

Technical Evaluation Committee (TEC) Questionnaire

Instructions

- The Technical Evaluation Committee (TEC) Questionnaire shall be used for professional services related to architecture, engineering, or survey projects.
- **The TEC Questionnaire must be completely filled out. Complete ALL sections. Insert “N/A” or “None” if a section does not apply or if there is no information to provide.**
- Questionnaire must be dated and signed by an authorized representative of the Firm.
- All subcontractors must be listed in the appropriate section of the Questionnaire. All subcontractors must provide a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement.
- If additional pages are needed, attach them to the questionnaire and include all applicable information that is required by the questionnaire.
- Failure to properly complete this TEC Professional Services Questionnaire will result in the proposal being deemed not qualified pursuant with Section 2-928(a) of the Jefferson Parish Code of Ordinances, and the proposal will not be evaluated or scored.



WSP USA

1100 Poydras Street
Suite 1175
New Orleans, LA 70163
(504) 249-6430

wsp.com

April 27, 2021

Jefferson Parish Council
c/o Eula Lopez
Parish Clerk
General Government Building
200 Derbigny Street, Suite 6700
Gretna, LA 70053

RE: Statement of Qualifications – 21-009
TEC Professional Services Questionnaire for
**Professional Mechanical and Electrical Engineering Services On-Call
(Resolution 137248)**

Dear Ms. Lopez:

WSP USA Inc. (WSP) is pleased to submit a response to the Request for a Statement of Qualifications demonstrating our capability to provide professional mechanical and electrical engineering on-call services in Jefferson Parish. WSP is a leader in engineering and professional consulting services, dedicated to serving local communities. We are engineers, planners, technical experts, strategic advisors and construction management professionals. We partner with our clients to help communities prosper.

David Loduca will serve as the Project Manager for the WSP Team. David is a registered electrical engineer and senior lead consultant that has managed multi-disciplined projects for WSP, including comprehensive upgrading of multiple pumping stations for LADOTD in New Orleans and Baton Rouge, a freeway lighting upgrade involving approximately 120 miles of freeway and 15,000 luminaires for the MDOT Metro Region in the Detroit area and, most recently, an engineering assessment for a key flood control pumping station at the Cross Bayou Canal for the Pontchartrain Levee District. David will negotiate task orders by Jefferson Parish organize the appropriate engineering expertise to best match the needs and expectations of the Parish.

I would like to personally thank you in advance for your consideration of the WSP team for this project. I am confident in this team, and we look forward to the opportunity to partner with Jefferson Parish. Please feel free to contact me directly at max.nassar@wsp.com or (504) 249-6430 with any questions or additional information you require about our capabilities, our staff, and/or our services.

As signer of this statement of qualification and Vice President, I am a representative of our firm, and I am authorized to submit this proposal and authorized to contractually obligate WSP USA Inc. We look forward to partnering with Jefferson Parish and exceeding your expectations.

Sincerely,

WSP USA Inc. | Federal Tax ID: 11-1531569

Max Nassar
Vice President, Senior Director

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

B. Firm Name & Address where Project work will be performed:

C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:

D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.

E. Please provide the number of employees whose primary function corresponds with each category:

| | | |
|--|--|---|
| <input type="checkbox"/> Administrative | <input type="checkbox"/> Estimators | <input type="checkbox"/> Specification Writers |
| <input type="checkbox"/> Architects (Licensed) | <input type="checkbox"/> Geologists | <input type="checkbox"/> Structural Engineers |
| <input type="checkbox"/> Chemical Engineers | <input type="checkbox"/> Geotechnical Engineers | <input type="checkbox"/> Graduate Engineers |
| <input type="checkbox"/> Civil Engineers | <input type="checkbox"/> Interior Designers | <input type="checkbox"/> Project Managers |
| <input type="checkbox"/> Construction Inspectors | <input type="checkbox"/> Landscape Architects | <input type="checkbox"/> Clerical |
| <input type="checkbox"/> Ecologists | <input type="checkbox"/> Land Surveyor | <input type="checkbox"/> Grant/Funding Specialist |
| <input type="checkbox"/> Electrical Engineers | <input type="checkbox"/> Mechanical Engineers | <input type="checkbox"/> Sanitary Engineers |
| <input type="checkbox"/> Engineer Intern | <input type="checkbox"/> Environmental Engineers | |
| <input type="checkbox"/> Professional Land Surveyors | | <input type="checkbox"/> TOTAL |

F. Is this submittal by a JOINT-VENTURE? Please check: YES _____ NO _____

If marked "No" skip to Section I. If marked "yes" complete Sections G-H.

TEC Professional Services Questionnaire

G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.

1.

2.

**H. Has this JOINT-VENTURE previously worked together? Please check:
YES _____ NO _____**

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.

| Name & Address: | Specialty: | Worked with Firm Before (Yes or No): |
|-----------------|------------|--------------------------------------|
| 1. | | |
| 2. | | |
| 3. | | |

J. Please specify the total number of support personnel that may assist in the completion of this Project:

TEC Professional Services Questionnaire

K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Project Assignment:

Name of Firm with which associated:

Years' experience with this Firm:

Education: Degree(s)/Year/Specialization:

Active registration: Year first registered/discipline:

Other experience and qualifications relevant to the proposed Project:



DAVID P. LODUCA, PH.D., PE, LEED AP, ENV SP

*Technical Principal
Certified Project Manager
Supervising Electrical Engineer*



Years with the firm

22

Years total

40

Professional qualifications

Professional Engineer: Virginia, 1990 (20603); California, 1998 (E15878); Florida, 1993 (46453); Georgia, 1994 (21119); Illinois, 1998 (062-52552); Indiana, 2007 (10707946); Iowa, 2007 (18296); Kansas, 2007 (19295); Louisiana, 1998 (28117); Maryland, 2002 (28484); Michigan, 2007 (54375); Minnesota 2014 (52094), Mississippi, 2019 (29946) Missouri, 1998 (29899); Nebraska, 2006 (11700); New Jersey, 2000 (GE 42700); North Carolina, 1993 (18870); North Dakota, 2018 (PE27652) Ohio, 1993 (E56698); South Carolina, 1994 (15826); Texas, 2007 (99060), Vermont, 2019 (018.0134472) West Virginia, 2018 (23246) and Ontario, 2009 (100152101)

U.S. Green Building Council LEED Accredited Professional

Institute for Sustainable Infrastructure (ISI) Envision Sustainability Professional

National Council of Examiners for Engineering and Surveying, 1990 (17-497-45)

Areas of practice

Electrical Engineering

Languages

English

CAREER SUMMARY

David (Dave) Loduca is a supervising electrical engineer with WSP. He is experienced on projects including industrial facilities, subway and light rail lighting and electrical systems, roadway lighting, campus lighting, renewable energy, electric vehicle charging facilities, airport landside facilities, telecommunications facilities, government facilities, educational facilities, transportation maintenance facilities, pump stations, commercial offices, restaurants, retail stores, and fueling stations.

Dave's duties include power distribution and lighting design, standby power, battery charging, telecom grounding and bonding, fire detection and alarm, code compliance, and utility coordination. He prepares specifications, construction cost estimates, and calculations such as luminance, voltage drop, load flow, and short-circuit studies.

EDUCATION

Ph.D., Engineering Management, Missouri University for Science and Technology, Rolla, MO 2011

M.S., Engineering Management, University of Missouri-Rolla, MO 2005

B.S., Electrical Engineering, Virginia Military Institute, Lexington, VA 1981

A.A.S., *summa cum laude*, Management, Virginia Western Community College, Roanoke, VA 1995

PROFESSIONAL MEMBERSHIPS

Institute of Electrical and Electronic Engineers (IEEE), *Senior Member*; Excellence in Missouri Foundation, Missouri Quality Award (MQA), *Board of Examiners*; American Society of Quality (ASQ), *Member*; American Society of Engineering Management (ASEM), *Member*.

PROFESSIONAL EXPERIENCE

- Backup Generator Facility Review, New Orleans, Louisiana: Project manager and lead investigator for project to study electrical loads at the Airline Drive pumping station and the East New Orleans LADOTD maintenance facility along with various diesel generators in the Department's inventory. David provided a report of recommendations with electrical calculations and an assessment of relevant Code issues and construction documents for upgrade of the pump station to accommodate a new generator. Client: Louisiana Department of Transportation and Development, Dates: 2019 - 2020
- Pontchartrain Levee District (PLD), St. Charles Parish, Louisiana. Project Manager for assessment of the Cross Bayou Pumping Station, a flood control pumping station with influent from the canal level along the Airline Highway and effluent to Lake Pontchartrain via the Cross Bayou canal. Equipped with five main diesel and one electrical low flow submersible pumps, the pumping station can deliver a total capacity of over a half million gallons per minute. The assessment involved pump and pump drives, the fueling system, and mechanical and electrical systems and an opinion of probable construction costs to rehabilitate the station to a state of good repair. Client: Pontchartrain Levee District, Dates: 2021



DAVID P. LODUCA, PH.D., PE, LEED AP, ENV SP

*Technical Principal
Certified Project Manager
Supervising Electrical Engineer*

- Louisiana Department of Transportation and Development (LADOTD), Baton Rouge, Louisiana: Project Manager for rehabilitation of existing storm pump station facility serving Acadian Thruway consisting of two dry pit main pumps. Facility upgrade involved pump replacement; upgrades of electrical service, distribution, motor controls, lighting, gas detection equipment, pit and building ventilation; and new doors, and pit-access ladders; Project also included repair of building finishes and station walkways. Client: Louisiana Department of Transportation and Development, Dates: 2017-2019
- 4th Precinct Police Facility, St. Louis, Missouri: Investigate standby generator failures for the new St. Louis County Police Precinct facility and provide recommendations to restore generator to service. Client: St. Louis County, Dates: 2016
- Detroit Metro Freeway Lighting Public Private Partnership, Detroit, MI: Project Manager for lighting design to upgrade freeway within the entire Metro Region in Michigan under a Public Private Partnership (P3) contracting structure. The work addressed lighting equipment, electrical circuiting and controls on ramps, interchanges, underpasses, and main line for 120 miles of freeway, including 10 roadway tunnels. The 15-year term design, build, finance, operate, and maintain project upgraded of over 16,000 luminaires and minimizes future maintenance cycling, reduce energy consumption by more than half, and modernizes roadway illumination to AASHTO standards. Client: Aldridge Electric, Dates: 2015 - 2017
- St. Louis County Courts Upgrade, Clayton, Missouri. The Program included a New Family Courts building that combines juvenile and adult family court elements and related services in one space along with structured parking. The finished facility incorporated a 245,000-sf Family Courts Building above a 225 vehicle parking garage south of the Civil Courts Building located at the St Louis County Government Campus in Clayton. David prepared electrical design criteria and provided design-build team selection support and construction oversight services. Client: St. Louis County, Dates: 2012 - 2017
- I-75 Monroe and Wayne Counties ITS Deployment: Work involved deployment of ITS devices along a 40-mile stretch of I-75 from the Michigan/Ohio state line to M-39. The project includes deployment of CCTV cameras, Dynamic Message Signs (DMS) and vehicle detectors at key locations along a 40-mile stretch of I-75 from the Michigan/Ohio state line to M-39. Dave provided design of electrical and grounding for remote CCTV and DMS sites. Client: Michigan Department of Transportation, Dates: 2012 - 2015
- LED Streetlight Conversion, Overland Park, KS. Task order from On-Call Traffic Engineering Services to assist the City with converting approximately 200 conventional streetlights (10% of 2,000 streetlights purchased from the local utility) to LED including new poles. Project involved illumination and electrical calculations, and analysis of appropriate streetlight quantity with available budget. David was the electrical engineer of record. Client: City of Overland Park, Dates: 2015 - 2017

TEC Professional Services Questionnaire

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| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
| Name & Title: |
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| Project Assignment: |
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| Name of Firm with which associated: |
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| Years' experience with this Firm: |
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| Education: Degree(s)/Year/Specialization: |
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| Active registration: Year first registered/discipline: |
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| Other experience and qualifications relevant to the proposed Project: |
| |

**Years with the firm****22****Years total****26****Professional qualifications**

Professional Engineer:
Missouri, 2005
(2005001038);
Pennsylvania, 2005
(PE072172); New Mexico,
2007 (18172); Hawaii, 2007
(PE-12700); California,
2012 (E-20188); Texas, 2013
(113904); Washington, 2013
(50346); Nebraska, 2014
(E-15386); Tennessee, 2015
(00117990); Kansas, 2015
(24872); New York, 2016
(096128); Kentucky, 2016
(31572); Illinois, 2021
(062.072750)

National Council of
Examiners for Engineering
and Surveying Record,
2005 (17-501-63)

United States Green
Building Council, LEED AP,
2011

ROBERT J. ROSEMAN, P.E.**Supervising Electrical Engineer**
Technical Principal – Aviation Lighting
Project Manager**CAREER SUMMARY**

Rob Roseman is a supervising electrical engineer with WSP with experience in designing and managing electrical work with a focus on airport and airfield lighting projects as well as transportation facilities, parking structures, industrial facilities, telecommunications stations, government facilities, urban streetscapes, campus lighting, educational, transit rail systems, maintenance facilities, offices, restaurants, and apartments. His responsibilities have included lighting and power design, utility coordination and relocations, load calculations, lighting calculations, voltage drop calculations, fault current, load flow, coordination studies, specifications, engineering reports, construction cost estimates, and facility assessments. His construction services include field inspections, photometric lighting measurements, requests for information, and submittal review.

EDUCATION

| | |
|--|------|
| B.S., Electrical Engineering, University of Missouri—St. Louis | 2000 |
| B.S., Physics, University of Missouri—Columbia | 1993 |

PROFESSIONAL MEMBERSHIPS

Illuminating Engineering Society of North America
Aviation Lighting Committee Member

Transportation Research Board, Airport Cooperative Research
Program, Panel Member, Project 10-26 *Airport Microgrid*
Implementation Toolkit

PROFESSIONAL EXPERIENCE

- University of Missouri—St. Louis, South Campus Parking Garage, St. Louis, Missouri: responsible for electrical design of a new 250-car parking structure. Energy efficient lighting control was provided to switch off unnecessary lighting during the day. Client: University of Missouri—St. Louis, Dates: Design 2006
- Honolulu High-Capacity Transit Corridor Passenger Rail System, Honolulu, Hawaii: lead electrical engineer responsible for electrical design criteria and preliminary engineering specifications and drawings for new 30-mile passenger rail transit system through downtown Honolulu. Developed project-wide requirements for multiple design/build and design/bid/build contracts. Project includes passenger stations, transit centers, parking garage, and parking lots along the alignment, as well as a 50-acre train storage yard with maintenance facility. The 190,000-sf maintenance facility is designed for LEED Silver certification. Project included system-wide assessment of 110 kW PV photovoltaic (PV) on-site renewable energy at the maintenance facility. Client: The City & County of Honolulu, Dates: Design 2001-2004
- Ft. Myers Regional Transportation Management Center (RTMC) Development, Florida Department of Transportation (FDOT), Lee County, Florida: design review of electrical drawings and specifications. The facility consists of a two-story 45,000-sf building FDOT, Florida Highway Patrol (FHP) and Motor Carrier Compliance Office (MCCO) district offices, as the building's primary role of 24/7 operations center



ROBERT J. ROSEMAN, P.E.

Supervising Electrical Engineer Technical Principal – Aviation Lighting Project Manager

dedicated to incident management and vehicle dispatching along the I-75 corridor in southwestern Florida. This facility included an 8,400-sf operations center with raised floor air distribution. The entire facility has outside air filtered for Biochemical Hazard protection, is designed with a 1.15 importance factor, and is hurricane hardened. Central UPS and standby generators were provided for critical functions, such as facility air conditioning. Site and building access is monitored via CCTV, and controlled with card readers at all access points. Client: Florida Department of Transportation, Dates: Design 2006

- Cross County MetroLink Extension, St. Louis, Missouri: responsible for power and lighting design for Sunnen, Eager Road, and Clayton-Central light rail stations. PB served as lead partner in the Cross County Collaborative Joint Venture providing Program Management Consultant Services for the 8.1-mile (13-kilometer) project. Client: Metro, Dates: Design 2001-2004
- I-35E Aesthetic Lighting, Texas Department of Transportation: responsible for design oversight of subconsultant. Provided lighting design review to foster development of subconsultant's design abilities in aesthetic lighting. Lighting consisted of ornamental bridge light poles and ground-mounted lighting for city landmark logos. Client: Texas Department of Transportation, Dates: Design 2018
- Streetscape, Jefferson City, Missouri: responsible for decorative roadway lighting, power distribution and electric heated sidewalks for aesthetic enhancements to main business district. Client: The City of Jefferson City, Dates: Design / Construction Administration 2001-2003
- Forest Park Master Plan Implementation, St. Louis, Missouri: responsible for power distribution and roadway lighting for site modifications to city park. In coordination with local utility, developed design for metering and lighting substation meeting utility's specifications. Client: City of St. Louis, Design / Construction Administration 1999-2001
- The Gateway Arch, Historical Exhibits, St. Louis, Missouri: responsible for power distribution to HVAC equipment and exhibit lighting for two renovated two-story historic galleries. Client: Bi-State Development Agency, Dates: Design / Construction Administration: 1998-1999
- Parkway School District, West High School, St. Louis, Missouri: responsible for electrical and communication system designs for 34,000 sf science lab renovation including lighting, lab power, student workstations, public address, fire alarm, safety relays, voice/data, and surveillance camera systems. Client: Parkway School District, Dates: Design 2011-2012
- St. Louis Community College, Florissant Valley Campus, St. Louis, Missouri: responsible for modifications to fire alarm, public address, data, telephone, and security systems for renovation of campus bookstore, kitchen and dining facilities. Client: St. Louis Community College, Dates: Design / Construction Administration 2003
- St. Louis Community College, Meramec Campus, St. Louis, Missouri: designed new campus exterior lighting for student commons, pathways, and parking areas. Lighting control was provided by the campus energy management system. Client: St. Louis Community College, Dates: Design / Construction Administration 1999-2000

TEC Professional Services Questionnaire

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: | |
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| Name & Title: | |
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| Project Assignment: | |
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| Name of Firm with which associated: | |
| | |
| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
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| Active registration: Year first registered/discipline: | |
| | |
| Other experience and qualifications relevant to the proposed Project: | |
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ANTONIO GONZALEZ, JR., PE.

Supervising Electrical Engineer



Years with the firm

3

Years total

17

Professional qualifications

Professional Engineer:

Florida, 2019 (86300)

Louisiana, 2014 (0038719)

New York, 2014 (094428)

**New Jersey, 2013
(24CE05046600)**

**Pennsylvania, 2018
(PE088943)**

Washington, 2019 (57770)

Texas, 2020 (140095)

Illinois, 2019 (062.072350)

USVI, Pending

CAREER SUMMARY

Antonio is a Professionally Licensed Electrical Engineer. His background includes experience in commercial, infrastructure, transit, and industrial power engineering design, project management and construction support. Experience includes power system studies (load flow, short circuit, protective coordination & arc flash hazard analysis), medium and low voltage power distribution, controls, lightning risk assessment/protection and grounding, lighting, fire alarm and small power, motor control, generator and UPS system and raceway design as well as utility interfacing. Antonio also has experience as a resident electrical engineer/inspector.

EDUCATION

B.S., Electrical Engineering, New Jersey Institute of Technology: Albert
Dorman Honors College, Newark, NJ

2004

PROFESSIONAL EXPERIENCE

- **Belle Chasse Tunnel, Plaquemines Parish, Louisiana:** electrical engineer for the 2021 LADOTD Routine Electrical Tunnel Inspection of the Belle Chasse Tunnel. Lead the electrical inspections team, inspected the electrical systems associated with tunnel currently in use for vehicular traffic. Visually inspected and operationally tested all electrical systems throughout the tunnel. Prepared report of all electrical findings. Client: Louisiana Department of Transportation and Development. Dates: Feb 2021 – May 2021.
- **Harvey Tunnel, Harvey, Louisiana:** electrical engineer for the 2021 LADOTD Routine Electrical Tunnel Inspection of the Harvey Tunnel. Tasked to lead the electrical inspections team, inspecting the electrical systems associated with tunnel currently in use for vehicular traffic. Visual inspection and operational testing of all electrical systems throughout the tunnel. Report preparation of all electrical findings. Client: Louisiana Department of Transportation and Development. Dates: Apr 2021 – Jul 2021.
- **NJDOT Pump Station Maintenance & Inspection Manual, Trenton, NJ:** Electrical engineer tasked with developing a Stormwater Pump Station Maintenance Manual for the electrical systems throughout the NJDOT state-owned stormwater pump stations and flood gates. The goal of the maintenance manual is to provide criteria to be followed by NJDOT technicians and engineers during the pump station maintenance cycle. Client: New Jersey Department of Transportation. Dates: Sep 2020 - Present.
- **NJDOT Facilities Inventory Database, Trenton, NJ:** Electrical engineer tasked with developing a centralized database to track the primary critical electrical system components throughout NJDOT's Pump Stations, Flood Gate, Movable Bridges and the Route 29 Tunnel facilities. The goal of the database is to provide a simplified reference of installed electrical equipment as well as critical facility based information for use by NJDOT's maintenance personnel. Client: New Jersey Department of Transportation. Dates: Oct 2020 - Present.
- **Harvey Canal Tunnel Rehabilitation Project, New Orleans, Louisiana:** electrical engineer and electrical task manager at the outset of the Louisiana Department of Transportation and Development. (LADOTD) Harvey Tunnel Rehabilitation Project consisting of replacement of the entire power distribution system to support a full



upgrade of the tunnel ventilation, drainage and HVAC systems as well as ancillary systems such as SCADA, fire alarm and gas monitoring systems. Client: Louisiana Department of Transportation and Development. Dates: Nov 2018 – Feb 2019.

- **Belle Chasse Tunnel Rehabilitation Project, New Orleans, Louisiana:** electrical engineer and electrical task manager for the LADOTD Harvey Tunnel Rehabilitation Project which consisted of replacing the main power distribution system to support a full upgrade of the tunnel ventilation and drainage systems as well as ancillary systems such as SCADA, fire alarm and gas monitoring systems. Client: Louisiana Department of Transportation and Development. Dates: Oct 2017 – Apr 2018.
- **NJDOT Route 29 Tunnel, Route 46/130 Pump Station(s) & Lodi Flood Gate(s) As-Built(s), Trenton, NJ:** Responsible for coordinating the production of as-built plan drawings for the NJDOT owned Route 46 Pump Station, Route 130 Pump Station, Route 29 Roadway Tunnel and Lodi Flood Gates. The intent is to provide an up to date record of the existing electrical and mechanical systems' "As-built" drawings at each facility for reference by NJDOT personnel. Client: New Jersey Department of Transportation. Dates: Oct 2020 - Present.
- **PSTA Facility Lightning & Surge Protection Assessment, Pinellas County, Florida:** Electrical engineer for assessment of existing lightning and surge protection systems at the PSTA facility. Inspected the existing system to assess the existing system and determine possible solution to ongoing equipment outages due to lightning and surges. Final deliverable; report detailing findings and proposed upgrades and/or means of remediation. Client: Pinellas Suncoast Transit Authority. Dates: Sep 2019 – Dec 2019.
- **Standby Power Improvements Project, City of Summit, New Jersey:** Electrical engineer and project manager for the design and installation of two 300kW diesel and one 150kW natural gas standby generators to support the City of Summit Department of Public Works maintenance building, Public Library and Community Center. Client: City of Summit. Dates: Sep 2019 – Jan 2020.
- **Red Line Tunnel Ventilation Improvement Pilot Project, Washington, DC:** electrical engineer for the Red Line Tunnel Ventilation Improvement Pilot Project aimed at providing a design basis/template for the implementation of an emergency tunnel ventilation system at the track segment between the Cleveland and Woodley Park Stations that can be scaled for reproduction along the remaining segments between the 27 Red Line stations. The project includes partial replacement of the existing redundant unit substations at each station and all required modifications/additions to accommodate the proposed tunnel ventilation fan system including an updated SCADA system to fully automate the emergency tunnel ventilation system. Client: Washington Metropolitan Area Transit Authority (WMATA). Dates: Sep 2018 – Apr 2019.
- **Federal Highway Administration (FHWA) Bi-Annual George Washington Bridge Lower Level Tunnel Inspection, Fort Lee, New Jersey:** lead electrical inspection team leader for the George Washington Bridge lower level access tunnel bi-annual inspection. Efforts included leading and coordinating the electrical inspection team, coordinating with the client to develop a client specific inspection report format and producing said inspection report with the appropriate element lists and condition ratings as per FHWA standards. Client: Port Authority of New York and New Jersey (PANYNJ). Dates: May 2018 – Aug 2018.

TEC Professional Services Questionnaire

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| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
| Name & Title: |
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| Project Assignment: |
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| Name of Firm with which associated: |
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| Years' experience with this Firm: |
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| Education: Degree(s)/Year/Specialization: |
| |
| Active registration: Year first registered/discipline: |
| |
| Other experience and qualifications relevant to the proposed Project: |
| |



KEVIN W. WALSH, P.E.

Supervising Electrical Engineer



Years with the firm

7

Years total

14

Professional qualifications

Professional Engineer:
Florida, 2014 (78396);
Louisiana, 2019 (0044049);
Maryland, 2016 (48485);
Massachusetts, 2013
(50267);
New Jersey, 2014
(24GE05175000);
Washington State, 2015
(52962)

Additional training

FHWA-NHI Tunnel Safety
Inspection, FHWA-NHI-
130110, 2019;

OSHA-10 Hour
Construction Safety, 2014

Professional affiliations

Institute of Electrical and
Electronics Engineers
(IEEE), 2017

Heavy Movable Structures,
Inc., 2016

Areas of practice

Electrical Engineering

Buildings

Movable Bridges

CAREER SUMMARY

Kevin Walsh is an experienced electrical engineer on a diverse range of projects including highways, bridges (fixed and movable), intelligent transportation systems (ITS), transit stations, air traffic control centers, commercial/mixed use facilities, warehouse buildings, industrial maintenance facilities and higher education facilities. As an electrical engineer, he has been responsible for the electrical design of lighting systems, ITS power systems, industrial control systems (for movable bridges), low voltage power distribution, lighting, small power, lightning protection, fire alarm, telecommunications, security, standby and emergency power systems. Kevin has also been responsible for the development of electrical load, equipment sizing, and voltage drop calculations, as well as lighting photometric analysis, short circuit, selective coordination, and arc flash risk assessment studies using various software applications.

EDUCATION

B.S., Electrical Engineering, University of Massachusetts Dartmouth 2007

ADDITIONAL TRAINING

OSHA-10 Hour Construction Safety 2014

PROFESSIONAL MEMBERSHIPS

Institute of Electrical and Electronics Engineers (IEEE) 2017

Heavy Movable Structures, Inc. (currently inactive) 2016

PROFESSIONAL EXPERIENCE

- Belle Chasse Tunnel, Plaquemines Parish, Louisiana: electrical engineer for the 2021 LADOTD Routine Instrumentation, Automation, and Controls (ICA) Tunnel Inspection of the Belle Chasse Tunnel. Lead the ICA inspection team. Visually inspected and operationally tested all ICA systems throughout the tunnel. Assisted in report development of all ICA findings. Client: Louisiana Department of Transportation and Development. Dates: Feb 2021 – May 2021.
- Harvey Tunnel, Harvey, Louisiana: electrical engineer for the 2021 LADOTD Routine Instrumentation, Automation, and Controls (ICA) Tunnel Inspections of the Harvey Tunnel. Lead the ICA inspection team. Visually inspected and operationally tested all ICA systems throughout the tunnel. Also assisted the electrical team in the Routine Electrical Inspection of the electrical systems associated with tunnel. Visual inspection and operational testing of various electrical systems throughout the tunnel. Report preparation of all ICA findings. Client: Louisiana Department of Transportation and Development. Dates: Apr 2021 – Jul 2021.
- Interstate 95 (I-95) Express Lanes and Ramp Signals Phase 3B-2 south of Glades Road to south of Linton Blvd, Design-Build, Palm Beach County, Florida: this 5.8-mile project includes converting the existing HOV lanes to managed lanes and widening that will result in two tolled express lanes in each direction. Kevin serves as the engineer of record responsible for the ITS electrical system design including a ramp signaling system and wrong way detection systems. Client: FDOT District Four. Dates: 2019-Present
- Interstate 95 (I-95) Express Lanes and Ramp Signals Phase 3B-1 south of SW 10th Street to south of Glades Road, Design-Build, Broward County and Palm Beach County, Florida: this 4.8-mile project includes converting the existing HOV lanes to managed lanes and



KEVIN W. WALSH, P.E.
Supervising Electrical Engineer

widening that will result in two tolled express lanes in each direction. Kevin serves as the engineer of record responsible for the lighting and ITS electrical system designs including a ramp signaling system and wrong way detection system. He performed various calculations and electrical system modeling such as short circuit studies, selective coordination analysis, and lighting photometric analysis. Client: FDOT District Four. Dates: 2016-Present

- Route 30 Bascule Bridge, State Road (SR) 30 over Beach Thorofare, Atlantic County, New Jersey: Electrical engineer of record for this major rehabilitation project which includes structural, mechanical, and electrical work of the bascule span and approaches. Electrical work includes replacement of the following - traffic signals, resistance barrier gates, traffic warning gates and supporting platforms, programmable logic controller (PLC) system, new generator and service entrance electrical equipment off the bridge, new service lines to bridge house, motor and machinery brakes, span locks, auxiliary diesel engine, CCTV and PA systems. Kevin serves as the engineer of record responsible for the electrical rehabilitation design. Client: NJDOT. Dates: 2019 - Present.
- State Road (SR) 30 (US 98) over Pensacola Bay Design-Build, Escambia and Santa Rosa Counties, Florida: providing electrical engineering for this \$398.5-million design-build project replaces the 3.7-mile existing bridge with twin bridge structures. Kevin serves as the engineer of record responsible for the ITS electrical design bridge, maintenance lighting design, and assisted in the design of the roadway and aesthetic lighting power distribution system. Client: FDOT District Three. Dates: 2017-Present
- On-Call Services, New Jersey: lead electrical engineer for the inspection of several movable bridges. He performed the visual inspection and operational testing of the electrical, traffic safety, and control systems, and prepared reports outlining observations, deficiencies, recommendations and cost estimates. Client: NJDOT. Dates: 2019-Present.
- On-Call Services, Washington State: electrical engineer of record for this on-call services contract. Kevin performed Arc Flash Risk Assessment studies for 1 movable bridge, 1 fixed bridge, and two tunnels. He performed on-site data collection, electrical system models, performed short circuit studies, selective coordination analysis, and arc flash risk assessments. Client: WSDOT. Dates: 2017-2018
- Maryland Transit Administration (MTA) System Preservation Project, Baltimore, Maryland: performed power system studies including short circuit, protection, selective coordination, and arc flash assessments for two MTA stations which included traction power substations, AC substations, switchboards, panelboards and motor control centers. Kevin performed power system studies and assisted in developing reports for two MTA train stations. Client: MTA. Dates: 2014-2015.
- Electrical Engineer, Cambridge, Massachusetts: Responsible for the replacement and upgrade of an existing 250kVA UPS system for a Massachusetts government facility. Additional work included renovations to the existing power distribution system. Client: Confidential
- Electrical Engineer, Cambridge, Massachusetts: Responsible for the gut renovation of a 68,500 square foot (20,879 square meter) university building combining 128 bed dormitory, dining hall and kitchen. Scope of work included replacement of all major electrical systems incorporating sustainable building practices and LEED design targets. Client: Confidential

TEC Professional Services Questionnaire

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: | |
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| Name & Title: | |
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| Project Assignment: | |
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| Name of Firm with which associated: | |
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| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
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| Active registration: Year first registered/discipline: | |
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| Other experience and qualifications relevant to the proposed Project: | |
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JAMES R. HEMPHILL, PE

Senior Electrical Engineer

Years with the firm

28

Total years of experience

35

Professional registrations

Professional Engineer,
Missouri, 1993 (E-25129)

Areas of practice

Commercial,
transportation, industrial
and governmental
facilities

Building assessment
studies

Construction drawings

Specifications

Cost Estimate

CAREER SUMMARY

Jim Hemphill is a senior electrical engineer experienced in commercial, transportation, industrial, and governmental facilities. His responsibilities have included the preparation of construction drawings, cost estimates, and specifications. Jim has also performed numerous building assessment studies.

EDUCATION

B.S., Electrical Engineering, Washington University, St. Louis, MO 1985

PROFESSIONAL EXPERIENCE

Transportation

- Amtrak ADA Station Program: WSP delivered eight ADA Station Improvement packages under the 2018 ADA Station Improvement Program. Jim is the electrical engineer responsible for design of electrical improvements on all eight packages including new platform lighting and controls at all of the stations and interior renovations to the stations at Grand Fork, ND, Charleston, WV and Gastonia, NC. Client: Amtrak, Dates: Design 2019
- Indygo Purple Line Bus Rapid Transit Stations, Indianapolis IN. Electrical engineer responsible for power and lighting design on 23 passenger stations. Each station included lighted canopy and snowmelt system. Client: Indygo, Dates: Design 2020
- Illinois High Speed Rail, Illinois. Electrical engineer for four high speed rail stations in Illinois for IDOT. Work included field investigations; selective demolition; station electrical design; site, station, parking, and platform lighting. Jim prepared plans, specifications, calculations and cost estimates. Client: Illinois Department of Transportation, Dates:
- Stark Area Regional Transit Authority, Canton OH: Modifications to an existing 100,000 square-foot bus maintenance and storage facility to accommodate CNG fueled busses. Work included a Gas detection system, a new emergency generator and power distribution to new HVAC equipment. Client: Stark Area Regional Transit Authority, Dates: Design 2012
- CNG Fueling and Facility Modification Study, Little Rock, AR: Engineer for a study of the fueling infrastructure and facility modification requirements to accommodate phased change-over of a transit bus fleet from diesel to compressed natural gas fuel. Client: Rock Region Metro, Dates: Design 2012
- Transit Center, Reno, Nevada: Project electrical engineer responsible for design and specification for a new \$14 million bus transit center. The facility included public art and demonstration photovoltaic system. The building was designed to achieve a LEED Silver certification, and included sustainable features such as a 6,300 watt onsite renewable energy photovoltaic system, energy recovery, demand ventilation, and daylighting controls. Client: RTC Southern Nevada, Dates: Design 2019
- Anatolia Park, Rancho Cordova, California. Electrical Engineer for a new 4.8-acre park involving water and sewer to support future restrooms, irrigation system, and drinking fountains. Electrical work included new safety lighting, irrigation booster



JAMES R. HEMPHILL, PE
Senior Electrical Engineer

pumps and controllers. Jim provided construction documents and cost estimate.
Client: Rancho Cordova, Dates: Design 2007 - 2008

- St. Genevieve Recreation Center, St. Genevieve, Missouri: project engineer responsible for design, specification, and construction services for a recreation center, which includes an indoor aquatic center, gymnasium, library, and meeting rooms. Client: City of St. Genevieve, Dates: Design 1998
- Rothwell Park Athletic fields, Moberly MO. Project electrical engineer responsible for design and specification of lighting and public address systems for athletic field complex consisting of 9 baseball and 4 soccer fields. Also, power and lighting for a concessions building and a maintenance building. Client: City of Moberly, Dates: Design 2001
- HVAC and Fire Alarm, Wilson Hall, Washington University, St. Louis, Missouri: project electrical engineer responsible for design and specification of a new fire alarm system and access control system and renovation of lighting for the Earth and Planetary Sciences Building originally built in the 1920s. The building housed an auditorium, two clean rooms, classrooms, offices, and laboratories. Client: Washington University, Dates: Design 1993
- Mammoth Cave Visitor's Center Project electrical engineer responsible for design and specification of electrical systems for the expansion and renovation of the Visitors Center at Mammoth Cave National Park. The building was designed to achieve a LEED Silver certification, and included sustainable features such as a 30 kilowatt onsite renewable energy photovoltaic system. Client: National Park Service, Dates: Design 2012
- St. Louis County 4th Precinct Police Station, Mehlville, MO, project electrical engineer responsible for design and specification of a new 8000 sq. ft. police station. Design included CCTV system, Door security system and emergency power generator. Client: St. Louis County, Dates: Design 2014

TEC Professional Services Questionnaire

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| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
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| Active registration: Year first registered/discipline: | |
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| Other experience and qualifications relevant to the proposed Project: | |
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DAVID O. NYARKO, P.E.

Professional Associate Senior Supervising Engineer



CAREER SUMMARY

David Nyarko is a senior supervising mechanical engineer with WSP USA who has extensive experience with mechanical and electrical systems serving movable bridges. David is considered an expert in the field, specifically with the ability to handle the complexities and coordination required for mechanical and electrical interfaces of moving bridges. He has been responsible for inspecting, project planning, estimating, preparing contract plans and specifications, and managing mechanical system rehabilitation projects.

EDUCATION

B.E., Mechanical Engineering, The City College of New York, Manhattan, New York 1988

Years with the firm

25

Years total

32

Professional qualifications

*Professional Engineer:
New York, 2000 (077534-1); Maryland, 2004
(0030203); Florida, 2010
(95265)*

Areas of practice

*Mechanical Engineering;
Movable Bridges*

Languages

English/German

ADDITIONAL TRAINING

| | |
|---|------|
| Industrial Hydraulics Training Course, Rexroth | 1997 |
| Railroad Bridges – Design Seminar | 2008 |
| ISO 9000 Internal Auditor Training Course | 1997 |
| Mechanical Drives, National Technology Transfer | 1996 |

PROFESSIONAL MEMBERSHIPS

| | |
|---|--------------|
| American Society of Mechanical Engineers (ASME), Member | 1988-Present |
| Fluid Power Society (FPS), Member | 1996-Present |
| Heavy Movable Structures, Inc. (HMS), Member | 1988-Present |

PROFESSIONAL EXPERIENCE

Bridges

- CSX New River Bridge Emergency Repair, - Fort Lauderdale, Florida: Mechanical Team Leader responsible for the design of the emergency coupling replacement for the CX New River Bascule Bridge in Fort Lauderdale Florida. Project included investigations into the cause of the failure and designing a replacement to correct the existing failure on an accelerated schedule. Client: FDOT, Dates: 7/20 – present
- LaSalle Causeway Bridge, On Call – Kingston, Ontario: Mechanical Team Leader responsible for Mechanical and Electrical On-Call Services for the Strauss-Heel Trunnion Bascule Bridge. Ongoing Assignments include Counterweight Replacement Study including balancing adjustments. Client: Public Works and Government Services Canada, Dates: 7/20 – present
- Wittpenn Bridge, Kearny - Jersey City, New Jersey: Inspection Team Leader responsible for Mechanical and Electrical Installation on this project to replace the vertical-lift bridge that carries New Jersey Route 7 over the Hackensack River. The existing Wittpenn Bridge is a vertical-lift bridge, built in 1930, is 2,169 feet long with 14 deck-girder spans and three through-truss approach spans, two tower spans and a 209-foot vertical-lift main span. The new vertical-lift bridge will provide for a



DAVID O. NYARKO, P.E.

***Professional Associate
Senior Supervising Engineer***

minimum vertical clearance of 70 feet above Mean High Water in the closed position as compared to 35 feet for the existing lift bridge. Client: Amercom Corporation, Dates: 10/15 – present

- Burlington-Bristol Vertical Lift Bridge over the Delaware River, Burlington, New Jersey and Bristol, Pennsylvania: mechanical and electrical team leader for the detailed in-depth mechanical and electrical inspection. Led a team of four mechanical and electrical engineers in performing an in-depth inspection of all mechanical and electrical equipment on this 95-year-old vertical-lift bridge. Client: Burlington County Bridge Commission (BCBC), Dates: 9/16 – 3/19
- Riverside-Delanco Swing Bridge over the Rancocas Creek, Riverside and Delanco, New Jersey: lead mechanical inspector responsible for providing detailed in-depth mechanical inspection. Services included in-depth visual and operational assessment of the mechanical equipment. Responsibilities included quality review of all the mechanical and electrical reports. Client: BCBC, Dates: 9/16 – 3/19
- Tacony-Palmyra Double Leaf Bascule Bridge over the Delaware River, Tocony, Pennsylvania and Palmyra, New Jersey: mechanical and electrical team leader for the detailed in-depth mechanical and electrical inspection for the Burlington County Bridge Commission. Led a team of four mechanical and electrical engineers in performing an in-depth inspection of all mechanical and electrical equipment. Client: Board of Chosen Freeholders of Burlington County, Dates: 10/15 – 1/19
- State Route (SR) 105 (Hecsher Drive) over Sisters Creek, Duval County, Florida: Designer of Record responsible for performing the Phase I inspection of all of this hydraulically operated double-leaf Strauss trunnion bascule bridge, and contributed to development of a bridge condition rehabilitation report. Assisted with the Phase II design for the rehabilitation of selected mechanical components based on the inspection, which included complete replacement of the existing hydraulic drive system, span locks and other mechanical items. The rehabilitation tasks included design calculations, preparation of plans and contract specifications and development of a construction cost estimate. Also reviewed shop drawings, requests for information (RFIs) and provided several construction design sketches as part of the rehabilitation efforts. Client: Florida Department of Transportation (FDOT), Dates: 8/10 – 4/14
- Congress Parkway Bridge over the South Branch of the Chicago River, Cook County, Illinois: mechanical engineer responsible for performing the rehabilitation and replacement design for select mechanical components for this twin double-leaf trunnion bascule bridge. Witnessed the magnetic particle testing of all eight trunnion shafts as part of the pre-design inspection. Tasks included development of plans, specifications, calculations and cost estimate for the mechanical rehabilitation. Also reviewed shop drawings, requests for information (RFIs) and provided several construction design sketches as part of the rehabilitation efforts. Client: Illinois Department of Transportation, Dates: 11/08 – 6/13
- Burlington Canal Lift Bridge, Hamilton, Ontario: project manager for the rehabilitation of bridge machinery and rope replacement of this vertical-lift bridge who led both the design and construction services. The Burlington Canal Lift Bridge is located on the western shore of Lake Ontario on a site rich in history. The bridge spans the Burlington Canal that was opened in 1826. The present bridge carries two lanes of vehicular traffic across the canal and was opened to traffic in 1962. Client: Stantec Consulting Ltd., Dates: 8/01 – 3/03 & 6/12 – 3/13

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| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
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| Other experience and qualifications relevant to the proposed Project: | |
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DAVID HETLAGE, P.E.

*Assistant Vice President
Director, Mechanical Engineer
Project Manager*



Years with the firm

24

Years total

37

Professional qualifications

Professional Engineer:
Missouri, 1988 (EN 022959);
Illinois, 1988 (0062-
044733); Iowa, 1998
(14320), Nevada, 2006
(017557),

CAREER SUMMARY

David Hetlage is a supervising mechanical engineer specializing in fleet maintenance and fueling systems, and experienced in utility systems for facilities, including HVAC, plumbing, and fire protection. David leads fleet support facility mechanical and electrical designs, including fueling, lubrication, and alternative fuel system designs. David has over 35 years' experience which includes numerous transit, institutional, governmental, and industrial facilities for which his responsibilities have included design, specification, and quality control of building systems, coordination of various contributing disciplines, cost estimating, value analysis, and construction observation. David has been involved in numerous new facility design and renovation projects, facility evaluations, and several manufacturing process improvement projects, including sustainable and LEED certified projects. David's breadth of experience provides him with a unique ability to coordinate and resolve interdisciplinary design problems, and to develop effective contract provisions.

David has worked with gaseous fuel facilities for almost 20 years, and is often called upon for his insight into the background and intent of codes governing lighter than air fuels in buildings. David has also assembled design criteria for design-build projects as the Owner's Representative, and has performed detailed design and construction support as part of design-build teams.

EDUCATION

| | |
|--|------|
| B.S., Mechanical Engineering, University of Missouri—Rolla | 1983 |
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ADDITIONAL TRAINING

| | |
|--|------|
| Value Analysis Certification, University of Missouri—Columbia | 1985 |
| Value Engineering Workshop, University of Missouri—Columbia | 1987 |
| Hydronic Systems Design and Application Seminar, ITT Fluid Handling Division, Morton Grove, Illinois | 1986 |

PROFESSIONAL MEMBERSHIPS

American Society of Heating, Refrigerating, and Air-Conditioning Engineers; Chapter President (2004)

National Fire Protection Association

PROFESSIONAL EXPERIENCE

- Pontchartrain Levee District (PLD), St. Charles Parish, Louisiana. Lead Mechanical Investigator for assessment of the Cross Bayou Pumping Station, a flood control pumping station with influent from the canal level along the Airline Highway and effluent to Lake Pontchartrain via the Cross Bayou canal. Equipped with five main diesel and one electrical low flow submersible pumps, the pumping station can deliver a total capacity of over a half million gallons per minute. The assessment involved pump and pump drives, the fueling system, and other mechanical systems and an opinion of probable construction costs to rehabilitate the station to a state of good repair. Client: Pontchartrain Levee District, Dates: 2021



DAVID HETLAGE, P.E.

*Assistant Vice President
Senior Supervising Engineer
Project Manager*

- Stormwater Pump Station Renovation, Baton Rouge, Louisiana: Mechanical engineering advisor for design of retrofit and repair of five stormwater pump stations on secondary roadways. Renovations included structural, mechanical electrical and control improvements. Client: Louisiana Department of Transportation and Development (LADOTD), Dates: 2018 - 2020
- Tunnel Sump Discharge Pipe Replacement, Detroit, Michigan: Lead mechanical engineer for failure assessment, and subsequent design for replacement of mid-tunnel drainage sump discharge piping in the Detroit Windsor Tunnel. Client: Detroit Windsor Tunnel, Date: 2019
- City Operations Fuel and Wash Facility, Spokane, Washington: process piping engineer responsible for fueling and lubrication system design for a new fueling and vehicle wash facility for the City of Spokane. Systems included underground storage and distribution of diesel, gasoline, and E-85, overhead distribution of service fluids to ten fueling positions, and interface with an automatic fuel management system. Client: City of Spokane, Dates: 2004 - 2005
- Asset Management Mechanical & Electrical Condition Assessment, Denver, Colorado: task manager for Central Utility Plant equipment assessment and non-destructive testing for asset management reporting at Denver International Airport. Work included digital thermography of main electrical panels, ultrasonic testing of boiler tubes and plant piping, and visual inspection of major equipment. Client: Denver International Airport, Dates: 2013 - 2014
- Site Utility Replacement, Lima Ohio: Mechanical engineer for preliminary engineering and fire flow demand estimates for replacement or rehabilitation of five sanitary lift stations and two fire pumps on a 370 acre manufacturing complex. Client: Confidential Government Contractor, Dates: 2019 and ongoing with follow-on contract
- 1500 kW Generator Replacement, New York, New York: supervising mechanical engineer for design of primary and standby fuel supply systems and generator exhaust for installation of a new emergency power supply generator at Bellevue Hospital as part of storm proofing following Hurricane Sandy. Client: New York City Health & Hospitals Corp, Dates: 2013-2019
- Central Garage and Operations Center, Rochester, Minnesota: lead mechanical engineer for process piping and fueling systems for a new \$39M public works and transit campus constructed in phases over four years on a 37 acre site. Services included design of bulk fuel and lube fluid storage, fuel distribution to 7 fuel lanes and three generators, compressed air and lube distribution throughout maintenance shops, and a bulk glycol production storage and dispensing system. Client: City of Rochester, Dates: 2008-2013
- Indefinite Quantity Task Order Contract, Indianapolis, Indiana: Supervising engineer for various facility upgrades authorized as task orders for the Indianapolis Public Transportation Corporation (IndyGo) including upgrades to the Dispatch area and Server Room, Phase II Facility Modifications, Bus Garage ventilation and installation of a new CCTV system. Responsibilities ranged from advising on contract language to design and construction observation. Client: Indianapolis Public Transportation Corporation (IndyGo), Dates: 2010 - 2016

TEC Professional Services Questionnaire

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| Name & Title: |
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| Project Assignment: |
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| Years' experience with this Firm: |
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| Other experience and qualifications relevant to the proposed Project: |
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KEITH WALLACE, PE, LEED AP BD+C, ENV SP

Supervising Mechanical Engineer



Years with the firm

17

Years total

26

Professional qualifications

**Professional Engineer:
Louisiana (0033730) and
other states;
U.S. Green Building Council
LEED™ Accredited
Professional BD+C, (54466);
Institute for Sustainable
Infrastructure (ISI) Envision
Sustainability Professional**

Areas of practice

Mechanical Engineer

CAREER SUMMARY

Keith Wallace, a supervising mechanical engineer with WSP, has experience designing mechanical systems for diverse assignments including transit and rail facilities, educational projects, institutional buildings, government/military facilities, data centers, aviation buildings, office buildings, and commercial/retail facilities. His duties have included project management, specifications of major equipment and associated work, surveying existing conditions, load calculations, control sequences, pipe and ductwork design, construction cost estimates, quality assurance/control reviews, peer reviews, submittal reviews, and punch-lists. Keith has completed various energy analyses including energy modeling for LEED certification, and mechanical systems assessment reports. Keith is proficient in load calculation programs, COMcheck (energy codes), Revit and AutoCAD.

EDUCATION

Bachelor of Science, Mechanical Engineering, University of Missouri, 1994
Columbia, MO

PROFESSIONAL MEMBERSHIPS

American Society of Heating, Refrigerating and Air Conditioning
Engineers (ASHRAE)

RELEVANT PROJECT EXPERIENCE

Louisiana Department of Transportation and Development (LADOTD), Baton Rouge, Louisiana: Mechanical engineer of record for rehabilitation of existing storm pump station facilities serving I-110 consisting of dry pit and vertical turbine pumps. Five main and low-flow dry pit pumps at the Boyd Avenue station, five main and low-flow vertical turbine pumps at the New 21st Street station and two main dry-pit pumps at the Old 21st Street station. Facility upgrade involved pump replacement; upgrades of electrical service, distribution, motor controls, lighting, gas detection equipment and building ventilation; and new doors, and pit-access ladders, chain hoist; Project also included repair of building finishes, station walkways, stairs and railings; and new overhead gantry cranes for pump equipment. Client: Louisiana Department of Transportation and Development, Dates: 2018 - 2020

Great Lakes Water Authority (GLWA), Dearborn, Michigan: Lead mechanical engineer providing design services for improvements to the existing buildings at the Springwells Water Treatment Plant. Services include assessment of existing site conditions in renovation areas, preliminary design report, construction documents, construction cost estimate and construction administration. The project has completed the preliminary design phase after a design review workshop with the GLWA personnel and is now in the construction documents design phase. Client: Great Lakes Water Authority, Dates: 2019 – Present

Central Heating and Refrigeration Plant (CHRP), LaGuardia Airport, New York City, New York: lead mechanical engineer for the CHRP building HVAC design. The CHRP building consists of boiler and chiller plants to serve the new Terminal B facility. Design included air-handling units, computer room air-conditioners, ventilation and building controls. Client: Skanska-Walsh Joint Venture, Dates: 2015 – 2020



KEITH WALLACE, PE, LEED AP BD+C, ENV SP

Supervising Mechanical Engineer

Miami-Dade Department of Transportation & Public Works, Compressed Natural Gas Program, Miami, Florida: Lead mechanical engineer for design modifications necessary for the bus maintenance buildings at two sites to safely operate bus vehicles using compressed natural gas (CNG). In addition, design for new bus fueling (including diesel tanks and CNG) and wash facilities. Services included design drawings, specifications, load calculations, equipment selections and control sequences. Existing mechanical equipment incompatible with CNG vehicles was identified to be removed. Construction administration services included RFIs and submittals review. Client: Trillium CNG, Dates: 2017 – Present

San Diego Regional Planning Agency (SANDAG) - East County Bus Maintenance Facility Improvements, El Cajon, California: supervised mechanical engineering services for maintenance facility consisting of maintenance garage, office space, bus wash and fueling. Fueling at the facility consists of diesel and CNG. Performed calculations for CA Title 24 and LEED (Silver) documentation. Client: San Diego Regional Planning Agency, Dates: 2012 – 2015

Snow Removal Equipment (SRE) and Maintenance Facility, Blue Grass Airport - Lexington, Kentucky: lead mechanical engineer for this new facility which includes maintenance personnel offices, crew space, kitchen/dining area, vehicle maintenance and storage, bulk material storage and fueling depot with diesel and gasoline. Mechanically cooled spaces feature an energy savings variable refrigerant flow (VRF) system. Client: Blue Grass Airport, Dates: 2014 – 2015

IndyGo Indianapolis Public Transportation Corporation – Facility Upgrade Project Ph. II, Indianapolis, Indiana: HVAC and lighting upgrades for the administration areas, boardroom operations, health/locker areas and lobby. Existing HVAC systems were completely removed and new systems installed. Services as supervising engineer included management of design work for the various areas. Design services included load calculations, equipment selections and control sequences for the boardroom area and hydronic fin tube radiators of the upgraded areas. Client: Indianapolis Public Transportation Corporation (IndyGo), Dates: 2011 – 2012

County Courts Project, St. Louis County, Missouri: Programming, procurement support and conceptual design for a \$122 million Family Courts Center with courtrooms, administrative and detention space; and, renovation of the existing Circuit Courts building. Lead mechanical engineer: services included existing on-site surveys, design charrette to develop project criteria, developing performance specifications for design-build RFP, reviewing proposer's project criteria modifications, attending proposers' meetings, technical support for bid evaluations and during design process. Client Name: St Louis County, Dates: 2012 - 2015

TEC Professional Services Questionnaire

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| Years' experience with this Firm: | |
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| Active registration: Year first registered/discipline: | |
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JUDE O. BONSU, PE

Senior Lead Engineer



Years of experience

14

Education

B.E., Mechanical Engineering, State University of New York at Stony Brook, 2006

Professional Registrations

Professional Engineer: Louisiana, 2020 (PE.0044561); Washington, 2020 (#20104497); New York 2014 (094535); Illinois 2017 (062.069421); New Jersey 2017 (24CE05365400); Michigan 2017 (6201065848)

Professional Certifications

Rexroth Industrial Principles of Hydraulics Training

FHWA-NHI-130110 Tunnel Safety Inspection

FHWA-NHI-130053 Bridge Inspection Refresher Training

AutoCAD 2008 Essentials; Metro-North Railroad & Long Island Rail Road (MNR/LIRR) Track Safety

MTA NYCT Transit Track Safety Certification

OSHA 30 Hr Construction (30082549)

Professional Affiliations

Heavy Movable Structures, Inc. (HMS)

American Society of Mechanical Engineers (ASME)

CAREER SUMMARY

Jude Bonsu is a Senior lead engineer with WSP who is primarily involved and experienced with the rehabilitation design, inspection and provision of construction services for movable bridges. He has also inspected and provided construction services for the mechanical systems for tunnels, subway stations, buildings and other miscellaneous structures.

RELEVANT EXPERIENCE

Inspection of Belle Chasse and Harvey Tunnels, LADOTD: Lead mechanical inspector for the routine inspection of the tunnel mechanical components. Client: LADOTD, Dates: 02/2021 – Present

NJ Route 30 Over Beach Thorofare, Atlantic City, NJ: Lead Engineer for the preliminary and final mechanical rehabilitation design efforts for this single leaf bascule bridge. Efforts include replacing of the existing auxiliary drive system, rehabilitation of the selected span drive machinery components, span lock, air buffer replacement. Client: NJDOT, Dates: 06/2017 – Present

4 Vertical Lift Bridge, NJ: Lead Engineer for this efforts to develop Contract PS&E to tension counterweight wire ropes and balance four (4) vertical lift bridges. Client: NJDOT, Dates: 06/2017 – Present

Congress Parkway Bridge over the South Branch of the Chicago River, Cook County, IL: Developed rehabilitation Contract PS&E to replace selective mechanical components including but not limited span drive motor, brakes, span locks, sump pumps, live load shoes, trunnion thrust collars, warning gates, retractable barrier gate for this twin double leaf trunnion bascule bridge and bridge balancing. Reviewed shop drawings, RFI's and provided design sketches during construction. Supervised NDT of all trunnion shafts. Client: IDOT, Dates: 12/2006 – 07/2014

Dorset Avenue Bridge over Inside Thorofare, Atlantic County, NJ: Performed Phase 1 mechanical inspection and developed the bridge condition rehabilitation report for this double-leaf Strauss trunnion bascule bridge. Developed rehabilitation Contract PS&E to replace selective mechanical components including but not limited counterweight trunnion shaft, bearings, hanger plates, counterweight link pins, hand drive sprocket and chain and sump pumps, bridge balancing. Reviewed shop drawings, RFI's and provided design sketches during construction. Provided Phase III CIS during construction including shop inspection during fabrication of the trunnion shafts and associated components prior to shipment to site. Client: Atlantic County, NJ, Dates: 01/2010 – 12/2012

Hanover Street Bridge over the Patapsco River, Baltimore, MD: Developed Contract PS&E for emergency repairs for this designated historic structure, one of only three Rall-type bascule bridges remaining to replace emergency drive gear motor and coupling, warning gates and modifications to the existing counterweight to balance the bridge. Reviewed shop drawings, RFI's and provided design sketches during construction. Client: City of Baltimore, Department of Public Works, Dates: 01/2008 – 12/2008

State Route (SR) 105 (Heckscher Drive) over Sisters Creek, Duval County, FL: Performed Phase 1 mechanical inspection and developed the bridge condition rehabilitation report for this hydraulic double-leaf Strauss trunnion bascule bridge. Developed Contract PS&E for rehabilitation efforts to replace existing hydraulic drive system, span locks and other mechanical components. Reviewed shop drawings, RFI's and provided design sketches during construction. Client: FDOT, Dates: 03/2011 -11/2014



Inspection of Various Movable Bridges: Led the mechanical inspection for over 100 movable bridges of all types throughout the country. Prepared an inspection report listing deficiencies and recommendations for repair with associated cost estimates for each bridge. Client(s): NJDOT, CTDOT, IDOT, FDOT, TBTA (NY), Laporte County (IN), ODOT, BCBC, City of Baltimore, Department of Public Works and Others, Dates: 01/2007 - Present

Route 130 over Raccoon Creek, Gloucester County, NJ: Performed Special inspection of the counterweight ropes, sheaves, rope tension and diameter measurements for this tower span. Client: NJDOT, Dates: 08/2009 – 12/2009

BCBC, Burlington-Bristol Bridge over the Delaware River, Bristol, PA Burlington, NJ: Providing construction inspection and management services for the on-going re-tensioning of the main counterweight ropes. Tasks include but not limited to the providing construction inspection, review of shop drawings, all project related submittals, progress meetings and providing construction management services. Client: BCBC, Dates: 02/2017 – 12/2017

MTA Metro-North, Harlem River Lift Bridge Rehabilitation, New York, NY: Provided construction inspection for the replacement of the main and auxiliary counterweight ropes and miscellaneous repairs to the mechanical and electrical systems for this twin railroad lift bridge. Client: MTA- Metro North, Dates: 01/2014 – 12/2015

Queens Midtown Tunnel, Triborough Bridge and Tunnel Authority (TBTA), New York City: Resident Engineer/Construction Manager for this 4.8 million project to replace all tunnel drainage pumps, hydrocarbon systems, sump pit lights, renewal of existing motor starters and associated components. Client: TBTA, Dates: 11/2019 – Present

Second Avenue Subway Project – 72nd Street Station – C-26011 (MTA-NYCT), New York City: Provided CIS for this brand new subway station as part of the second avenue project. Also served as the testing and commissioning coordinator during testing and commissioning of the MEP components/systems. Client: MTA-NYCT, Dates: 05/2015 – 05/2017

Lincoln Tunnel Buildings and Miscellaneous Structures – PANYNJ Facility Condition Surveys Call-In (2006-2008), New York and New Jersey: Assisted with the inspection of ventilation buildings, portal structures, administration and toll booth buildings, emergency garages, retaining walls and other miscellaneous structures pertinent to the Lincoln Tunnel. Client: PANYNJ, Dates: 03/2006 – 12/2008

Building Condition Assessment Survey, The New York City School Construction Authority (SCA), New York: Mechanical inspector as part of a team of engineers as to provide building condition assessment survey for all school facilities throughout the city for the NYC Department of Education's Division of School Facilities (DOE/DSF and produced a mechanical inspection report to reflect the conditions of the mechanical systems. Client: NYCSCA, Dates: 05/2010 – 10/2019

TEC Professional Services Questionnaire

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| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
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| Active registration: Year first registered/discipline: | |
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| Other experience and qualifications relevant to the proposed Project: | |
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CHRISTOPHER M. RAY, P.E.

SENIOR SUPERVISING ENGINEER

Years with the firm

20

Years total

26

Professional qualifications

**Professional Engineer:
Florida, 2000 (56105)**

CAREER SUMMARY

Chris Ray is a structural engineer involved in the preparation of bridge design plans and contract drawings. In addition to design, he is a project manager and structures manager on numerous design and District-wide repair projects.

EDUCATION

M.S., Civil Engineering, University of South Florida, 1997;

B.S., Civil Engineering, University of South Florida, 1995

PROFESSIONAL EXPERIENCE

Structural Engineering

- District-wide Complex and Movable Bridges Engineering Services, FDOT District Two Structures Maintenance Office, Florida: project manager and engineer of record (EOR) for the Dames Point Bridge repair project which includes modular joint repairs, transverse post tension pour back repairs, dolphin and fender system repairs, and installation of a steel maintenance and inspection catwalk. Also served as project manager and EOR for the Sisters Creek Bascule Bridge rehabilitation project which included structural steel repairs, cleaning and coating of the structural steel, traffic gate maintenance platform replacement, tender house repairs, hydraulic cylinder repairs, and power and controls upgrades. Client: FDOT, Dates: 10/2010 – 10/2018
- District Wide Engineering Services, FDOT District Two Structures Maintenance Office, Florida: project manager on this task work order contract that includes various repair, rehabilitation, bridge condition studies and reports such as the Myrtle Bridge Deck Replacement Study, the Main Street Trunnion Replacement Study, the Dames Point Stay Cable Replacement Study, Emergency Vehicle Load Rating updates, various scour analysis and reports, and substructure load ratings. Client: FDOT, Dates: 01/2017 - current
- District-wide Structures, FDOT District One, Florida: project manager for the district-wide structures contract. Tasks have included design of bridges, mast arms, strain poles, and box culverts for miscellaneous District One projects. Tasks have also involved scope writing, negotiations and plans review as a representative of District One. Client: FDOT, Dates: 02/2004 – 06/2009
- District-wide Engineering Services, Florida Department of Transportation (FDOT) District Seven Structures Maintenance Office, Florida: served as project manager for this task work order based contract that includes various repair and rehabilitation projects such as steel and concrete cleaning and coating, pile jacket and cathodic protection, scour countermeasures, spall and crack repairs, and movable bridge steel repairs and mechanical/electrical upgrades. Client: FDOT, Dates: 04/2008 – 10/2015
- District-wide Complex Bridge Investigation Engineering Services, FDOT District Two Structures Maintenance Office, Florida: project manager for this task work order based contract that includes inspection, analysis, and repair and rehabilitation of post tensioned ducts on various post tensioned bridges. Client: FDOT, Dates: 10/2012 – 10/2017
- Polk County Bridge Engineering Services, Polk County, Florida: operated out of the Polk County office as an extension of their staff to implement and manage a bridge maintenance and rehabilitation program. Duties included generating a pushbutton contract for repairs, managing the bridge inspection and load rating program,



CHRISTOPHER M. RAY, P.E.
SENIOR SUPERVISING ENGINEER

prioritizing managing the maintenance and repair work, prioritizing the bridge replacement program, and managing the bridge replacement study, design, and construction phases. Also, operated out of the Polk County office as an extension of their staff in a project manager role. Duties included managing various capacity projects and intersection improvement projects from alternative study to final design, and through construction. Client: Polk County Florida, Dates: 11/2005 – 08/2010

- Skyway Engineering Services, FDOT District Seven Structures Maintenance Office, Florida: served as project manager for this contract that includes various repair and rehabilitation projects for the Sunshine Skyway Bridge such as pile jackets, maintenance access hatch design, leak inspection quality assurance (QA), scour countermeasures and main column repairs. Client: FDOT, Dates: 08/2010 – 10/2015
- State Road (SR) 528 over Econlockhatchee River Bridge Replacement, Central Florida Expressway Authority, Orlando, Florida: structures lead for the bridge replacement of twin bridges along SR 528. The twin, three-span bridges consist of prestressed AASHTO beams and a cast-in-place concrete deck resting on pile bents. Client: Central Florida Expressway Authority, Dates: 09/2015 – 02/2021
- SR 31 from SR 80 (Palm Beach Boulevard) to north of County Road (CR) 78 (N. River Road) Project Development and Environment (PD&E) Study, FDOT District One, Lee County, Florida: structures lead engineer in charge of alternatives analysis of the SR 31 (Wilson Pigott) movable bridge replacement over the Caloosahatchee River. Client: Subconsultant to Inwood Consulting Engineers, Dates: 05/2011 – 07/2012
- SR 29 from north of SR 82 to US 27 Value Engineering Study, FDOT District One, Collier/Hendry Counties, Florida: structures representative in charge of alternatives analysis of the movable bridge replacement over the Caloosahatchee River as part of the value engineering study team. Client: FDOT, Dates: 11/2012 – 12/2012
- John's Pass Final Design, FDOT District Seven, Pinellas County, Florida: assistant/deputy manager for the replacement of the scour-critical Johns Pass Bridge. The new bridge is a low-level Bascule bridge consisting of two American Association of State Highway and Transportation Officials (AASHTO) girder approach spans on both sides of a 196.5-foot (60-meter) double leaf bascule span. Client: FDOT, Dates: 03/2003 – 11/2008
- I-75/Alico Road, FDOT District One, Lee County, Florida: structures manager for the I-75/Alico Road interchange widening which includes on-ramp bridges from Alico Road to I-75 and miscellaneous structures such as mast arms, high mast lighting, and box culverts. Client: FDOT, Dates: 07/2002 – 11/2007
- Group 2-15 Bridges, FDOT District Three, Holmes and Washington Counties, Florida: assistant/deputy manager for the replacement of three low level, county bridges in the Florida Panhandle area. Client: FDOT, Dates: 09/2002 – 08/2010
- Imperial River, FDOT District One, Lee County, Florida: project manager for the widening of SR 45 as part of the District One district-wide structures contract. SR 45 over Imperial River is a 12-span, AASHTO Type III girder bridge on pile bents being widened to the outside and in the median to add an additional lane and sidewalks in both directions. Client: FDOT, Dates: 02/2004 – 02/2007

TEC Professional Services Questionnaire

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: | |
|---|--|
| Name & Title: | |
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| Project Assignment: | |
| | |
| Name of Firm with which associated: | |
| | |
| Years' experience with this Firm: | |
| | |
| Education: Degree(s)/Year/Specialization: | |
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| Active registration: Year first registered/discipline: | |
| | |
| Other experience and qualifications relevant to the proposed Project: | |
| | |



RICHARD (RICH) LINCK, PE

Senior Lead Consultant, Structural Engineer

Years with the firm

43

Years total

43

Professional registrations

Professional Engineer:
FL 2003 (60672); IN
2014(11200049); KS
2011 (21913); MI 2004
(621051786); MO 1982
(020099); TX 2008
(101619); MN 2002
(42200)

CAREER SUMMARY

Rich Linck is a supervising engineer in WSP's structural group. His responsibilities include the preparation and review of structural design calculations and specifications, as well as coordination and management of multidisciplinary projects. Since joining WSP, he has participated in a variety of civil, industrial, commercial, institutional, and military projects. Projects include the design of equipment supports and machine bases; field inspection and structural evaluation of existing facilities; seismic evaluation of existing structures and seismic design of new facilities; design of educational, health care, and correctional facilities; and modifications to industrial process plants. Representative clients include the automotive, chemical, and food processing industries.

Prior to WSP, Rich served as a project engineer for the design of blast-resistant structures. These assignments included structures for munitions production, storage, assembly and handling for military, governmental, and private sector clients. He is well-versed in state-of-the-art methods for analysis and design of blast suppressive structures, as well as safety and security requirements for military facilities. Included in these projects were a number of missile assembly and maintenance facilities for three divisions of the U.S. Navy, located on both coasts of the United States, and a world-wide standard missile test cell design. One missile test facility received the "Outstanding Engineering Achievement Award" from the National Society of Professional Engineers in 1993.

EDUCATION

BS, Civil Engineering, University of Missouri-Rolla

1977

PROFESSIONAL EXPERIENCE

- **Boyd Ave and 21st St Pumping Station**, Baton Rouge, Louisiana: Lead Structural Engineer for rehabilitation of existing storm pump station facilities serving I-110 consisting of dry pit and vertical turbine pumps. Five main and low-flow dry pit pumps and the Boyd Avenue station, Five main and low-flow vertical turbine pumps at the New 21st Street station and two main dry-pit pumps at the Old 21st Street station. Structural tasks involved hurricane resistant support rack for electrical service equipment and new overhead gantry crane for pump equipment. Client: Louisiana Department of Transportation and Development, Dates: 2015-2018.
- **On-Call Services for Maryland Aviation Administration, Baltimore, Maryland:** lead structural engineer responsible for performing final coordination review of contract drawings. The garage construction consisted of cast-in-place, post-tensioned concrete frame, with precast concrete exterior wall construction supported by driven piles. WSP provided on-call comprehensive construction management and inspection services at Baltimore-Washington Thurgood Marshall International Airport and Martin State Airport. This task order contract included runway, taxiways, and terminal area pavement rehabilitation. Client: Maryland Aviation Administration, Dates: 05/25/2006 - 10/07/2015
- **Parkway School District Science Department Renovation Design Services, St. Louis, Missouri:** structural engineer for the science renovations and an addition at three different high schools, which included major renovations to the existing science departments and a new science addition to fulfill the new science program. WSP provided architectural, mechanical, and landscape design services for science lab additions and renovations at three high schools: West, South, and Central High Schools. Central High School features a



RICHARD (RICH) LINCK, PE

Senior Lead Consultant, Structural Engineer

24,000-sf science lab addition and 25,000 sf of renovation with LEED certification. South High School includes a 15,500-sf science lab addition and 35,000-sf of renovation. The West High School assignment involved 25,000-sf of renovated area. These projects were produced using Revit BIM modeling software. WSP developed conceptual designs for the new science departments. Client: Parkway School District, Dates: 03/12/2009 - 10/08/2013

- **Symmes Elementary School Condition Assessment, Hillsborough County, Florida:** structural engineer for field investigation and remediation of foundation problems. Using the field information, a repair and remediation plan and order of magnitude costs were provided to the school district. WSP investigated and identified a remedy to correct structural damage that occurred at a newly built elementary school in Hillsborough County. WSP delivered a costed repair plan from the soil report to the school district. The structures were subsequently demolished and replaced. Client: School District of Hillsborough County, Dates: 02/17/2004 - 11/17/2005
- **St. Louis Community College IQC Design Services, St. Louis, Missouri:** structural engineer for the open-ended agreement covering a variety of campus renovation and enhancement projects. WSP provided design services for St. Louis Community College, including the Downtown Cosand Center, Meramec, Forest Park, and Florissant Valley campuses. The project included design and construction services, ADA review, cost estimating, bid analysis, and construction administration services. Client: St. Louis Community College, Dates: 11/15/2002 - 10/01/2005
- **City of Minneapolis Columbia Heights Membrane Facility Engineering Services, Minneapolis, Minnesota:** lead structural engineer for the design and construction of a 133,000-sf water treatment plant near Minneapolis. The superstructure above the operating floor features clear spans of up to 156 feet, accomplished using long span bar joists for the principal roof framing elements. WSP provided general engineering services for the improvement design of the Columbia Heights Membrane Filtration facility. Client: Black & Veatch Corporation, Owner City of Minneapolis, Dates: 06/18/2002 - 08/20/2004
- **SBA Site Acquisition Services - Telecom Towers, Various Locations:** lead structural engineer responsible for utilizing data gathered by tower inspectors as input for tower analysis software GUYMAST and MAST for over 150 sites across the nation. WSP developed retrofit strategies for overloaded towers and re-analyzed for adequacy of retrofit. WSP provided planning services for structural evaluation of SBA telecom towers. Client: SBA, Inc., Dates: 05/02/2001 - 05/26/2005
- **City of Ladue Police Facility Design Services, Ladue, Missouri:** project engineer for both facilities. WSP provided design services for renovations of the Ladue Police Facility and Fire Station. The new two-story facility features amenities that improve the safety and convenience of the staff and visitors. The heart of the facility contains a communication center that includes all amenities. Other areas include an intake area, detention area, as well as an exercise room, detectives' bureau, administrative office space, and ancillary support facilities. Client: City of Ladue, Dates: 07/15/1998 - 11/05/2001

TEC Professional Services Questionnaire

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: | |
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| Name & Title: | |
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| Project Assignment: | |
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| Name of Firm with which associated: | |
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| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
| | |
| Active registration: Year first registered/discipline: | |
| | |
| Other experience and qualifications relevant to the proposed Project: | |
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MICHAEL J. ABRAHAMS, PE

Project Manager/Principal Professional Associate Technical Director - Structures



Years with the firm

51

Years total

56

Professional qualifications

Professional Engineer: New York, 1973 (46996); California, 1993 (C50587); Connecticut, 1983 (12948); Florida, 2006 (65132); New Jersey, 1992 (36842); Rhode Island, 1998 (6933); South Carolina, 2002 (21681); Virginia, 1987 (17212); Washington, 1980 (18833), Louisiana, 2009 (34520); Massachusetts, 2009 (48151)

National Council of Examiners for Engineering and Surveying (NCEES), 2009 (37626)

Areas of practice

Structures

Bridges

Tunnels

Buildings

Marine

CAREER SUMMARY

Mike Abrahams has acquired significant engineering experience. As manager of WSP's New York office structures department, he directed many bridge, tunnel, port, and building projects. He has served as project manager or principal-in-charge for several bridge and tunnel design and rehabilitation programs. In addition, his responsibilities have included providing expert testimony, failure investigation, participating in peer and quality control reviews, conducting studies, preparing contract drawings and specifications, designing and checking design calculations, and providing structural analysis.

EDUCATION

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| M.S., Engineering Mechanics, Columbia University | 1964 |
| B.S., Engineering Mechanics, Columbia University | 1963 |
| B.A., Chemistry, Bowdoin College | 1960 |

ADDITIONAL TRAINING

Cable-Stayed Bridges, ASCE
Bridge Ratings, Hofstra University
Structural Welding Code, American Welding Society
Testing and Inspection of Welds, American Welding Society
Wind Effects on Buildings and Structures: Engineering and Architectural Considerations, University of Missouri
Module I Value Engineering Workshop, Society of American Value Engineers (SAVE)

PROFESSIONAL MEMBERSHIPS

American Concrete Institute (ACI)
American Society of Civil Engineers (ASCE), Fellow
Heavy Movable Structures/Movable Bridges Affiliation

PROFESSIONAL EXPERIENCE

WALK Bridge Replacement, Norwalk, Connecticut: Member of Constructability Task Force for GC/CM replacement of a 4-track railroad bridge over the Norwalk River. The bridge is 564 foot long and was constructed in 1896 with two fixed approach span on the west, a swing span and one fixed approach span on the west. Daily traffic includes 128 Metro North and 40 AMTRAK trains. The challenge is to replace the bridge with a new movable bridge while maintaining train traffic. The replacement will include two - 2 track vertical lift spans. Client: Connecticut DOT, Dates: 06/2017-06/2019

NCHRP 20-07/348, Review of the AASHTO LRFD Movable Highway Bridge Design Specifications: Principal investigator for the review of the Movable Bridge Design Specifications for future updates to develop a stand-alone synthesis of the various types of mechanical systems and electrical controls and drives currently being used in movable bridges, efforts included identification of the areas of the Movable Bridge Design Specifications that require modification, addition, or deletion to incorporate the



MICHAEL J. ABRAHAMS, PE

Project Manager/Principal Professional Associate Technical Director - Structures

LRFD method to reflect advances in structural materials and designs, mechanical systems, electrical drives and controls, and traffic/marine safety systems. Client: NCHRP
Dates: 01/2014-05/2015

NCHRP 14-32, Revisions to the AASHTO Movable Bridge Inspection, Evaluation and Maintenance Manual: Principal Investigator for revisions to the *Movable Bridge Inspection, Evaluation and Maintenance Manual* recognizing the latest developments in movable bridge design, inspection, evaluation, and maintenance practices consistent with adopted AASHTO specifications and manuals, and *FHWA National Bridge Inspection Standards (NBIS)* and *Bridge Inspector's Reference Manual*. The revisions were extensive and included a new section on Element Rating of movable bridges. The revised manual was approved by AASHTO in 2016 and published in the Spring 2017. Client: NCHRP, Dates: 07/2013-01/2016

John James Audubon Bridge, Point Coupee and West Feliciana Parishes, Louisiana: lead cable-stayed bridge specialist for preparation of technical specifications pre bid, technical evaluation of design-build proposals, review of final design submittals and technical oversight of construction for the LADOTD. The bridge has an overall length of 12,883 feet (3,927 m) and a 1,583 foot (482 m) long cable-stayed main span, one of the longest cable-stayed spans in North America. Client: LADOT Dates: 06/2006-09/2011

Ben Sawyer Bridge over Intra-Coastal Waterway, Sullivans Island, South Carolina: technical director for the replacement study for South Carolina DOT of 1,200-foot (365-meter) structure with a 240-foot (73-meter) swing-span. Study included detailed inspection, wind load analysis, seismic and vessel collision analysis. The recommended scheme involved complete superstructure replacement, including all mechanical/electrical components, new operators' tender house, and new fender system using design build and accelerated construction techniques. Client: SCDOT, Dates: 03/2008-07/2009

West Point Bascule Bridge, Route 33 over Pamunkey River, West Point, Virginia: lead mechanical engineer for design of operating machinery for new four-lane bascule bridge for Virginia DOT. The project involved a 5,354-foot-long (1,632-meter), four-lane crossing of Thorofare Creek, the Pamunkey River and Norfolk Southern Railroad. The movable span provides a 90-foot-wide (27.4-meter) channel with 55 feet (16.8 meters) of clearance in the closed position. Machinery design was very unusual as it used two completely independent drives for each leaf. Each drive can operate the span drive though one pinion and one rack. After award, reviewed shop drawings and RFIs relating to machinery, including investigation of hub assembly stresses due to proposed assembly procedures. Client: VADOT, Dates: 01/2002-12/2004

Amtrak Pelham Bay Bridge, New York: project manager for inspection, rating and balancing of a two-track, 930-foot-long (283-meter) bridge with a rolling lift bascule leaf. The inspection included structural, mechanical, and electrical elements. In addition, design calculations and sketches were prepared for a revised balance to accommodate new ties and track. Subsequently prepared replacement feasibility study and currently preparing environmental impact study, which is on pause due to Covid 19. Client: AMTRAK, Dates: 05/1997-ongoing

Portal Bridge, Hackensack, New Jersey: principal-in-charge of a study for Amtrak to replace an existing two-track swing bridge with a new four-track high-level fixed bridge providing 50 feet (15.2 meters) vertical and 300 feet (91.4 meters) horizontal clearance over the Hackensack River. The overall length of the new crossing will be approximately 1.5 miles long (2.4 kilometers). The work involved preliminary track layout and structural design, including consideration for staged construction, as well as an assessment of environmental impacts and permit requirements. Client: AMTRAK, Dates: 1995-1996

TEC Professional Services Questionnaire

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: | |
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| Name & Title: | |
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| Project Assignment: | |
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| Name of Firm with which associated: | |
| | |
| Years' experience with this Firm: | |
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| Education: Degree(s)/Year/Specialization: | |
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| Active registration: Year first registered/discipline: | |
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| Other experience and qualifications relevant to the proposed Project: | |
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L. MARK PEARSON PE

Senior Engineer/ Bridge Inspection & Preservation Manager



Years with the firm

<1

Years total

40+

Professional qualifications

North Carolina PE 10656, 1982

Mississippi PE 13215, 1997

South Carolina PE 12203, 1988

Virginia PE 18605, 1988

Georgia PE 17418, 1988

Florida PE 40409, 1988

Alabama PE 16786, 1988

Louisiana PE 39629, 2015

Training and certifications:

FHWA Curved Steel I-Girder Workshop, San Antonio

PCI Bridge Design Manual

CAREER SUMMARY

Mark is a civil engineer with more than 30 years of experience in project management including multi-discipline highway and railway projects and bridges, and in structural services encompassing the design, inspection and rating of highway and railway bridges and design of pedestrian bridges, box culverts, cut-and-cover tunnels, retaining walls, railroad shoring, and a variety of infrastructure facilities. His experience includes 20 years of design-build and more than 10 years of 3-P projects and proposals. He has served as program and client-services manager for DOT and railroad clients.

EDUCATION

MCE, Structural Engineering and Mechanics, North Carolina State University. 1979

BS, Civil Engineering, Clemson University 1977

PROFESSIONAL MEMBERSHIPS

American Railway Engineering and Maintenance-of-Way Association
American Society of Civil Engineers

SELECT PROFESSIONAL EXPERIENCE

- SCDOT Districts 2 and 7 Load Rating Services for 2,604 structures in SC. Serving as Bridge Inspection and Preservation Manager and Senior Engineer responsible for quality control reviews and Engineer-of-Record for bridge load ratings at various locations in Districts 2 and 7 in South Carolina. Providing detailed engineering review of bridge load rating analysis, supporting calculations and load rating and posting. Client: South Carolina Department of Transportation, Dates: 2019 - Ongoing
- Hancock County Port & Harbor Commission, Bulkhead Replacement Project, MS. Structural quality control reviewer for the design and rehabilitation for a bulkhead and mooring dolphin replacement. The team provided an innovative approach in the design and rehabilitation for the bulkhead and mooring dolphin replacement. The approach involved early recognition of site conditions to maximize the future capabilities of the facility. This task was part of a Master Services agreement. Client: Docks & Waterways for Infrastructure Improvements. (2015)
- City of Raleigh, NC, B-5556 Replacement of Bridge No. 490 on Lake Dam Road (SR 1427), City of Raleigh Public Works, Stormwater Management Department, Raleigh, Wake County, NC. Project Manager for bridge replacement project featuring a Categorical Exclusion (CE), surveys, urban roadway design, hydraulic (FEMA) modeling, erosion control design, utility design and coordination, permitting, pavement markings, and signing plans, as well as relocation an existing 12-inch water main and coordination of relocations for a 4" gas main and overhead power lines. Also, EOR for design of the 100 foot, two-span cored slab bridge replacement. Client: City of Raleigh Public Works, Dates: Construction 2018-19
- Norfolk Southern Corporation, NCDOT Maintenance Facility Access Improvements, Charlotte, Mecklenburg County, NC. Task design manager and engineer-of-record for upgrading crossovers on main tracks, replacing siding capacity, providing a new construction access and staging areas in preparation for relocating NCDOT Maintenance Facility access. Project included coordination of drainage and erosion



L. MARK PEARSON, P.E.

Senior Engineer/ Bridge Inspection & Preservation Manager

- control facilities, underground fiber optic and conventional communications and power facilities. Client: NCDOT, Dates: Design 2015; Construction 2016
- U.S. Army Corps of Engineers, New Orleans District, Structures manager that led a task force that reviewed monolith designs and prepared supplements to the Design Report (DR) to address additional load cases on the PI Monoliths and prepared revisions to the Plans and Specifications (P&S) for the Fronting Protection at Lake Cataouatche Pumping Stations No. 1 and 2 in 2011
 - Kent County Department of Aeronautics, Runway 18-36 Extension and Realignment, Air Operations Tunnel, Grand Rapids, Michigan. Structures Task Manager for preliminary design, final design and construction management access tunnel at the Kent County International Airport, Grand Rapids, Michigan. Task included preliminary design, the construction plans, specifications and cost estimates, and construction administrative services. The tunnel features forced air ventilation, lighting, fire protection and water collection and pumping systems. Client: Kent County Department of Aeronautics
 - Glaxo Wellcome, Inc. Ladders and Platforms, Research Triangle Park, North Carolina. Performed structural design review and quality control for additional work platforms and hoist and lift systems for Building 11 at the facility. Evaluated OSHA requirements for existing facility ladders and platforms, designed new work platforms, designed hoist and trolley rail system for installation of a pneumatically operated hoist over the incinerator feed hopper, and designed a platform lift to serve the several levels in the incinerator building. Client: Glaxo Wellcome, Inc.
 - Georgia-Pacific Corporation, Industrial Wastewater, Pipeline and Pump Station Design, Palatka, Florida. Project structural engineer for preliminary structure design of 60-mgd pump station, 4-mile-long large-diameter force main, and river outfall with diffuser. Pump station included oxygen injection, 60-mgd pumps with 800 hp VFD motors/drives and back-pressure sustaining valves at the outfall. River outfall extends 4,000 feet into the St. Johns River including a 1,000-foot diffuser. Preliminary and final design of access road bridge consisting of 6-spans of reinforced concrete flat slabs on prestressed concrete pile bents, totaling 150 feet. Client: Georgia-Pacific Corp
 - Commissioners of Public Works, Charleston, SC, Pump Station PS-84 Upgrades and Proposed Red Top Pump Station: Senior structural engineer for design of modifications at PS-84 and a new Red Top pump station near Bees Ferry Rd. and US 17. Manage structural tasks and review of design concepts and preliminary and final designs. Client: Charleston Department of Public Works
 - AFCEE, Three Water Treatment Plants, Najaf, Dukon, and Dewania, Iraq. Senior engineering advisor, reviewer and specification writer and reviewer for structural design of three water treatment plants, which included intake structures, pump stations, mixers, filter buildings, clarifiers, clear wells, administrations and storage buildings and miscellaneous utility structures. Dates: 03/2006-01/2007
 - US Army, Fuel Storage Tank and Loading and Unloading Containment, Fort Stewart, Georgia. Performed design review and structural specifications writing for various fuel containment upgrades for storage tanks and unloading areas. Date: 07/2006-09/2006, sub to UT-Battelle

TEC Professional Services Questionnaire

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| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
| Name & Title: |
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| Project Assignment: |
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| Name of Firm with which associated: |
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| Years' experience with this Firm: |
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| Education: Degree(s)/Year/Specialization: |
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| Active registration: Year first registered/discipline: |
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| Other experience and qualifications relevant to the proposed Project: |
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BRIAN C. HUNDT, P.E.

Senior Civil Engineer



Years with the firm

2

Years total

10

Professional qualifications

Professional Engineer:
Louisiana, 2015
(PE0039459)

Project Management
Professional
(2701475)

Areas of practice

Civil Engineering

CAREER SUMMARY

Brian Hundt has over 10 years of experience as a civil engineer on numerous projects such as roadway design, waterline replacement, drainage design, construction administration, and inspection. Throughout his professional career, Mr. Hundt has worked closely with Louisiana Department of Transportation, Jefferson Parish, New Orleans Sewerage and Water Board, City of New Orleans Department of Public Works, and St. Charles Parish.

Brian has a comprehensive knowledge of Autodesk Civil 3D, Inroads and Excel.

EDUCATION

B.S., Civil Engineering, Louisiana State University, Baton Rouge,
Louisiana

2009

EXPERIENCE

- First St. Wharf Deck Replacement – Phase 2, New Orleans, Louisiana: senior project manager for the construction administration project that repaired the First Wharf concrete deck. The scope of work for the construction included identifying damaged concrete sections below wharf deck on the Mississippi River side and above the wharf deck. Repair work included full depth and partial depth concrete deck repairs. Project duties also included attending meetings, managing inspectors, reviewing submittals, monitoring schedule and budget and approving contractor request for payment. Client: The Board of Commissioners of The Port of New Orleans. Dates: January 2019 – Present.
- Nashville and Napoleon Ave. Wharves Crane Rail Joint Repair, New Orleans, LA: As senior project manager, the project identified the existing wharf crane rail joints, observe the vertical displacement of the joints, performed repairs that included replacement of joint bars, sole plates and frog rail crossing. The scope of services provided includes resident inspection, observe, record, and report work in progress, quality of the work performed, and materials and equipment delivered and utilized to perform work, assisting the Owner and Engineer of Record with the assurance that work performed is being done in accordance with the contract documents of New Orleans. Dates September 2019 – November 2019
- Seabrook Rail Bridge Approach Span Replacement, New Orleans, LA: The project scope of services included design, construction administration, and resident inspection services for the replacement of two approach spans of a railroad steel rail bridge. Per AREMA 2018 code, analysis and design of the superstructure and bearings for approach spans were performed along with creating design calculation reports, final drawings and contract document specifications. Construction administration services included reviewing shop drawings, answering RFI's, attending coordination meeting between the Port of New Orleans, Norfolk Southern and the contractor. Brian's project role is senior project manager during construction administration. Client: The Board of Commissioners of The Port of New Orleans. Dates: March 2019 – Present.
- Bonnabel Boulevard Roadway Improvements (Metairie Rd. to I-10), Jefferson, LA: The project, which is a Federal ID program with joint FHWA and Jefferson Parish founding, will provide a 3" mill and overlay of the roadway surface, full depth concrete patching and curb replacement. As project engineer, Brian coordinated with Jefferson Parish and LADOTD engineering staff, created preliminary drawings per LADOTD standards, established a proposed profile to aide surface drainage and



BRIAN C. HUNDT, P.E.

Senior Civil Engineer

create proposed cross sections. The design work was performed with Inroads SS2. Design guidelines followed included Jefferson Parish, LADOTD and AASHTO. Client: Jefferson Parish. Dates: September 2020 – Present.

- St. Bernard Group A, New Orleans, Louisiana: Roadway reconstruction, roadway repairs, waterline replacement, sidewalk repairs, and handicap ramp replacement for forty-five blocks within the City of New Orleans. Brian attended design meetings with the New Orleans Department of Public Works, Sewerage and Water Board. He conducted field visits to determine the location of utilities (including water and sewer lines) roadway and sidewalk repairs, creating plan sheets, calculating quantities, creating cost estimates and compiling bid documents and specifications. Client: City of New Orleans Department of Public Works. Dates: December 2016 – June 2018.
- Jefferson Parish Submerged Roads Program, Council Districts 1, 2, & 5, Jefferson Parish, Louisiana: As project engineer, Brian designed 12 Jefferson Parish projects for PCCP and asphaltic pavement repairs and overlay of Hurricane Katrina roadway damage under a FEMA funded program. The total program design spanned approximately 100 miles of Jefferson Parish roadway. He designed 375,000 square yards of Portland Cement Concrete Pavement for street replacement and 80,000 tons of asphaltic street replacement and repairs. He also managed Jefferson Parish agreements, managed design staff, and coordinated the bidding process with Jefferson Parish including prebid meetings, addenda, and review of bids. During the construction phase, Brian managed project inspection, testing reports, contractor payment request, and project closeout. All design was in accordance with Jefferson Parish and FEMA requirements. Client: Jefferson Parish Department of Engineering. Dates: February 2011 – November 2016.
- WB Veterans: Severn Ave – Clearview, Jefferson, LA: As project engineer, this project calls for the design of a 3.5" asphalt mill and overlay, full depth asphalt patching, curb replacement and striping replacement of Veterans Blvd. westbound lanes from Clearview Pkwy. to Severn Ave. This project involves coordination between Jefferson Parish Engineering Department and LADOTD. Brian's duties include creating plan sheets per LADOTD standards, identifying roadway repair locations, and calculating project quantities. Client: Jefferson Parish Department of Engineering. Dates: November 2016 – February 2018.
- Island Road Restoration, Terrebonne Parish, Louisiana: Project engineer for the construction administration phase of the project which consisted cold mill of existing asphalt pavement, placing 20,000 cubic yards of new crushed stone base course, and placing 6,600 tons of superpave asphalt surface and overlay on the existing and widened roadway. The design also included 17,000 cubic yards of stone riprap to stabilize and line the side slopes adjacent to waterways on both sides of the roadway. Duties included approving submittals, weekly inspections, recommending plan changes, tracking quantities, reviewing pay requests and creating change orders. Client: Terrebonne Parish. Dates: October 2010 – August 2011.
- Southeast Louisiana Hospital Replacement of Potable Water Lines, St. Tammany Parish, Louisiana: Brian provided inspection and construction administration for the replacement of the water distribution system for a campus of 67 buildings (approximately 462,000 square feet). Duties included inspection of construction, writing inspection reports, attending monthly progress meetings, reviewing pay requests and creating change orders. Client: Louisiana Office of Facility Planning and Control. Dates: September 2010 – June 2011

TEC Professional Services Questionnaire

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| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
| Name & Title: |
| |
| Project Assignment: |
| |
| Name of Firm with which associated: |
| |
| Years' experience with this Firm: |
| |
| Education: Degree(s)/Year/Specialization: |
| |
| Active registration: Year first registered/discipline: |
| |
| Other experience and qualifications relevant to the proposed Project: |
| |



IAN J. CHANEY, P.E.

Senior Supervising Geotechnical/Tunnel Engineer Geotechnical & Tunneling Market Operations Manager Vice President

Years of Experience

19 (18 with WSP)

Education

**M.S. Geotechnical
Engineering, Virginia Tech,
2002**

**B.S. Mining Engineering,
Virginia Tech, 2001**

Professional Registrations

**Professional Engineer:
Virginia 2009
(0402045761), Tennessee
2019 (122361), Louisiana
2018 (0042288), Florida
2019 (86953), North
Carolina 2018 (048639),
Kentucky 2019 (34941),**

Professional Affiliations

**American Society of Civil
Engineers**

**Underground Construction
Association of SME**

Chi Epsilon

Deep Foundations Institute

CAREER SUMMARY

Ian Chaney is an Engineering Manager and Project Manager with WSP, experienced in multi-disciplinary project management and leading geotechnical and underground project efforts. His technical experience includes providing detailed and concept designs for tunnels, bridges and facilities that consider site-specific geotechnical and environmental conditions, as well as the spectrum of multi-disciplinary concerns inherent with large-scale civil works projects.

PROFESSIONAL EXPERIENCE

Mid-Barataria Sediment Diversion Project – New Orleans, Louisiana: As part of this CMAR project to design an intake structure and 2-mile long conveyance channel from the Mississippi River, Ian is the lead designer and WSP project manager providing designs for floating U-structures and immersed tube tunnels, able to be placed 400 feet out into the Mississippi River. The u-structure and immersed tube tunnels were designed to be constructed in the project's conveyance channel and then floated through the breached Mississippi River Levee and immersed onto a pre-driven pile foundation. During preliminary design, Ian was also responsible for the conceptual development of a bored tunnel through the MRL and into the delta, which required extensive ground improvement through the soft alluvial clays. At completion, the project will accommodate a diverted flow of more than 75,000 cfs of sediment-laden water that will ultimately be deposited and dispersed into the Barataria Bay, enabling marsh creating for future decades. Client: Louisiana CPRA/AECOM, Dates: 03/2017 – Current.

Midtown Tunnel / Martin Luther King Expressway Project, Norfolk and Portsmouth, Virginia: On this long-term, \$2.1B Mega-Project, Ian's duties started as the geotechnical design manager and finished with being the on-site design manager during construction. As the on-site Design Manager During Construction, Ian was responsible for daily management of design services during construction, claim mitigation and negotiation, and financial decisions regarding design work. He was also responsible for coordination and management of all design changes, additional work and the acceptance/certification of the project as it was completed, which includes the new tunnel, the highway extension and the rehabilitation of the three existing tunnels. In this role, Ian was responsible for the management and close-out of all work, including the mechanical-electrical systems of the buildings and tunnels.

Previously, as geotechnical and underground design manager for this immersed tunnel project that parallels an existing immersed tunnel, Ian was responsible for the management of all geotechnical aspects of the design and the coordination of the underground works between the civil, geotechnical and structural disciplines.

For this project, WSP is the lead designer for the PPP partnership created to design, build, operate and maintain the tunnel for a period of 58 years. The project consists of an approximate 1-mile long immersed tunnel, cast-in place cut-and-cover tunnel and open approaches, a 1.5-mile long elevated expressway and related interchanges through the City of Portsmouth connecting to an interstate highway, as well as the relocation of a 36-inch water main, 4 pump stations, 3 pedestrian bridges and numerous interchange improvements. The project also included the rehabilitation of 3 existing tunnels. Client: Virginia DOT/Skanska-Kiewit-Weeks JV, Dates: 09/2011 – 06/2017

Western Harbor Tunnel Project – Sydney, Australia: On this mega-project consisting two immersed tube tunnels, Ian was responsible for the reference design and



IAN J. CHANEY, P.E.

Senior Supervising Geotechnical/Tunnel Engineer Geotechnical & Tunneling Market Operations Manager Vice President

geotechnical analysis of both immersed tunnel crossings and their interface with the adjacent mined tunnels. At the Western Harbor crossing, reference design options consisted of a steel sandwich structure or reinforced concrete structure carrying 6 lanes of traffic over soft harbor sediments, while at the Beaches Link Crossing, two immersed tunnels carry 3 lanes of traffic each, and are supported by piles at the element ends. Client: New South Wales Roads & Maritime, Dates: 06/2017 – 02/2018

Hampton Roads Bridge-Tunnel Expansion General Engineering Consultant, Norfolk, Virginia: Engineering Manager for tunnels, bridges, islands and geotechnical engineering. As owner's engineer during design and construction for this \$4B mega-project, Ian is responsible for the oversight and management of the design-builder for the work products noted above. The project encompasses several miles of new trestle, two new bored tunnels through soft soils with diameters of 45', highway widening and man-made island expansions – all underlain by extremely poor subsurface conditions. Client: Virginia DOT, Dates: 09/2019 – Current

NC540 – R2828 – Triangle Expressway, Raleigh, North Carolina: Lead Geotechnical Engineer for the \$400M design-build project, that consists of 20 bridges, 8 miles of highway on new alignment, and a major turbine interchange with I-40. Ian was responsible for the design of all geotechnical aspects of the project, including the bridge foundations, slopes and embankments – many of which were up to 50 feet high. Ian was also responsible for designing a drainage system, in conjunction with the contractor, that would draw down the water table in large cut areas where the original groundwater table is above the final roadway elevation. Client: North Carolina DOT/Lane-Blythe JV, Dates: 04/2019 – Current

I-440 – Nashville Connector, Nashville, Tennessee: Lead Geotechnical Engineer responsible for the geotechnical design of 3 bridge widenings, including two lower-level overpass bridges and one high-level bridge founded on 7-foot diameter shafts. As part of the project, Ian was also responsible for the drilled shaft inspection and remediation, which required two additional "sister-shafts", adjacent to the 7-foot diameter mon shafts, installed independent to the existing shaft that had to be abandoned due to poor quality concrete. Client: Tennessee DOT/Kiewit, Dates: 03/2019 – 07/2020

VDOT On-Call Instrumentation and Monitoring Contract, Virginia: Project Manager for this \$3M, 2-year contract for the instrumentation and monitoring of existing highway, bridge and tunnel facilities throughout the Commonwealth of Virginia. Contracts have consisted of in-depth structural health monitoring of long-span bridges, slope monitoring along an interstate highway, and the design of a potential monitoring system along a proposed tunnel. Client: Virginia DOT, Dates: 06/2018 – Current

First Street Tunnel Project, Washington, DC: WSP, in a design-build venture with Skanska-Jay Dee (SKJD), WSP provided tunnel engineering design services to the District of Columbia Water and Sewer Authority (DC Water) towards a 2,700-ft (820m) long stormwater storage facility to alleviate flooding. Ian was responsible for the design of all Near Surface Structures and their Support of Excavations, the development of Instrumentation and Monitoring plans, as well as preparing Construction Impact Assessment Reports and Geotechnical Reports, which evaluated the existing structures and facilities due to the effects of tunneling, construction and excavation. Client: DC Water/Skanska-JayDee JV, Dates: 04/2014 – 09/2015

TEC Professional Services Questionnaire

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 1

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
|---|----------------------------------|--------------------------------------|
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

PROJECT NO. 2

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
|---|----------------------------------|--------------------------------------|
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

TEC Professional Services Questionnaire

| PROJECT NO. 3 | | |
|--|--|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility | |
| | | |
| Completion Date (Actual or estimated) | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

| PROJECT NO. 4 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

TEC Professional Services Questionnaire

| PROJECT NO. 5 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

| PROJECT NO. 6 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

TEC Professional Services Questionnaire

| PROJECT NO. 7 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
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| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

| PROJECT NO. 8 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

TEC Professional Services Questionnaire

| PROJECT NO. 9 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

| PROJECT NO. 10 | | |
|--|---|---|
| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: | |
| | | |
| Completion Date (Actual or estimated): | Estimated Cost: | |
| | Entire Project: | Work for which Firm was Responsible: |
| | | |

TEC Professional Services Questionnaire

M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.

| Parties: | | Status/Result of Case: |
|-------------------|-------------------|-------------------------------|
| Plaintiff: | Defendant: | |
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |

N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.



O. To the best of my knowledge, the foregoing is an accurate statement of facts.

Signature: _____ **Print Name:** _____

Title: _____ **Date:** _____

Introduction

WSP USA offers over a century of experience in the planning, design and construction management of mechanical and electrical projects of all types not only locally but also nationally and internationally. WSP is an industry leader in developing engineering solutions for the way we will live in the 21st century.

WSP USA Inc., formerly Parsons Brinckerhoff, Inc., is a leading engineering professional services consulting firm. Nationally, our staff of 7,500+ provide engineering and multidisciplinary services in a vast array of industry sectors, with a focus on technical excellence and client service. The firm has a 132-year history, with roots in companies founded in the United States, the United Kingdom and Canada. WSP is committed to performing our services in a socially, ethically and environmentally responsible manner. In the United States, the firm's roots date back to 1885.

We offer expertise in every phase of project delivery, from concept to completion. Our services include strategic consulting, program management, planning, engineering design, construction management, and operations & maintenance.

Municipalities rely on us to execute projects under every form of project delivery, including design bid build, design-build and public-private partnership. We employ the latest technologies and methodologies to develop infrastructure that addresses anticipated demographic, social, and economic changes, and we plan and design infrastructure systems to be resilient to the threats posed by climate change.

Our engineers and planners view municipal infrastructure planning and design as a way to improve the communities in which we live and work, and wherever possible we apply the latest concepts in sustainable development to improve social, economic and environmental conditions.

We help our clients find the right solutions to their challenges through innovative planning and design, deep knowledge of the federal and local regulatory environments, and strong management of project delivery.

In addition to a full range of specialized services, we

provide broad oversight and direction for complex mega projects, working on integrated teams with our clients to deliver some of the world's largest and most well-known infrastructure and building projects.

To every project we bring a total commitment to achieving client goals, with strict attention to schedule and budget, drawing on the multidisciplinary skills of 7,500+ professionals in more than 100 offices across the U.S. and Latin America.

Minimum Qualifications

1. One principal who is a licensed, registered professional engineer in the State of Louisiana.

Michael Abrahams, PE is WSP's Technical Director for structures. He maintains his Louisiana PE (34520) and will serve as the Principal for work WSP is awarded by Jefferson Parish. He has nearly 50 years of experience and is one of the most respected engineers in the US.

2. Professional in charge of the project who is a licensed, registered professional mechanical or electrical engineer in the State of Louisiana with a minimum of five (5) years' experience.

David Loduca, PhD., PE, LEED AP, Env SP will serve in the role of Project Manager. David has over 40 years of experience in electrical engineering and is registered in 25 states including Louisiana. His experience spans the spectrum of projects from pump stations, to roadway lighting, government buildings, transportation maintenance facilities telecommunications and more. His resume is included in this submission.

3. One employee who is a licensed, registered professional mechanical or electrical engineer in the State of Louisiana in the applicable discipline involved.

Antonio Gonzales is an electrical engineer and licensed PE in Louisiana. Antonio possesses over 20 years of experience in various fields of electrical engineering including commercial, infrastructure, transit and industrial power engineering design, project management and construction support. His project experience includes power system studies

(load flow, short circuit, protective coordination and arc flash hazard analysis) medium and low voltage power distribution, controls, lightning risk assessment and protection and grounding, lighting, fire alarm and small power, motor control, generator and UPS Systems and raceway design (conduit, tray, bus duct, cable bus, ductbanks) as well as utility interfacing (service applications and coordination with utilities. Antonio's career has included various projects in Louisiana. Antonio's vast experience is demonstrated in his resume which is included in this submission.

Evaluation Criteria

1. Professional training and experience in relation to the type of work required for the mechanical or electrical engineering services.

WSP has extensive experience in the planning, design and construction oversight of all types of projects which have included mechanical and electrical services. This includes expertise beyond mechanical and electrical and also includes civil, structural and other engineering specialties. In this submission, we show projects completed by WSP where both routine and complex engineering solutions were provided to our clients.

WSP USA provides innovative solutions and technologies for planning, engineering and management necessary to implement, improve, update or modernize the mechanical and electrical components of all sorts of infrastructure applications.

2. Size of firm considering the number of professional and support personnel required to perform the type of mechanical and electrical tasks, including project evaluation, project design, drafting of technical plans, development of technical specifications and construction administration.

Nationally, our staff of 7,500+ provide engineering and multidisciplinary services in a vast array of business lines, with a focus on technical excellence and client service. In New Orleans, we have a staff of 21. We will assemble our teams as we see the scope of the work for any engineering tasks.

3. Capacity for timely completion of newly assigned work, considering the factors of type of mechanical or electrical engineering task, current unfinished workload, and person or firm's available professional and support personnel.

WSP has the capacity to complete all tasks that might be assigned under this contract. The individuals identified and whose resumes have been provided, have the availability to start work immediately.

WSP prides itself in our ability to quickly respond to our clients' requests for provision of high quality services on time and within our clients' budgets.

When there is an aggressive schedule, WSP's reputation for providing resources quickly to meet demands is unparalleled. With more than 600 professionals located in the firm's Southeast Region, we often staff projects and contracts large and small, simple and complex, at a moment's notice.

4. Past Performance by person or firm on Parish contracts.

As firm, WSP has not completed any work for Jefferson Parish, but individuals who have recently joined the firm do have experience with the Parish. We have assigned our Vice President and Senior Director, Max Nassar, to the role of Client Service Manager. He will assure that the Parish is receiving the highest quality of service and deliverables. Max is a life-long resident of Louisiana and will devote his considerable efforts to understanding the challenges faced by the Parish and will make sure that the very best individuals are assigned to exceed your expectations of our firm.

5. Location of the principal office where work will be performed.

WSP's office is located at 1100 Poydras Street in New Orleans. The majority of the work will be performed from this office. There could be instances when a subject matter expert is needed, and their work could be performed remotely, but all work will undergo the strict quality control and assurance reviews in our New Orleans office. This ensures that all state and local regulations and requirements are met.

6. Adversarial legal proceedings between the Parish and the person or firm performing professional services.

WSP USA Inc. has had NO legal proceedings with Jefferson Parish.

7. Prior successful completion of projects of the type and nature of the mechanical or

***electrical engineering services, as defined, for
which firm has provided verifiable
references.***

WSP has a portfolio of experience that spans from concept through planning, design, and construction management of all types of mechanical and electrical systems and requirements. Jefferson Parish will benefit from the lessons learned and innovative solutions we bring from similar projects. The projects included in the questionnaire all have verifiable references.