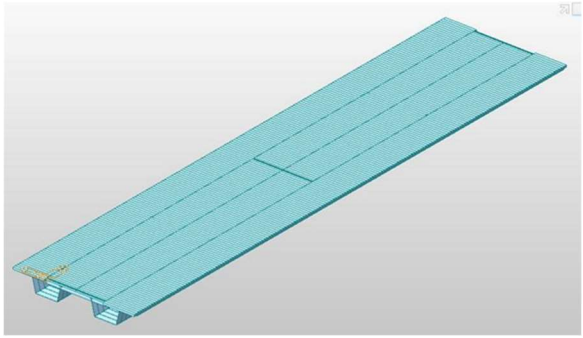
SDR was tasked by LADOTD to carry out load rating analysis of 27 complex off-system bridges across the state of Louisiana using the LRFR method in accordance with LADOTD Bridge Design and Evaluation Manual (BDEM) and AASHTO Manual for Bridge Evaluation (MBE).

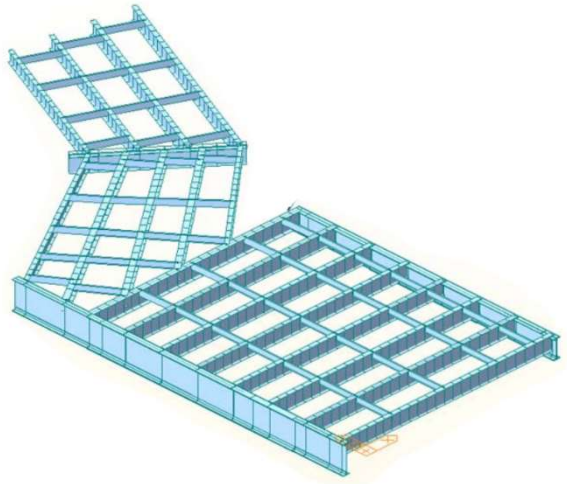
The bridge types included in this project were as follows:

- ferry-toll
- pontoon
- steel I-beam
- steel plate girder swing spans
- steel plate girder continuous spans
- steel plate girder bascule spans
- low truss swing spans
- steel box girder

Since AASHTO approximate analysis is no applicable to many of the bridges, the superstructures were analyzed utilizing Finite Element Analysis along with in-house-developed spreadsheets or Mathcad. The substructures were rated using RC-Pier, MathCAD, and Microsoft Excel spreadsheets.

Influence lines for the controlling load effect at critical sections were also developed for the substructures.



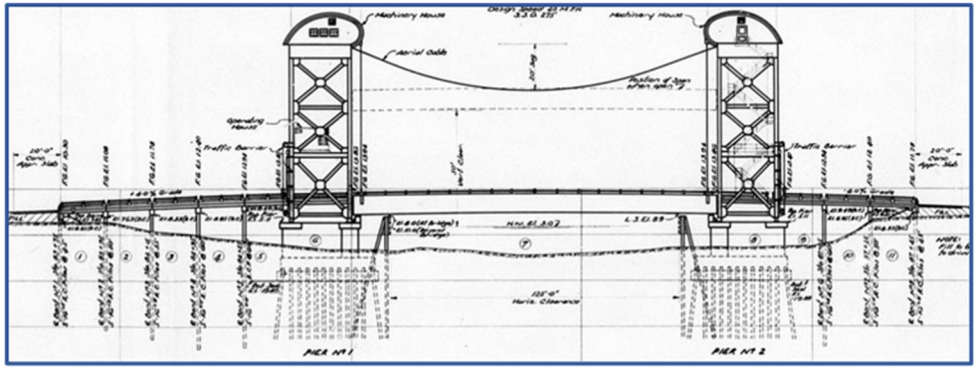


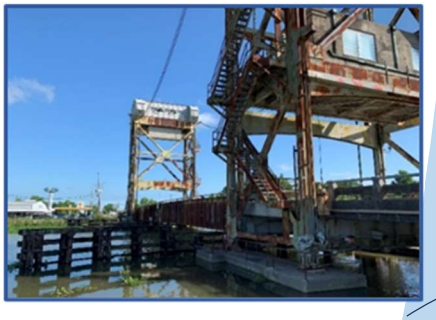
Staff: **Osama Elsaad, PE; Sarah Elsawah, PE; James "Greg" Fussell, PE; Zhiyong Liang, PhD, PE; Feng Xie, PE; Mohsen Shahawy, PhD, PE**

Firm name	SDR Engineering Consultants, Inc.			Past Performance Evaluation Discipline(s)	Bridge
Project name	**Load Rating of 18 Complex Bridges**			Firm responsibility (prime or sub?)	Prime
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Lafourche Parish, LA		Owner's Project Manager	Dana Feng, PhD, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, (225) 379-1060, Dana.Feng@LA.GOV				
Services commenced by this firm (mm/yy)	01/18	Total consultant contract cost ($1,000's)		$625	
Services completed by this firm (mm/yy)	06/19	Cost of consultant services provided by this firm ($1,000's)		$625	

The project is to evaluate and perform LRFR load rating analysis for the superstructure and substructure of 18 complex bridges. Several of the bridges were movable bridges, including four (4) swing span bridges, two (2) ponton span bridges, and one (1) vertical lift span bridge. Scope of work inlcuded field investigation, extensive modeling of the structures using AASHTOWARE Bridge Rating and 3-D Finite Element (FE) Analysis. Detailed reports were developed for each bridge. 3-D FE modeling was used when AASHTO approximate analysis utilized by AASHTOWare Bridge Rating (BrR) was not applicable. Further load rating of the vertical lift span, tower spans, and concrete approach spans reveals that few spans are deficient and are controlling the rating factors of the bridge, requiring the bridge to be posted. LADOTD supplemented the project requiring SDR to further evaluate the bridge and perform a more rigorous analysis. The bridge was evaluated utilizing diagnostic load testing coupled with detailed 3-D FE Analysis with the aim of eliminating the load posting. The evaluation results reveal that the bridge can carry loads higher than those estimated by AASHTO and that there is no need to post the bridge.

Staff: **Sarah Elsawah, PE; James "Greg" Fussell, PE; Zhiyong Liang, PhD, PE; Mohsen Shahawy, PhD, PE**





Firm name	**APS Engineering and Testing, LLC**			Past Performance Evaluation Discipline(s)	Bridge
Project name	**2012-FEMA-7H1-1, Touro Neighborhood**			Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	DPW NOLA		
Project location	New Orleans, LA		Owner's Project Manager	Khalid Saleh	
Owner's address, phone, email	1300 Perdido Street, Ste. 6W03, New Orleans, LA 70112; 504-658-8100				
Services commenced by this firm (mm/yy)	07/14	Total consultant contract cost ($1,000's)		N/A	
Services completed by this firm (mm/yy)	08/16	Cost of consultant services provided by this firm ($1,000's)		$92	

The City of New Orleans implemented a multi-million dollar, multi-year comprehensive program to repair roadways damaged due to hurricane Katrina. APS Engineering provided professional engineering and Construction services in an multi-neighborhood project for the Touro portion of the Milan/Touro project under Waggoner Engineering

Members Involved:

<u>Engineering and Inspection Services</u>

- **Sergio Aviles, P.E. - Project Manager**
- **Sai Eddanapudi, M.E., P.E. - Project Engineer**
- **David Wilson**

SIMILARITIES TO PROJECT	
X	Geotechnical Construction (GC)
X	Construction Inspection
X	Contract Management (CM)

Firm name	**APS Engineering and Testing, LLC**			Past Performance Evaluation Discipline(s)	Bridge
Project name	**RR067 Hollygrove/Leonidas Group**			Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	DPW NOLA		
Project location	New Orleans, LA		Owner's Project Manager	Khalid Saleh	
Owner's address, phone, email	1300 Perdido Street, Ste. 6W03, New Orleans, LA 70112; 504-658-8100				
Services commenced by this firm (mm/yy)	06/20	Total consultant contract cost ($1,000's)		N/A	
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)		$300	

The City of New Orleans implemented a multi-million-dollar, multi-year comprehensive program to repair roadways damaged due to hurricane Katrina. APS Engineering provided professional engineering services in a multi-neighborhood project for the Hollygrove portion of the Hollygrove/Leonidas Group A project under Waggoner Engineering.

The repairs in this project that were determined to be eligible for FEMA funding are roadways, sidewalks, ADA ramps, and curbing. APS performed a thorough assessment of these damages and recommended the best value approach to implement the repairs. The recommendations by APS allowed the City to maximize the federal dollars to have the most impact on the neighborhood's infrastructure as possible.

The Hollygrove neighborhood project included multiple construction repair types with an estimated value for roadway improvements that is approximately $10 million.

Members Involved:

Engineering and Inspection Services

- **Sergio Aviles, P.E. - Project Manager**
- **Sai Eddanapudi, M.E. P.E. - Project Engineer**
- **David Wilson**

SIMILARITIES TO PROJECT	
X	Geotechnical Construction (GC)
X	Construction Inspection
X	Contract Management (CM)

Firm name	**APS Engineering and Testing, LLC**			Past Performance Evaluation Discipline(s)	Bridge
Project name	**I-10: Highland to LA 73**			Firm responsibility (prime or sub?)	Sub
Project number	H.009250	Owner's name	DOTD		
Project location	St. Tammy Parish			Owner's Project Manager	Peggy Paine, P.E.
Owner's address, phone, email	1201 Capitol Access Rd., Baton Rouge, La. 70802-4438225-379-1001; Peggy.Paine@la.gov				
Services commenced by this firm (mm/yy)	04/18	Total consultant contract cost ($1,000's)			N/A
Services completed by this firm (mm/yy)	01/20	Cost of consultant services provided by this firm ($1,000's)			$400

APS was task with the QA for material testing services. As the QA testing lab, APS is conducting all the approve soil, compaction, and concrete testing.

Members involved:

Engineering

- **Sergio Aviles, P.E. - Project Manager**
- **Sai Eddanapudi, M.E., P.E. - Project Engineer**
- **Surendra Raj Pathak, M.S., P.E. - Staff Engineer**

Laboratory testing

- **Sergio Aviles, P.E. - QA/ QC**
- **Sai Eddanapudi, M.E., P.E.- QA/ QC**
- **Shafia Nazneen - Lab Manager**
- **Donna Easterly- Lab Assistant Manager**
- **Cindy Falks- Lab Tech**

Field technitian crew

- **Shiva Anumula - CMT Manager**
- **Paul Fulcher- Senior Technician**
- **Casey Francois**

SIMILARITIES TO PROFESSIONAL GEOTECHNICAL SERVICES IDIQ	
X	Geotechnical Construction (GC)
X	Constructability
X	Contract Management (CM)

Firm name	**The Beta Group**			Past Performance Evaluation Discipline(s)	Bridge
Project name	**I-12:LA 21 to US 190**			Firm responsibility (prime or sub?)	Sub
Project number	H.013866	Owner's name	LADOTD: JB James Construction		
Project location	Covington, Louisiana		Owner's Project Manager	Cain Gilfoil	
Owner's address, phone, email	1881 Woodale Blvd. Baton Rouge, LA 70806- (225) 993-1007 – caing@jbjamesllc.com				
Services commenced by this firm (mm/yy)	06/20	Total consultant contract cost ($1,000's)		N/A	
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)		$150.3	

Project Description: This project consists of removal, replacement, and widening of I-12 from LA 21 to US 190. A concrete wall with light pole fixtures was placed between the east and west bound lanes and a new bridge was placed over the Tchefuncte River.

Services Provided: The Beta Group is providing concrete inspections, soils testing and compaction testing, vibration monitoring, pile logging, and GPR testing. TBG is serving as the quality assurance for this project and we have a technician on site at least once a week. This project began in 2020 and is nearing completion.

The following personnel worked on this project: **Thony Somoza, Mariana Cure, Logan Rome, Arthur Payne, Jan Patrolia, Larry Reinhardt, Aubrey Moore, Derek Thornton, and Shaw Morris**

Firm name	**The Beta Group**			Past Performance Evaluation Discipline(s)	Bridge
Project name	**Severn Avenue Veterans- W. Esplanade**			Firm responsibility (prime or sub?)	Sub
Project number	H.011752	Owner's name	LADOTD: Jefferson Parish Dept. of Engineering		
Project location	Metairie, Louisiana		Owner's Project Manager	Command Construction	
Owner's address, phone, email	1221 Elmwood Park Blvd. Suite 802 Jefferson, LA 70123				
Services commenced by this firm (mm/yy)	11/19	Total consultant contract cost ($1,000's)		N/A	
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)		$161.3	

Project description: Removal and replacement of roadway, sidewalks, ADA ramps, pedestrian crosswalks, and the installation of cross signals. This project is part of the STIP (Statewide Transportation Improvement Program). The goal of this project is to provide better and safer means of travel for pedestrians due to the increased traffic in the area.

Services provided: The Beta Group provided concrete inspections, soils testing and compaction testing, and vibration monitoring. TBG is serving as one of two testing laboratories on this project providing construction materials testing services. This project began in 2019 and is nearing completion.

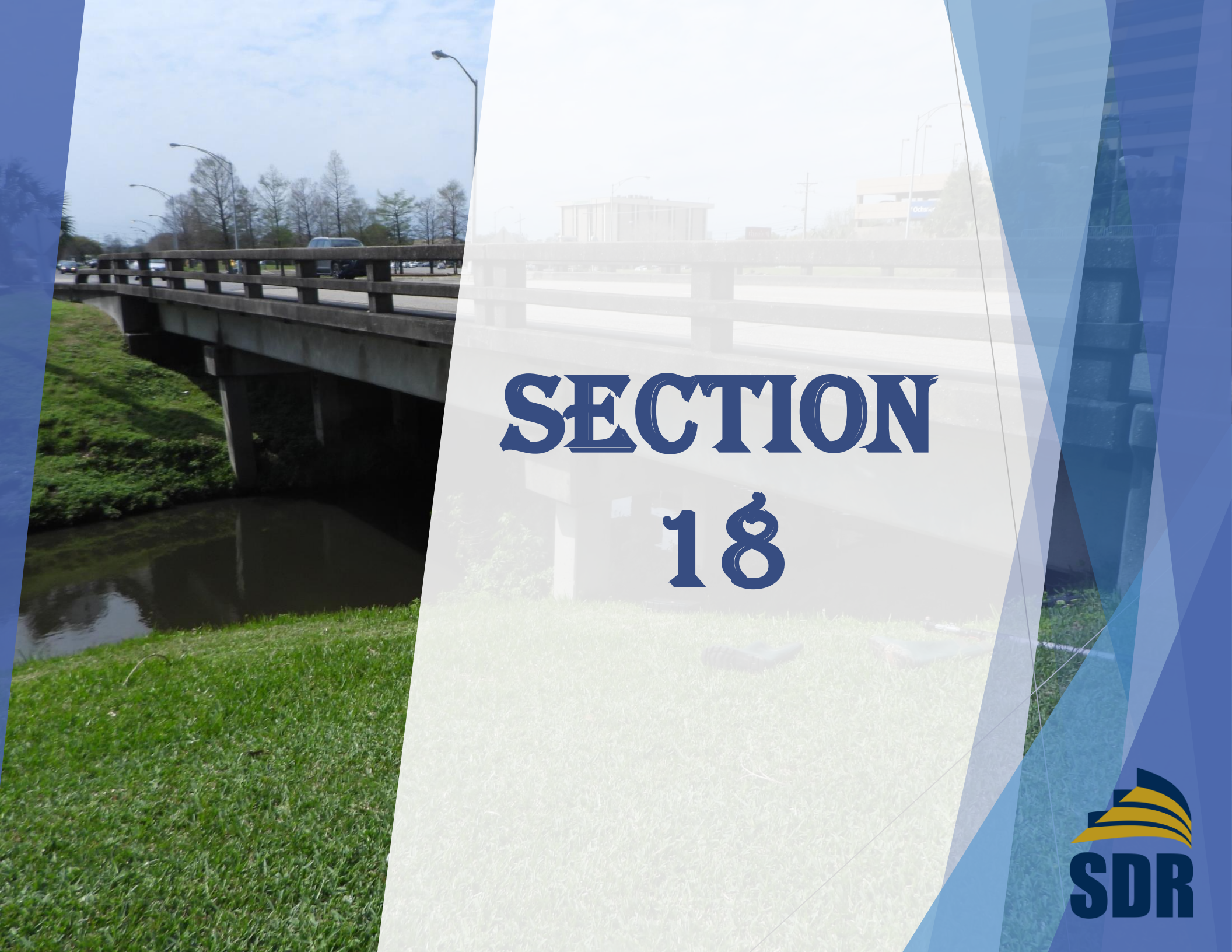
The following personnel worked on this project: **Thony Somoza, Mariana Cure, Shawn Morris, Jan Patrolia, Logan Rome, Larry Reinhardt, Aubrey Moore, Derek Thornton, and Arthur Payne**

Firm name	**The Beta Group**			Past Performance Evaluation Discipline(s)	Bridge
Project name	**Belle Chasse Bridge & Tunnel Replacement Project**			Firm responsibility (prime or sub?)	Sub
Project number	H.009471	Owner's name	ECM Consultants		
Project location	Belle Chasse, Louisiana		Owner's Project Manager	Traylor-Massman, Joint Venture	
Owner's address, phone, email	1301 Clearview Pkwy., Suite 200 Metairie, LA 70001 – (504) 885-4080				
Services commenced by this firm (mm/yy)	02/21	Total consultant contract cost ($1,000's)		Unknown	
Services completed by this firm (mm/yy)	Present	Cost of consultant services provided by this firm ($1,000's)		TBD	

Project description: Removal and replacement of the existing Belle Chasse Bridge and Tunnel. This project will rid of the use of a draw bridge and begin the use of a toll bridge high enough for ships to pass beneath. This will allow better traffic flow coming in and out of Belle Chasse, Louisiana.

Services provided: So far The Beta Group has provided concrete testing as well as soils and compaction testing.

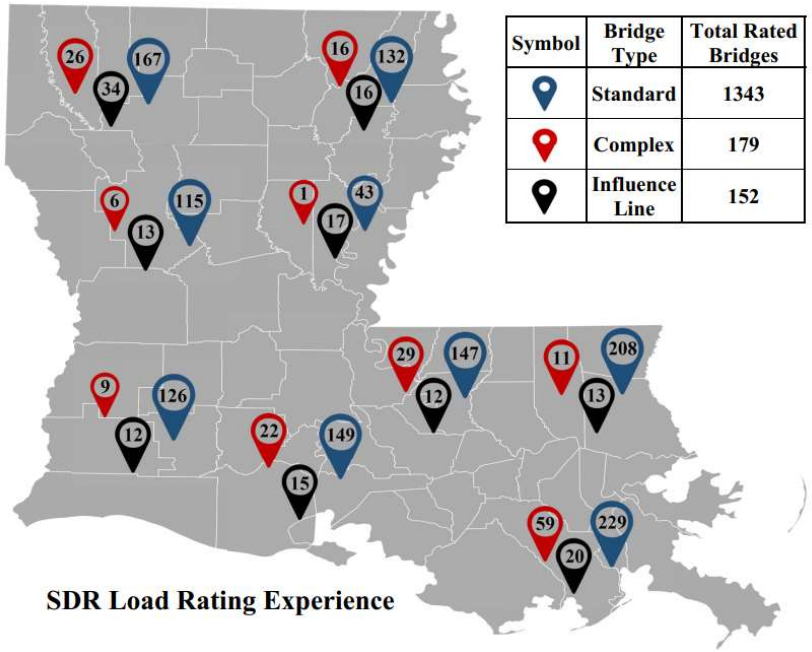
The following personnel worked on this project: **Thony Somoza, Shawn Morris, Jan Patrolia, Derek Thornton, and Arthur Payne**



SECTION 18

18. Approach and Methodology:

The SDR team has a combined experience of over 150 years in load rating and evaluation of simple to complex bridges. SDR has a proven record of timely and accurate project delivery on past similar LADOTD IDIQ projects. SDR's team, led by Dr. Zhiyong Liang, PE, has inspected, load rated, surveyed, and prepared rehabilitation plans (when needed) for over 1500 bridges across Louisiana in the past 10 years.



Symbol	Bridge Type	Total Rated Bridges
	Standard	1343
	Complex	179
	Influence Line	152

SDR Load Rating Experience

SDR, having developed the LADOTD influence line software "COMPSTIL2", has vast experience in this area ensuring clear understanding of LADOTD's needs and accurate rating results for critical superstructure and substructure elements.

SDR is assisted by APS and The Beta Group, providing geotechnical expertise in situations where the load rating is controlled by scour and material testing, respectively.

PROJECT APPROACH:

Plan and Document Retrieval and Review: Prior to load rating, SDR shall collect and review existing project documents such as as-built construction plans, rehabilitation plans, inspection reports, previous load rating reports, and other bridge maintenance historical information. If such documents are not available, SDR will reach out to the district/parish office, original design company, precast manufacturer, etc., to collect the necessary bridge data. SDR shall also carefully compare the bridge documents with photos from inspection reports to ensure the consistency and accuracy of the documents.

Our plan for document retrieval and review is based on producing the most accurate load rating results that reflect the current structure field conditions.

Bridge Site Visits: Bridge site visits will be performed to ensure accurate load ratings by gathering field measurements and evaluating structure current conditions. This involves inspecting all components of the bridge, including its pier foundations and substructures. We will also look for any signs of deterioration or damage that may affect the integrity of the bridge. If necessary, we may supplement this survey with other forms of non-destructive evaluation methods such as GPR, ultrasonic testing or magnetic particle inspection to further analyze any potential issues present in a bridge structure. During these site visits, any critical deficiencies identified in previous inspection reports shall be examined to assess the impact of such deficiencies on the bridge load rating.

> Depending on types and locations, many identified deficiencies that result in a reduced condition factor have very little to no impact on load rating.

In addition, the site visit should assess the surrounding area including adjacent roads and buildings which may affect construction accessibility in case of required rehabilitation.

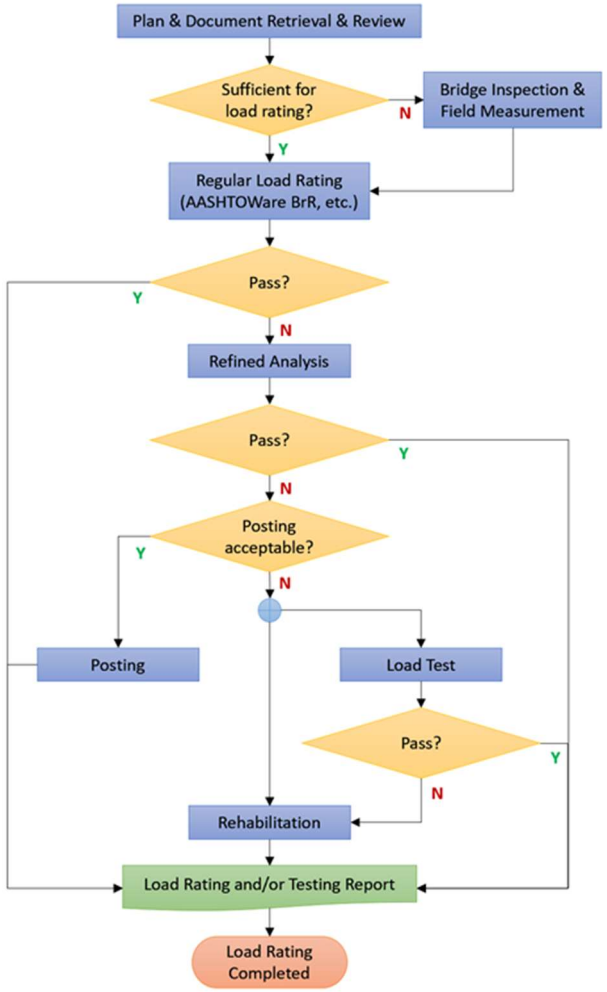
All data gathered from these visits, including all measurements taken during the site visit along with detailed observations regarding the

condition of the bridge, will be documented and included in a summary bridge inspection report. The inspection report will be prepared based on the AASHTO MBE and LADOTD BDEM. The bridge inspection report will include a detailed description of the bridge, its features, any observed deterioration or damage, an assessment of the bridge's condition relative to its current load rating and recommendations for repairs or modifications that may need to be completed in order to bring the bridge up to current standards. It will also include photographs taken from above, below, and at various angles to provide an accurate representation of the structure's condition.

Analysis and Load Rating: The load rating for the bridge should be based on structural analysis that considers all relevant factors such as existing structural deficiencies, material type and strength, age of materials used in construction, traffic loads imposed on the bridge over time, and any repairs or modifications that have been made since. This analysis will help identify potential structural problems and areas where further investigation may be necessary in order to determine if there is a need for additional repairs or modifications before a new load rating can be established.

SDR shall follow the bridge rating methods outlined in the latest AASHTO Manual for Bridge Evaluation (MBE) with the supplemental requirements of the LADOTD Bridge Design and Evaluation Manual (BDEM) and BDTM's. Rating shall be performed using AASHTOWare Bridge Rating (BrR) and LEAP Bridge Concrete, coupled with in-house unique analysis tools if required. The process for bridge load rating is shown on the adjacent process chart.

If the AASHTOWare BrR rating results in a load posting finding, refined analysis may be required. We will use finite element analysis to calculate the stresses and deformations in the bridge structure, load factors as defined by AASHTO, and any other relevant parameters. In these situations, refined analysis along with material verifications might be necessary to improve the load rating and avoid load posting.



If traditional analysis is determined to be inadequate for complex bridges, the use of three-dimensional finite element analysis (FEA) will be utilized through Midas or other software from the LADOTD Pre-Approved Software List. The influence lines are used to indicate how specific loads affect different parts of a bridge structure and can help

identify potential areas where strengthening may be necessary to ensure safety.

Influence lines for critical members of the superstructure and substructure will be provided. SDR, having developed the LADOTD influence line software COMPSTIL2, has vast experience in this area ensuring accurate influence line results for critical superstructure and substructure elements.

> Using influence lines for issuing load permits is an important part of bridge load rating. Influence lines provide insight into how much weight can safely be put onto any given span or section of a bridge. This information makes it possible to issue accurate and timely permits for vehicles that exceed legal load limits without compromising safety.

Mathcad and Excel are extensively used to present comprehensive rating reports inclusive of rating assumptions, model schematics, software output, tabulated results, bridge plans, and inspection reports. Developed computer models from BrR, LEAP, Midas, COMPSTIL2, or any other approved software shall be included with the submittal. If any other software is required for unique applications, for which pre-approved software cannot be used, an outline with the required documentation shall be submitted to LADOTD for approval.

LADOTD construction and material specifications are referenced in determining material strengths for unknown materials in the as-built plans. Analysis shall be performed to determine dead load and live load effects in each bridge element. The live load analysis shall include HL-93 Design loads, LADOTD State Legal loads, Specialized Hauling Vehicle loads, and Emergency Vehicle loads. Secondary and temperature effects shall be considered for structures sensitive to such effects.

From experience with past load rating projects, several additional steps may be necessary to accurately calculate capacity, load distribution, or other element specific conditions. As an example, steel members with longer unbraced lengths that are laterally supported along the top flange tend to have extremely low ratings due to the overly conservative C_b calculation. SDR is always willing to take extra steps to find the actual carrying capacity of the bridge, to improve the load rating and avoid unnecessary posting or strengthening of the bridge. Also, assessment of the accuracy of the BrR results is important since, in several cases, SDR has identified significant errors in the load ratings performed in BrR and have been instrumental in developing solutions through active communications with LADOTD PM. The ability to determine the validity of rating results from the use of approved software is a crucial measure in the load rating process.

Bridges with missing design plans: In the case that bridge plans are unavailable, all missing bridge dimensions shall be filed-measured and compared to previous sketches, if available. Ground Penetrating Radar (GPR) scanners will be used to determine the location and size of reinforcement. Bridge inspection findings of any damage or section loss shall be documented and summarized in a report. The data collected will be used to perform the load rating in addition to generating accurate sketches and plans of these bridges for future use.

Schematic Recommendations to Improve Posting: In the case that load posting is recommended, SDR shall provide detailed recommendations to improve or remove the posting. Load posting may be required for bridges with severe deficiencies in which the ratings cannot be sufficiently improved with refined analysis. SDR will provide schematic recommendations to improve the posting including NDT/load testing, if needed. If required, proposed rehabilitation will be based on structural integrity, ease of construction, future plans for replacement, and cost effectiveness. The repair plans shall include specific repair locations and repair details for each individual element of the structure requiring repair. The repair plans shall also include any recommended traffic diversions and temporary traffic signage that may be required during construction.

Final Report: A comprehensive report summarizing the details of the inspection findings, load rating results including refined analysis, and load test results shall be submitted to LADOTD for review and

approval. The report shall also highlight the strengthening required, if any, to improve or eliminate the posted weight limits. The report shall be discussed with LADOTD throughout and revised as necessary before the final official submittal.

QC/QA: SDR has established quality control procedures for all project scopes. For this project, a project panel consisting of select key members (raters, checkers, and reviewers as specified in the BDEM) will be established to ensure quality and adherence to established load rating policies, procedures, standards, specifications, and guidelines in the preparation and review of all documents. The QC/QA team will ensure that all LADOTD publication requirements are met and reports produced are free of errors and omissions.

Project Schedule: For each task order, the first step is to address the project PM's objectives, schedule, emergency, availability of records and any operation limitations that needs to be considered. A clear and concise work scope, cost estimate of the task order, and proposed schedule is then developed and submitted to the PM for review and approval. Once a NTP is received, a meeting will be scheduled with the PM to present and discuss staffing, QC plan for the task, work schedule, and dates for milestone submittals. Invoices, along with work progress reports, are submitted monthly. Submitting milestones follows the approved schedule. All submittals and information exchanged are performed through ProjectWise or as per the PM's direction.

SDR KEY PERSONNEL: Along with engineering staff that are fully trained in NDT and bridge testing, the key staff below will be fully active in support of all project requirements.

Zhiyong Liang, Ph.D., P.E. (PM) is a seasoned bridge manager, having successfully managed several IDIQ contracts for LADOTD. Dr. Liang has over 20 years of experience in bridge inspection/ assessment, load rating, and non-destructive testing. He has performed structural evaluations and load ratings of complex bridges such as segmental, cable-stayed, and major truss bridges. He has extensive experience in Finite Element Analysis (FEA) of complex structures and bridges. Dr. Liang is also an NBIS certified team leader bridge inspector.

Mohsen Shahawy, Ph.D., P.E. (Managing Principal), has over 30 years of experience in bridge design, rehabilitation, and load rating. He is an expert in load rating and evaluation of post-tensioned segmental concrete bridges utilizing span-by-span and cantilever construction techniques and cable-stayed bridges, having performed over 25 load rating and rehabilitation of such structures. He has published over 180 papers in the areas of prestressed/reinforced concrete performance, LRFD and LRFR Code issues related to shear performance, structural testing, evaluation, load testing and load rating of bridges, dynamic behavior of bridges, and bridge rehabilitation.

Adnan El-Saad, P.E. is an expert engineer with over 30 years of experience in bridge design, analysis, inspection, and load rating of simple and complex bridges. This includes movable (swing, bascule, and lift) bridges, and fixed-type bridges including arch, truss, as well as more common multi-girder bridges. He is an expert in NDT, having performed over 300 NDT bridge projects.

James "Greg" Fussell, M.E., P.E. has over 10 years of experience in the design, analysis, construction, inspection, load rating, and rehabilitation of complex highway bridges including precast segmental arch structures, steel plate girder bridges, and conventional prestressed girder bridges.

SDR has unmatched scope-specific experience since we have been on the forefront on all issues related to bridge evaluation, NDT, load rating, and bridge rehabilitation. For over 20 years, SDR has developed many engineering software programs and in-house analysis tools for load rating and refined analysis of bridges. Among them the Smart Bridge Suite, Smart Bridge Culvert, and COMPSTIL2 (LADOTD's influence analysis program) are currently used by LADOTD and listed as pre-approved standard software for bridge load rating.

SECTION 19-23

SDR

19. Workload:

Firm(s)	Past Performance Evaluation Discipline(s)	State project number	Project name	Remaining unpaid balance**
SDR Engineering Consultants, Inc.	Bridge	H.012485.5	IDIQ Contract 4400021595, Task Order # 3	$43,000
		H.009859.5	IDIQ Contract 4400021595, Task Order # 5	$440,000
		H.002980.6	I-10 Overpass Over US 165	$159,000
APS Engineering and Testing, LLC	Geotech	H.013127	Retainer Contract for Geotechnical Services	$275,300
The Beta Group	CE&I/OV	H.012560	LA 23 Tunnel	$3,992.00
	CE&I/OV	H.013114.6	Southern University Erosion & Road Improvement	$406.00
	CE&I/OV	H.009471	Belle Chasse Bridge & Tunnel Replacement Project	$54,077.71
	CE&I/OV	H.013866	I-12:LA21 to US 190	$45,218.46
	CE&I/OV	H.014097	LA 3021 (LA 39 - US 90)	$4,201.13
	CE&I/OV	H.014154	U.S. 90 S. Kenner Ave.- LA - 18	$777.25

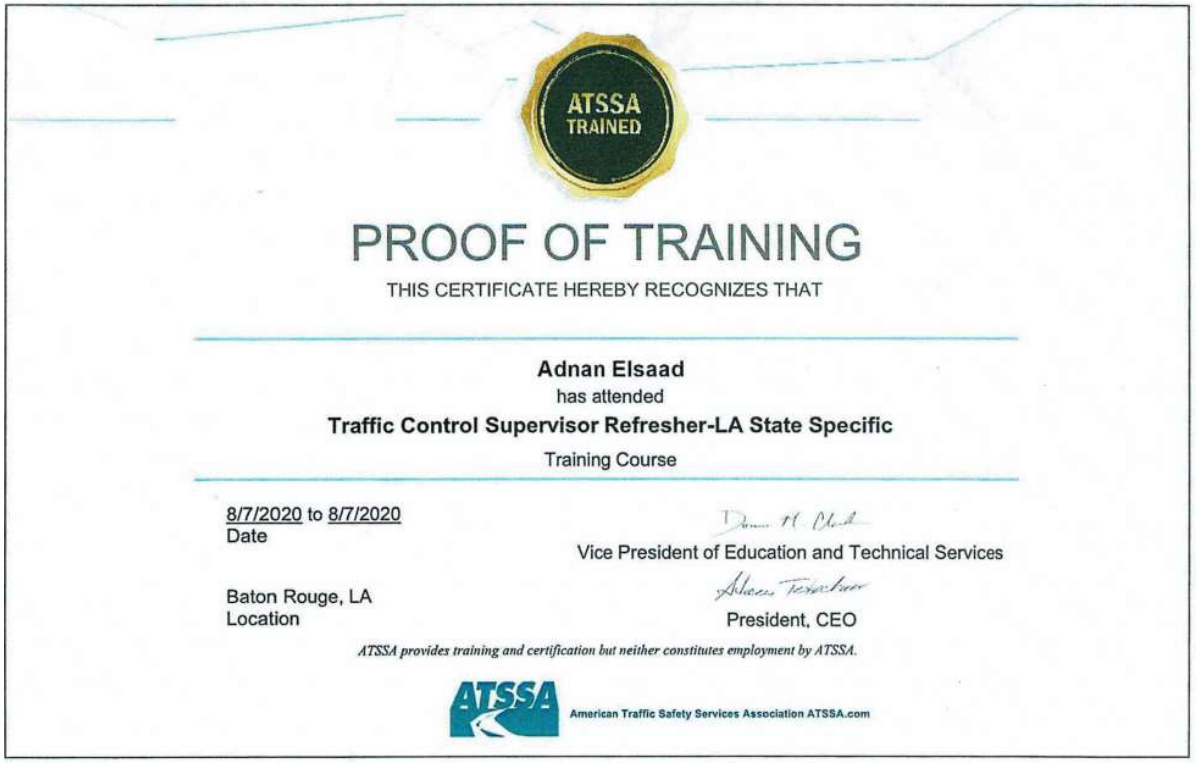
20. Certifications/Licenses:

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

Zhiyong Liang, PhD, PE

FHWA-NHI Bridge Inspector

ATSSA Traffic Control Supervisor



ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Adnan Elsaad
has attended
Traffic Control Supervisor Refresher-LA State Specific
Training Course

8/7/2020 to 8/7/2020
Date

Vice President of Education and Technical Services

Baton Rouge, LA
Location

President, CEO

ATSSA provides training and certification but neither constitutes employment by ATSSA.

ATSSA American Traffic Safety Services Association ATSSA.com

Osama Elsaad, PE

ATSSA Traffic Control Supervisor

ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Osama Elsaad
has attended
Traffic Control Supervisor Refresher-LA State Specific
Training Course

8/7/2020 to 8/7/2020
Date

Vice President of Education and Technical Services

Baton Rouge, LA
Location

President, CEO

ATSSA provides training and certification but neither constitutes employment by ATSSA.

ATSSA American Traffic Safety Services Association ATSSA.com

FHWA-NHI Bridge Inspector

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

national highway institute

Certificate of Training

OSAMA ELSAAD

has participated in

FHWA-NHI-130056 Safety Inspection of In-Service Bridges for Professional Engineers

hosted by

LA DOTD/LTRC

Date: *October 11-15, 2021*
Location: *Baton Rouge, LA*

Hours of Instruction: 34

Instructor

Instructor

Allison H. Landry
Local Coordinator

Thomas Harman
Thomas Harman, Director
National Highway Institute

FHWA-NHI Bridge Inspector

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

NHI NATIONAL HIGHWAY INSTITUTE

Certificate of Training

GREG FUSSELL

has participated in

FHWA-NHI-130055
Safety Inspection of In-Service Bridges

hosted by

LA DOTD/LTRC

Date: *December 4-15, 2017*
Location: *Baton Rouge, LA*

Hours of Instruction: 67

Guy R Lang PE
Instructor

Allison H. Landry
Local Coordinator

Patrick Martens, PE
Instructor

Valerie Briggs
Valerie Briggs, Director
National Highway Institute

Feng Xie, PE

FHWA-NHI Bridge Inspector

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

national highway institute

Certificate of Training

FENG XIE

has participated in

FHWA-NHI-130056 Safety Inspection of In-Service Bridges for Professional Engineers

hosted by

LA DOTD/LTRC

Date: *October 11-15, 2021*
Location: *Baton Rouge, LA*

Hours of Instruction: 34

Instructor

Instructor

Allison H. Landry
Local Coordinator

Thomas Harman
Thomas Harman, Director
National Highway Institute

FHWA-NHI Bridge Inspector

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

national highway institute

Certificate of Training

Ahmed Rageh

has Successfully Completed

FHWA-NHI-130055 Safety Inspection of In-Service Bridges

hosted by

SDR Engineering Consultants

Date: *January 10-21, 2022*
Location: *Tallahassee, FL*

Hours of Instruction: 67

Inspector

Instructor

Local Coordinator

Thomas Harman

Thomas Harman, Director
National Highway Institute

Thoney Somoza

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.

See QC/QA Plan after Section 23.

QA/QC PLAN WAS DELETED FROM DOTD FORM 24-102 - ONLY SELECTED CONSULTANT WILL SUBMIT QA/QC PLAN ONCE AWARDED PER ADVERTISEMENT PAGE 5

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
APS Engineering and Testing, LLC	APS Engineering and Testing	1645 Nicholson Drive, BR, LA 70802	Sergio Aviles sergio@aps-testing.com	225-456-5714
The Beta Group Engineering & Construction Services, L.L.C	TheBetaGroup engineering and construction services	1428 ½ Claire Ave. Gretna, LA 70053	Murray D. White mwhite@betagroupgc.com	504-227-2273

23. Location:

If location is an evaluation criterion for this advertisement and the prime consultant intends to establish a local presence, describe the plan for doing so. Otherwise, leave this section blank.