Hartman Engineering, Inc.

Consulting Engineers

February 6, 2024

Department of Transportation and Development
1201 Capitol Access Road, Room 405-E
Baton Rouge, LA 70802-4438

Subject: **Contract No. 4400028434**
State Project No. H.015568.5
Federal Aid Project No. H015568
LA: 44 Pelican Point Roundabout and Widen
Route: LA 44, Ascension Parish

To whom it may concern:

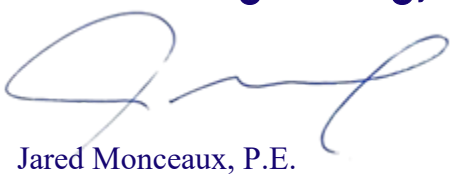
Hartman Engineering, Inc. (HEI), a distinguished small business located in the Prairieville and New Orleans area, is pleased to submit our proposal for the LA 44 Pelican Point Roundabout and Widen project in Ascension Parish. We have reviewed the scope of services and have concisely addressed them in the attached proposal for your review and consideration.

HEI is able to furnish the breadth and capacity required to provide all aspects of engineering design, construction management, and other related services that may be required during this project. This company's comprehensive experience in LADOTD projects and procedures has aided us in envisioning the services, which may be anticipated for this effort.

With local offices strategically located in Prairieville and Kenner, LA, our proximity ensures a swift and efficient response to project requirements. Over the years, we have successfully completed a diverse range of LADOTD projects, showcasing our proficiency, and demonstrating our ability to provide the requisite level of effort, staffing, and resources.

Please see the attached PDF for our response to the advertisement. We welcome the opportunity to present this proposal and look forward to the possibility of working with you on this project.

Sincerely,
Hartman Engineering, Inc.



Jared Monceaux, P.E.
President

Jm/am
Enclosures

527 WEST ESPLANADE AVENUE, SUITE 300 ▪ KENNER, LA 70065 ▪ (504) 466-5667 ▪ FAX (504) 466-6166 ▪ mail@harteng.com
16563 AIRLINE HIGHWAY, SUITE A & B ▪ PRAIRIEVILLE, LA 70769 ▪ (225) 313-4617 ▪ FAX (225) 313-6127 ▪ brmail@harteng.com

LA 44: PELICAN POINT ROUNDABOUT AND WIDEN
ROUTE: LA 44, ASCENSION PARISH

FEBRUARY 6TH, 2024

Submitted by: Hartman Engineering, Inc.:

HEI Hartman Engineering, Inc.
Consulting Engineers

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

CONTRACT NO. 4400028434
STATE PROJECT NO. H.015568.5
FEDERAL AID PROJECT NO. H015568

DOTD FORM: 24-102

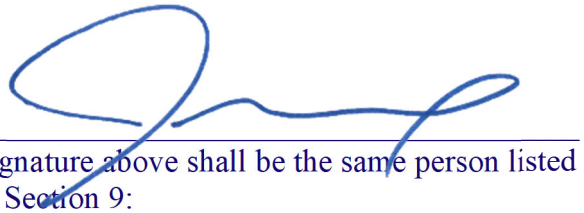
(Revised January 1, 2023)

PROPOSAL TO PROVIDE CONSULTANT SERVICES

Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.

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

1. Contract title as shown in the advertisement	**LA: 44 PELICAN POINT ROUNDABOUT AND WIDEN**
2. Contract Number(s) as shown in the advertisement	**4400028434**
3. State Project Number(s), if shown in the advertisement	**H.015568.5**
4. Prime consultant name **(name must match as registered with the Louisiana Secretary of State where such registration is required by law)**	**HARTMAN ENGINEERING, INC.**
5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)	**EF.0001344**
6. Prime consultant mailing address	**527 W. Esplanade Ave., Suite 300 Kenner, LA 70065**
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	**16563 Airline Hwy., Suite A & B Prairieville, LA 70769**
8. Name, title, phone number, and email address of prime consultant's contract point of contact	**Jared B. Monceaux, P.E., President 225-313-4614 jmonceaux@harteng.com**
9. Name, title, phone number, and email address of the official with signing authority for this proposal	**Jared B. Monceaux, P.E., President 225-313-4614 jmonceaux@harteng.com**

10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.	 Signature above shall be the same person listed in Section 9: 02/06/2024 Date:
11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.	Firm(s): Firm(s)' %: **APS is a DBE and will provide approximately 6% of the overall project effort.**

12. Past Performance Evaluation Discipline Table:

Sub-consultants are allowed to be used for this proposal. Fill in the table by identifying only those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102*, the name of each firm that is part of the proposal, and the percentage of work in each past performance evaluation discipline to be performed by that firm. The percentage estimated for each evaluation discipline is for evaluation purposes only and will not control the actual performance or payment of the work. The percentages for the prime and sub-consultants must total 100% for each past performance evaluation discipline, as well as the overall total percent of the contract. (Add rows and columns as needed)

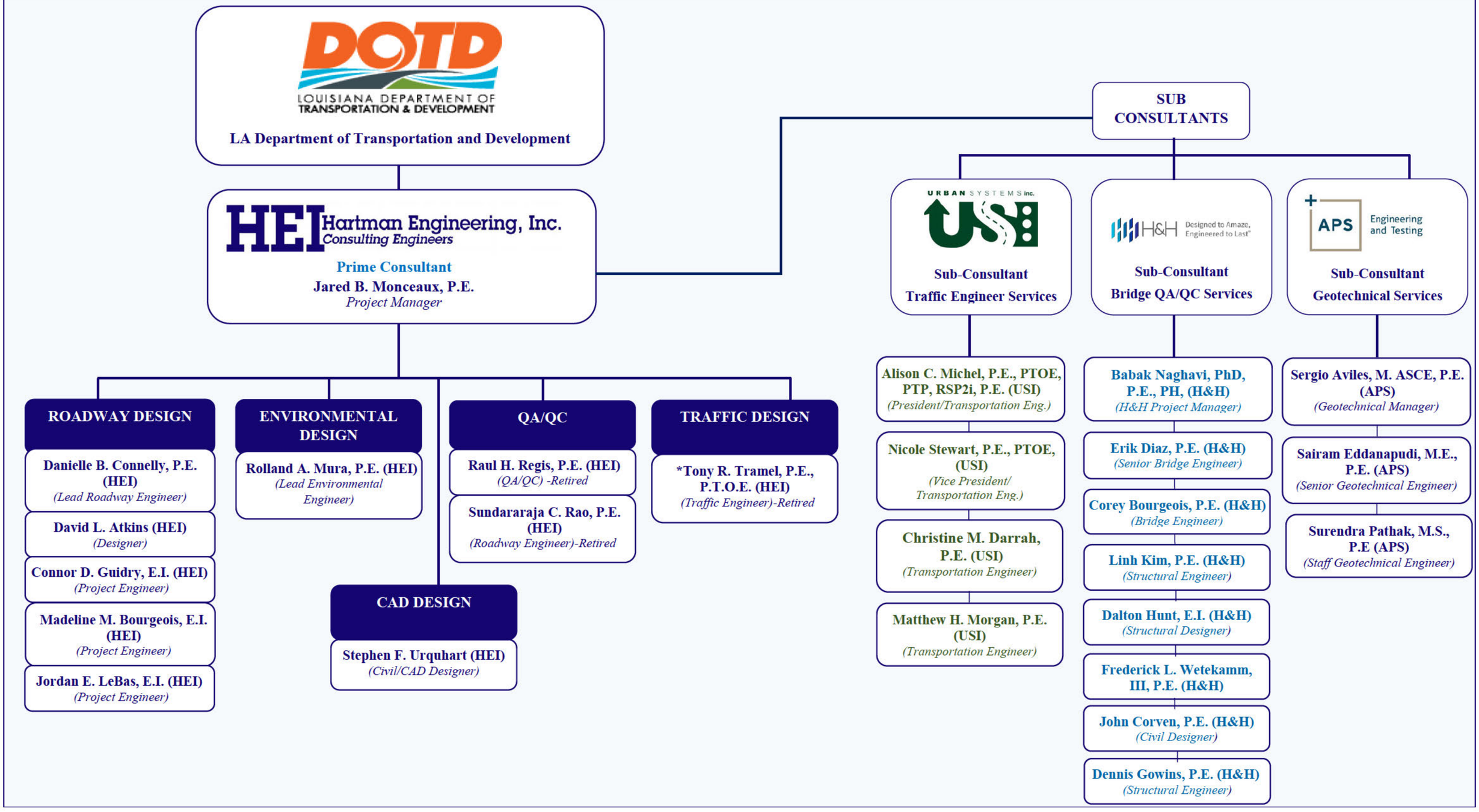
PAST PERFORMANCE EVALUATION DISCIPLINE(S)	% OF OVERALL CONTRACT	HEI (PRIME)	APS (SUB CONSULTANT) *DBE	H & H (SUB CONSULTANT)	USI (SUB CONSULTANT)	EACH DISCIPLINE MUST TOTAL TO 100%
Road	52%	100%				100%
Geotech	6%		100%			100%
Bridge	40%			100%		100%
Traffic	2%				100%	100%
Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.						
PERCENT OF CONTRACT	100%	52%	6%	40%	2%	-------

*The only past performance evaluation disciplines are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and/or Other (please specify).

13. Firm Size:

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
HEI Hartman Engineering, Inc. Consulting Engineers	Supervisor – Engineer	1	1
	Engineer	4	4
	Environmental Professional	1	1
	Clerical	1	2
	Inspector	0	3
	Engineer Intern	3	3
	Designer	1	1
	CAD Operator	1	1
APS Engineering and Testing * DBE	Engineer	3	3
	Driller	5	5
	Engineer Intern	1	1
	Technician	12	12
H&H Designed to Amaze, Engineered to Last®	Principal	1	2
	Supervisor – Eng	2	4
	Engineer	4	8
	Engineer Intern	1	4
	Administrative	1	2
URBAN SYSTEMS inc. USI	Supervisor-Eng	1	2
	Engineer	1	2
	Engineer Intern	1	3
	Senior Technician	1	1
	CAD Technician	1	1
	Inspector	0	1
	Engineering Aide	1	3

14. Organizational Chart:



15. Minimum Personnel Requirements:

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

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/ certification & number (Ex: PE# - Civil)	State of license	License / certification expiration date
1	**Jared B. Monceaux, P.E.**	HEI Hartman Engineering, Inc. Consulting Engineers	**PE #** 32202 - Civil **Traffic Control Supervisor & Technician: NEPA**: NHI-142005	LA	**PE #** 03/31/2024
2	**Jared B. Monceaux, P.E.**		**PE #** 32202 - Civil **Traffic Control Supervisor & Technician: NEPA**: NHI-142005	LA	**PE #** 03/31/2024
3	**Jared B. Monceaux, P.E** **Danielle B. Connelly, P.E.** **Sundararaja C. Rao, P.E.**		**PE #** 32202 - Civil **Traffic Control Supervisor & Technician: NEPA**: NHI-142005 **PE #** 36284 - Civil **PE #** 17005 - Civil	LA LA LA	**PE #** 03/31/2024 **PE #** 09/30/2025 **PE #** 09/30/2025
4	**Erik Diaz, P.E.** **John Corven, P.E.**	H&H Designed to Amaze, Engineered to Last®	**PE #** 37712 - Civil **PE #** 38309 - Civil	LA LA	Exp. 09/30/2025 Exp. 03/31/2024
5	**Corey Bourgeois, P.E.** **Dennis Gowins, P.E.**		**PE #** 42362 - Civil **PE #** 24468 - Civil	LA	Exp. 09/30/2024 Exp. 09/30/2025
6	**Alison C. Michel, P.E., PTOE, PTP, RSP2i**	URBAN SYSTEMS Inc. USI	**PE #** 30261 - Civil **PTOE** #1023 **PTP #**626 **RSP2i #** 148	LA	Exp. 2025

16. Staff Experience: Hartman Engineering, Inc.

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Jared B. Monceaux, P.E.**	Years of relevant experience with this employer	**17 (2007)**	
Title	**Principal, Project Manager**	Years of relevant experience with other employer(s)	**11 (1996)**	
Degree(s) / Years / Specialization	**B.S., 2001, Civil Engineering, University of Louisiana at Lafayette**			
Active registration number / state / expiration date	**PE.0032202 / Louisiana / 03/31/2024**	**PE.18867 / Mississippi / 12/31/2023**	**PE.88044 / Florida/ 02/28/2025**	
Year registered	**2006**	Discipline	**Civil**	
Contract role(s) / brief description of responsibilities	**Project Manager**			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(02/2015 – 2024 etc.)	**SPN H.009320/F.A.P. H009320: Acadian Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Mr. Monceaux is the Project Manager and QC/QA Engineer for the design of a traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodaux, LA. The improvements include roadway widening, valve engineering, utility relocations, drainage design, geometric design, extensive phasing, and temporary traffic control. Design will conform to EDSM V1.11.6., and current 2017 roadway design guidelines. HEI Project No 12-092-09
(12/2014 – 05/2018)	**SPN H.011490, FAP No. H.011490: LADOTD – LA 30: Left Turn Lane at S. Purpera Ave, Ascension Parish, LA:** Mr. Monceaux was the project manager for the preparation of plans and specifications for the subject project. The project improvements include preliminary and final designs for the widening of an urban arterial (UA-3) 2-lane corridor to accommodate proposed left turns at the intersection of LA 30 and S. Purpera Ave. The improvements feature an intersection design, signal design, and ancillary roadway and drainage designs. Mr. Monceaux provides sub-consultant and client coordination, project management, QC/QA coordination, value-engineering recommendations, utility conflict review and coordination, geometric roadway and intersection design, drainage design, specifications review and preparation, construction cost estimate and quantity take-offs preparation. Additional technical responsibilities include roadway modeling via InRoads and MicroStation and providing LaDOTD Submittals and Coordination via the Bentley ProjectWise interface. HEI Project No 12-031-07
(09/2022 – On Going)	**SPN H.0141112, LADOTD - Task Order – LA 16, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include removing the existing storm drain system and replace with a larger system. Also, to reduce head losses and sedimentation by removing the 90° angle in the system and implement uniformity in pipe size where applicable. These improvements will help prevent the flooding of LA 16 by adding a properly sized system with reduced head losses and in addition helping to eliminate flooding possibilities for the businesses fronting LA 16. HEI Project No 12-092-14b

(02/2022 – 2023)	**SPN H.012914.5, LADOTD - Task Order – LA 3073: Ambassador @ Bonin Improvements, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include extending existing turn lanes to LA 89 and LA 3073. Extend the eastbound and westbound left turn lanes on LA 3073 and remove island between the left turn lane and the through lanes. Also, extend the eastbound and westbound right turn lanes on LA 3073. The widening of roadway and the median modifications in appropriate locations are to meet design standards. HEI Project No 12-092-14D
(10/2019 – 02/2021)	**SPN H.972104 US 190 Sidewalk Improvements (US 11 (Front St.) to 14th St.), Slidell, LA.:** Mr. Monceaux is the Project Manager and QC/QA Engineer for the preparation of Plans (letter size) and Specifications for the removal of Existing Sidewalks and Pedestrian Signals and replace with updated ADA compliant sidewalks, Handicap Ramps and Pedestrian Signals Construction Value of approximately $500,000. HEI Project No 12-090-11
(09/2021 – 07/2022)	**SPN H. SPN H.014100.5, LADOTD - Task Order – LA 408: I-110 End of Concrete Section (Hooper Rd.), IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** The project includes concrete panel replacement and composite pavement repair along the travel lanes of LA 408 from 565- ft west of the CL of the I-110 overpass up to the end of concrete section (and including the intersection of LA 410 and LA 408). The Project also includes curb repair as needed. HEI Project No 12-092-14a
(03/2015 – 2024 etc.)	**SPN H.004957, F.A.P. No. H004957: LADOTD –I-12 to Bush Corridor LA 3241 (LA 434 – LA 36), St. Tammany Parish, LA:** Mr. Monceaux is the Project Manager and QC/QA responsible for the preparation of plans and specifications for the subject project. The project improvements include preliminary design of a rural arterial (RA-3) 4-lane corridor with a raised median. The corridor is primarily a control-of-access route featuring bridge and intersection design. Mr. Monceaux provides consultant coordination and project management and QA/QC coordination HEI Project No 12-092-10
(05/2011 – 06/2017)	**SPN 742-26-0033 / H.007175, F.A.P. No. 6130 (010): LADOTD – Lapalco Blvd. (Victory Dr. to Westwood Dr.) Jefferson Parish, LA:** Project Manager and QC/QA Engineer for the widening of this major arterial boulevard section Urban Systems Project from 4 lanes to 6 lanes. Mr. Monceaux was responsible for all geometric and hydraulic review. The project is approximately 0.8 miles and includes installation of new curb and gutter sections, subsurface drainage, pavement widening, utility relocation and temporary traffic control. HEI Project No 11-014-53 (Phase 85)
(01/2016 – 01/2017)	**SPN H.011007 Chateau Blvd Resurfacing (W. Esplanade Ave. to Vintage Dr.), Project No. 2014-007-RB, Contract No. 4400005982, Jefferson Parish, LA.:** Mr. Monceaux was the Project Manager and QC/QA Engineer for the preparation of Plans (letter size) and Specifications for the design of a resurfacing project for 0.75 miles of a boulevard section, which included Milling and Asphalt Concrete Overlay, Base Course Replacement, and Curb and Gutter Replacement. Construction Value of $1.2 million. HEI Project No 11-092-12
(04/2012 – 08/2014)	**H.004747 F.A.P. No. STP-3609(518): LADOTD - Lake Forest Blvd. Widening (Eastover to I-510), New Orleans, LA:** Project Manager for the extension (approx. 650') a new westbound section of this urban collector road, approximately 450 feet west of its interchange with I-510. Responsible for the design and coordination efforts between LADOTD, City of New Orleans, and the Regional Planning Commission. A Categorical Exclusion (CE) was required for this project. HEI Project No 12-092-08

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Danielle B. Connelly, P.E.**	Years of relevant experience with this employer	**19 (2005)**	
Title	**Project Engineer**	Years of relevant experience with other employer(s)	**0**	
Degree(s) / Years / Specialization	**B.S., 2006, Civil Engineering, Louisiana State University, Baton Rouge, LA**			
Active registration number / state / expiration date	**PE.0036284 / Louisiana / 09/30/2023**			
Year registered **2011**	Discipline **Civil**			
Contract role(s) / brief description of responsibilities	**Lead Roadway Engineer**			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2015 – 2024 est.)	**SPN H.009320/F.A.P. H009320: Acadian Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Mrs. Connelly is the Lead Design Engineer for the traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodaux, LA. The improvements include roadway widening, valve engineering, utility relocations, drainage design, geometric design, extensive phasing, and temporary traffic control. Design will conform to EDSM V1.11.6., and current 2017 roadway design guidelines. HEI Project No 12-092-09
(12/2014 – 05/2018)	**SPN H.011490, FAP No. H.011490: LADOTD – LA 30: Left Turn Lane at S. Purpera Ave, Ascension Parish, LA:** Mrs. Connelly is the Lead Design Engineer responsible for the preparation of plans and specifications for the subject project. The project improvements include preliminary and final designs for the widening of an urban arterial (UA-3) 2-lane corridor to accommodate proposed left turns at the intersection of LA 30 and S. Purpera Ave. The improvements feature and intersection design, signal design, and ancillary roadway and drainage designs. Mrs. Connelly provides sub-consultant and client coordination, project management, QC/QA coordination, value-engineering recommendations, utility conflict review and coordination, geometric roadway and intersection design, drainage design, specifications review and preparation, construction cost estimate and quantity take-offs preparation. Additional technical responsibilities include roadway modeling via Bentley InRoads and MicroStation and providing LaDOTD Submittals and Coordination via the Bentley ProjectWise interface. HEI Project No 12-031-07
(09/2022 – On Going)	**SPN H.0141112, LADOTD - Task Order – LA 16, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include removing the existing storm drain system and replace with a larger system. Also, to reduce head losses and sedimentation by removing the 90° angle in the system and implement uniformity in pipe size where applicable. These improvements will help prevent the flooding of LA 16 by adding a properly sized system with reduced head losses and in addition helping to eliminate flooding possibilities for the businesses fronting LA 16. HEI Project No 12-092-14b
(02/2022 – 2023)	**SPN H.012914.5, LADOTD - Task Order – LA 3073: Ambassador @ Bonin Improvements, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include extending existing turn lanes to LA 89 and LA 3073. Extend the eastbound and westbound left turn lanes on LA 3073 and remove island between the left turn lane and the through lanes. Also, extend the eastbound and westbound right turn lanes on LA 3073. The widening of roadway and the median modifications in appropriate locations are to meet design standards. HEI Project No 12-092-14z

(09/2021 – 07/2022)	**SPN H. SPN H.014100.5, LADOTD - Task Order – LA 408: I-110 End of Concrete Section (Hooper Rd.), IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** The project includes concrete panel replacement and composite pavement repair along the travel lanes of LA 408 from 565- ft west of the CL of the I-110 overpass up to the end of concrete section (and including the intersection of LA 410 and LA 408). The Project also includes curb repair as needed. HEI Project No 12-092-14a
(2019 – 2/2021)	**SPN H.972104 US 190 Sidewalk Improvements (US 11 (Front St.) to 14th St.), Slidell, LA.:** Ms. Connelly is the Lead Roadway Engineer for the preparation of Plans (letter size) and Specifications for the removal of Existing Sidewalks and Pedestrian Signals and replace with updated ADA compliant sidewalks, Handicap Ramps and Pedestrian Signals Construction Value of approximately $500,000. HEI Project No 12-090-11
(2018 – On Going)	**LADOTD SP 700-26-0234, 826-44-0027; Dickory / Hickory Avenue Extension (LA 48 - Mounes), Route LA 3154, Jefferson Parish, LA:** Design included performing checks on vertical and horizontal alignment, hydraulic design, quantity computations, coordination between U.S. Army Corps of Engineers Pump to the River project and Entergy's Transmission Towers, and corrections to reflect current 2006 specifications and current bid items. (HEI Project No 12-092-06)
(2015 – 2024 est.)	**SPN H.004957, F.A.P. No. H004957: LADOTD –I-12 to Bush Corridor LA 3241 (LA 434 – LA 36), St. Tammany Parish, LA:** Mrs. Connelly is the Lead Design Engineer responsible for the preparation of plans and specifications for the subject project. The project improvements include preliminary design of a rural arterial (RA-3) 4-lane corridor with a raised median. The corridor is primarily a control-of-access route featuring bridge and intersection design. Ms. Connelly provides consultant coordination and project management, QA/QC coordination, geometric roadway and intersection design, drainage design, roadway modeling via InRoads software, specifications review and preparation, construction cost estimate and quantity take-offs preparation. HEI Project No 12-092-10
(2011 – 2016)	**SPN 742-26-0033 / H.007175, F.A.P. No. 6130 (010): LADOTD – Lapalco Blvd. (Victory Dr. to Westwood Dr.) Jefferson Parish, LA:** Project Engineer for the widening of this major arterial boulevard section Urban Systems Project from 4 lanes to 6 lanes. Mrs. Connelly was responsible for all geometric and hydraulic review. The project is approximately 0.8 miles and includes installation of new curb and gutter sections, subsurface drainage, pavement widening, utility relocation and temporary traffic control. HEI Project No 11-014-53
(2011 – 2015)	**H.004747 F.A.P. No. STP-3609(518): LADOTD - Lake Forest Blvd. Widening (Eastover to I-510), New Orleans, LA:** Road Design Engineer for the extension (approx. 650') of a new westbound section of this urban collector road, approximately 450 ft west of its interchange with I-510. Responsible for geometric and hydraulic design. A Categorical Exclusion (CE) was required for this project. HEI Project No 12-092-08
(12/2017 – 06/2018)	**SPN H.012884, FAP H.012884: LADOTD – Woodmere Blvd. Panel Replacement, Jefferson Parish, LA.:** Mrs. Connelly was the Lead Roadway Engineer for the preparation of Plans and Specifications under HEI's previous Retainer Contract for Pavement Preservation for the replacement of concrete panels in an Urban residential neighborhood. Construction value of approximately $3 million HEI Project No 12-092-13-10

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers		
Name	**Sundararaja C. Rao, P.E.** *Retired*	Years of relevant experience with this employer	**17 (2007)**
Title	**Project Engineer**	Years of relevant experience with other employer(s)	**40 (1967)**
Degree(s) / Years / Specialization	**B.S., 1965, Civil Engineering, University of Mysore, India**	**M.T., 1967, Hydraulic Engineering, I.I.T., Bombay, India**	**M.S., 1972, Sanitary & Waste Resources Engineering, Brigham Young University**
Active registration number / state / expiration date	**PE.0017005 / Louisiana / 09/30/2023**		
Year registered **1978**	Discipline	**Civil/Environmental**	
Contract role(s) / brief description of responsibilities	**QA/QC Engineer**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2015 – 2024 est.)	**SPN H.009320/F.A.P. H009320: Acadian Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Mr. Rao is the QC/QA Engineer for the traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodaux, LA. The improvements include roadway widening, valve engineering, utility relocations, drainage design, geometric design, extensive phasing, and temporary traffic control. Design will conform to EDSM V1.11.6., and current 2017 roadway design guidelines. HEI Project No 12-092-09
(2011 – 2015)	**SPN H.004747 F.A.P. No. STP-3609(518): LADOTD - Lake Forest Blvd. Widening (Eastover to I-510), New Orleans, LA:** Road Design Engineer for the extension (approx. 650') a new westbound section of this urban collector road, approximately 450 ft west of its interchange with I-510. Responsible for the geometric and hydraulic design. A Categorical Exclusion (CE) was required for this project. HEI Project No 12-092-08
(2011 – 2016)	**SPN 742-26-0033 / H.007175, F.A.P. No. 6130 (010): LADOTD – Lapalco Blvd. (Victory Dr. to Westwood Dr.) Jefferson Parish, LA:** Roadway Engineer for the widening of this major arterial boulevard section Urban Systems Project from 4 lanes to 6 lanes. The project is approximately 0.8 miles and includes installation of new curb and gutter sections, subsurface drainage, pavement widening, utility relocation and temporary traffic control. HEI Project No 11-014-53
(2016 - 2017)	**SPN H.011007 Chateau Blvd Resurfacing (W. Esplanade Ave. to Vintage Dr.), Project No. 2014-007-RB, Contract No. 4400005982, Jefferson Parish, LA.:** Mr. Rao provided Engineer Support for the preparation of Plans and Specifications for the design of a resurfacing project for 0.75 miles of a boulevard section, which included Milling and Asphalt Concrete Overlay, Base Course Replacement, and Curb and Gutter Replacement. Construction Value of $1.2 million. HEI Project No 12-092-12
(2018 – On Going)	**LADOTD SP 700-26-0234, 826-44-0027; Dickory / Hickory Avenue Extension (LA 48 - Mounes), Route LA 3154, Jefferson Parish, LA.** Design included performing checks on vertical and horizontal alignment, hydraulic design, quantity computations, coordination between U.S. Army Corps of Engineers Pump to the River project and Entergy's Transmission Towers, and corrections to reflect current 2006 specifications and current bid items. (HEI Project No 12-092-06)
(Work Prior to HEI.)	**SPN 022-06-0040 & 022-07-0050: LADOTD, Black River Bridge and Approaches, US 84, Jonesville, LA:** Roadway Design Engineer of this project located in Central Louisiana. The roadway project involved the geometric designs of approximately 2 miles

	of both five-lane urban roadway through the city of Jonesville with subsurface drainage, and four lane divided roadway, bridge approaches, geometric designs, sight distance analysis, traffic signalization, construction sequencing and phasing schemes. (Work Prior to HEI)
(2015 – 2024 est.)	**SPN H.004957, F.A.P. No. H004957: LADOTD –I-12 to Bush Corridor LA 3241 (LA 434 – LA 36), St. Tammany Parish, LA:** The project improvements include preliminary design of a rural arterial (RA-3) 4-lane corridor with a raised median. The corridor is primarily a control-of-access route featuring bridge and intersection design. HEI provides consultant coordination and project management, QA/QC coordination, geometric roadway and intersection design, drainage design, roadway modeling via InRoads software, specifications review and preparation, construction cost estimate and quantity take-offs preparation. HEI No 12-092-10
(2015 – 2017)	**LADOTD – LA 30: Left Turn Lane at S. Purpera Ave, SPN H.011490, F.A.P. No. H.011490, Ascension Parish, LA** : Mr. Rao is the QA/QC engineer responsible for the review of plans and specifications for the subject project. The project improvements include preliminary and final designs for the widening of an urban arterial (UA-3) 2-lane corridor to accommodate proposed left turns at the intersection of LA 30 and S. Purpera Ave. The improvements feature and intersection design, signal design, and ancillary roadway and drainage designs. Mr. Rao provides QA/QC coordination, value-engineering recommendations, utility conflict review and coordination, geometric roadway and intersection design, drainage design, specifications review and preparation, construction cost estimate and quantity take-offs preparation. (HEI No 12-031-07)
(2017 – 2018)	**SPN No. H012884: LADOTD - Woodmere Boulevard Panel Replacement, Jefferson Parish, LA.:** This project was designed under HEI's previous LADOTD's Pavement Preservation Retainer. The project required concrete panel replacements determined during design, along Woodmere Boulevard from Lapalco Boulevard to Eastview Drive (1.15 miles). Curb replacement was also considered due to adjacent panel replacements. Additionally, restoration of loop detectors, new pavement markings, and ADA compliance at curb ramps and cross walks were designed as well. Construction value is approximately $3 million. (HEI No 12-092-13-10)
(04/1999 – 07/2013)	**SPN 700-55-0101: LADOTD - Hollywood Road (Junc. LA 311 to Junc. LA 3040), Terrebonne Parish, LA:** QC/QA Engineer for this urban systems project that consists of providing environmental analysis, evaluation and documentation, preliminary and final plans for the widening of Hollywood Road in the City of Houma. The project begins at the junction of LA 311 and ends at the junction of LA 3040. The proposed undivided urban section will consist of 4-3.6 m (12ft) travel lanes with curb and gutter, and sub-surface drainage. The project is approximately 1.931 km (1.20 miles) in length. Project includes modifications to an existing signal and new signal design. HEI Project No 12-092-02
(Work Prior to HEI.)	**LA DOTD, Federal-Aid-Off-System Bridge Replacement Projects.** Project manager and design of various bridge replacement projects for parish bridges in Ascension, East Feliciana, Allen, Livingston, Orleans, St. Helena, LaSalle, Washington, and Claiborne parishes. Hydraulic Reports, WSPRO water surface calculations, HEC-18 bridge scour analysis, Preliminary and final plan construction plans (Work performed under previous consulting firm)
(Work Prior to HEI.)	**Louisiana DOTD, Urban System Program, Capital-Belle Rose-William Street Improvements, City of Denham Springs, LA.** Project Manager of this project located in Denham Springs, Louisiana. The project involved urban street design with subsurface drainage design, intersection design for left turn lanes at US Highway 190, preparation of preliminary and final construction plans, construction phasing and sequencing drawings. (Work performed under previous consulting firm)

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Tony R. Tramel, P.E, P.T.O.E.** *Retired*	Years of relevant experience with this employer	**10 (2014)**	
Title	**Traffic Engineer**	Years of relevant experience with other employer(s)	**46 (1972)**	

Degree(s) / Years / Specialization	**B.S., 1972, Engineering, Interdisciplinary Engineering, Purdue University, West Lafayette, IN**	**Master of City Planning, 1974, City Planning, Georgia Institute of Technology, Atlanta, GA**	**Master of Engineering, 1974, Traffic Engineering/Transportation Planning**
Active registration number / state / expiration date	**PE.0019268 / Louisiana / 09/30/2024**	**PE.60074 / Texas/ 06/30/2023**	
Year registered: **1981** / Discipline	**Civil**		
Contract role(s) / brief description of responsibilities	**Lead Traffic Engineer**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the time specified in the applicable MPR(s).
	Mr. Tramel is an experienced transportation engineer/transportation planner with a variety of transportation related experience, including the administration of traffic safety and operations, transportation planning, land development review, traffic signal design and signal systems implementation, design and operation of parking facilities, supervision of street maintenance and municipal aviation activities. Traffic safety and operation experience included preparation of several municipal traffic studies to increase roadway capacity and safety, and more than 40 years of municipal traffic engineering and transportation planning experience. Transportation planning included the development of short- and long-range transportation plans for municipalities ranging in population from 90,000 to 260,000 persons. This work encompassed the use and calibration of transportation models to forecast future traffic conditions and the design of alternative transportation systems to accommodate future transportation demand. Mr. Tramel has been directly involved in traffic operational analysis, geometric and traffic signal design of more than 50 intersections. These intersections include locations in Lafayette, Louisiana, Vero Beach, Florida, and within the Dallas / Ft. Worth (DFW) Metroplex area it includes the cities of Grand Prairie, Arlington, Plano, Rockwall, Dallas, and Ft. Worth. Mr. Tramel has advocated the use of modern roundabouts in Lafayette. The first modern roundabout in Louisiana was implemented with assistance of the LaDOTD more than 10 plus years ago at the intersection of two LaDOTD routes using District Maintenance funds and designs promulgated by Mr. Tramel. More than 13 modern roundabouts are either built or are under design in Lafayette Parish. Modern roundabouts are the only traffic control device that enhances / improves efficiency, convenience, and traffic safety. • USA, Professional Traffic Operations Engineer (PTOE), (121) • Fellow Member of Institute of Transportation Engineers, (07060) • Adjunct Instructor, University of Southwest Louisiana, 1999

(03/2014 – 2015)	**Stage 0 Feasibility Study Proposed Left Turn Lane on LA 30 at South Purpera Avenue/South Hodgeson Avenue, Ascension Parish, LA:** Study of feasibility and potential traffic, environmental, and economic impacts of implementing a proposed left turn lane on LA 30 in comparison with existing conditions. Report follows all guidelines from LDOTD's Stage 0 Manual of Standard Practice HEI Project No 12-031-06
(2015 – 2017)	**SPN H.011490, FAP No. H004957: LaDOTD- 30 at Purpera Intersection Improvements, City of Gonzales, LA:** This project includes intersection improvements for traffic safety and efficient traffic movement at LA 30 and Purpera Avenue in the City of Gonzales. The proposed improvements include widening LA 30 to provide room for constructing a left turn lane for eastbound traffic and a new traffic signal. An improved striping plan, drainage improvements, removal of a commercial driveway, new pavement, and mill and overlay are all incidental improvements to the proposed work. Mr. Tramel provided all signal design services. HEI Project No 12-031-07
(2015 – 2024 est.)	**SPN H.009320/F.A.P. H009320: Acadian Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Mr. Tramel provided QC/QA for this design of a traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodeaux, LA. The proposed roundabout shall branch from LA 20 into Canal Boulevard and Jackson St., also connecting Back St. and Thompson Place at the east and west approaches. Design conforms to EDSM V1.11.6., and current 2017 roadway design guidelines. HEI Project No 12-092-09
(2020 – 2022)	**Intersection Control Evaluation (ICE) Traffic Study at Jefferson Highway and Proposed Dickory Avenue, "Dickory Avenue Extension to Jefferson Highway" Public Works Project No. 2020-010-RBP, Jefferson Parish, LA.**- HEI is to identify the various types of Intersection Control at the intersection of Dickory Avenue and Jefferson Highway (LA 48) and identify traffic operation and safety impacts. Reasonable design concepts will be developed to mitigate identified traffic operations and traffic safety related issues. Concepts shall be developed in sufficient detail to determine geometric feasibility of proposed improvements and anticipated right of way (ROW) needs. Jefferson Parish is proposing to connect Dickory Avenue and Jefferson Highway (LA 48) into an intersection at Powerline Drive. The identified purpose and need of the proposed improvement is to relieve traffic congestion and enhance traffic operations and traffic safety. HEI Project No 12-092-06B
(05/2018 – 03/2022)	**Intersection Improvements (Veterans Blvd. – Bonnabel Blvd.) JP Parish Project 2017-028-RBP, Jefferson Parish, LA.:** Mr. Tramel is the signal design engineer for this capacity improvements project at the intersection of Vets/Bonnabel. Additional left turn lanes are included in both directions along Veterans, new U-turns along Bonnabel, new signal to include pedestrians and future bike path HEI Project No 11-014-95
(2011 – 2016)	**SPN 742-26-0033 / H.007175, F.A.P. No. 6130 (010): LADOTD – Lapalco Blvd. (Victory Dr. to Westwood Dr.) Jefferson Parish, LA:** QC/QA Engineer for the widening of this major arterial boulevard section Urban Systems Project from 4 lanes to 6 lanes. The project is approximately 0.8 miles and includes installation of new curb and gutter sections, subsurface drainage, pavement widening, utility relocation and temporary traffic control. HEI Project No 11-014-53
(09/2012 – 10/2022)	**SPN H. 014316 LADOTD – Lapalco Blvd. (Tanglewood to Victory) Phase 2, Jefferson, Parish, LA:** QC/QA Engineer for the widening of this major arterial 2 lane section Urban Systems Project from 2 lanes to a 2-lane boulevard section. The Project is approximately 0.7 miles and includes a 2-lane section from 1 lane to a 2 lane boulevard utility relocation, temporary traffic control and a new signal HEI Project No 11-014-53-86

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Rolland A. Mura, P.E., BCEE**	Years of relevant experience with this employer	**22 (2002)**	
Title	**Environmental Engineer**	Years of relevant experience with other employer(s)	**30 (1972)**	
Degree(s) / Years / Specialization	**B.S., 1970, Civil Engineering, Tulane University**	**M.S., 1971, Environmental Engineering, Tulane University**		
Active registration number / state / expiration date	**PE.0014997 / Louisiana / 03/31/2024**	**PE.8409 / Mississippi / 12/31/2023**	**PE.14594 / Alabama / 12/31/2023**	
Year registered	**1974**	Discipline	**Civil/Environmental**	
Contract role(s) / brief description of responsibilities	**Environmental Engineer**			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2014 – 2015)	**Stage 0 Feasibility Study Proposed Left Turn Lane on LA 30 at South Purpera Avenue/South Hodgeson Avenue, Ascension Parish, LA:** Study of feasibility and potential traffic, environmental, and economic impacts of implementing a proposed left turn lane on LA 30 in comparison with existing conditions. Report follows all guidelines from LDOTD's Stage 0 Manual of Standard Practice. HEI Project No 12-031-06
(05/2015 – 10/2016)	**SPN H.011029.1 Stage 0 Duty Ferry Replacement:** Stage 0 study to evaluate the feasibility of replacing the existing ferry crossing of the Ouachita River between Catahoula and Coldwell Parishes in Duty, LA with a bridge crossing connecting LA 559 and LA 124. HEI Project No 11-092-11
(12/2008 – 12/2009)	**SPN 2007-060-RB: Jefferson Parish - Stage 0 Feasibility Study, Northbound Manhattan Boulevard to Elevated Eastbound West Bank Expressway, Jefferson Parish, LA:** Mr. Mura provided the Environmental review for the study of two alternative flyovers at the intersection of Manhattan Boulevard and Westbank Expressway that would allow direct entry to eastbound Westbank Expressway from Northbound Manhattan Boulevard. HEI Project No 12-087-03
(05/2012 – 06/2014)	**SPN / H.004747 F.A.P. No. STP-3609(518): LADOTD - Lake Forest Blvd. Widening (Eastover to I-510), New Orleans, LA:** Mr. Mura provided the Environmental Study (Categorical Exclusion) for the extension (approx. 650') a new westbound section of this urban collector road, approximately 450 ft west of its interchange with I-510. Responsible for the design and coordination efforts between LADOTD, City of New Orleans, and the Regional Planning Commission. A Categorical Exclusion (CE) was required for this project. HEI Project No 12-092-08
(2004 – 2013)	**SPN 700-55-0101: LADOTD - Hollywood Road (Junc. LA 311 to Junc. LA 3040), Terrebonne Parish, LA:** Mr. Mura provided the Environmental Study (EA) for this urban systems project that consists of providing environmental analysis, evaluation and documentation, preliminary and final plans for the widening of Hollywood Road in the City of Houma. The project begins at the junction of LA 311 and ends at the junction of LA 3040. The proposed undivided urban section will consist of 4-3.6 m (12ft) travel lanes with curb and gutter, and sub-surface drainage. The project is approximately 1.931 km (1.20 miles) in length. Project includes modifications to an existing signal and new signal design. HEI Project No 12-092-02

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers				
Name	**Raul H. Regis, P.E.** *Retired*	Years of relevant experience with this employer	**7 (2017)**		
Title	**QA/QC Engineer**	Years of relevant experience with other employer(s)	**27 (1990)**		
Degree(s) / Years / Specialization		**B.S., 1990, Civil Engineering, Florida State University**			
Active registration number / state / expiration date		**P.E.0034006 / Louisiana / 09/30/2024**	**P.E. 18695 / Mississippi / 12/31/2023**	**P.E.85074 / Florida/ 02/28/2023**	**P.E.15078 / Arkansas/ 12/31/2024**
Year registered	**2006**	Discipline	**Civil**		
Contract role(s) / brief description of responsibilities		**Project Manager**			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2015 – 2024 est.)	**SPN H.009320/F.A.P. H009320: Acadian Road Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Mr. Regis provided QA/QC Engineering for this traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodaux, LA. The improvements include roadway widening, valve engineering, utility relocations, drainage design, geometric design, extensive phasing, and temporary traffic control. Design will conform to EDSM V1.11.6., and current 2017 roadway design guidelines. (HEI Project No 12-092-09)
(02/2018 – 12/2019)	**C. Braud Road Safety Widening, Ascension Parish, LA:** Mr. Regis provided QA/QC for approx. 1 mile of safety widening along C. Braud Rd. and adding turning lanes on LA 928 onto C. Braud Rd. Design includes Roadway, Drainage and Sequence of Construction. (HEI Project No 12-031-13)
(2015 – 2024 est.)	**SPN. H.004113: LADOTD, I-12 to Bush, St. Tammany Parish, LA:** Project Manager for this project providing approximately 5.5 miles of a 4-lane divided highway from the proposed LA 3241 to the LA 40/LA 41 intersections in Bush, LA. As a sub the corresponding scope for this project was the preliminary design of the bridge over Talisheek Creek, approximately 500' in length. Additional tasks included the development of the bridge scour report at Talisheek Creek, and the QA/QC of the roadway plans for the project. Design fees for this project are approximately $135k. (With previous employer)
(2008 – 2013)	**SPN. 450-10-0108: LADOTD - I-10 Widening from Siegen Lane to the I-10/I-12 Split, Post Design Services and Geotechnical Support, Baton Rouge, LA:** Project Manager responsible for the coordination of the geotechnical activities for all bridge substructures, and post design services during construction. Other responsibilities included the re-design of the traffic control plans for the I- 10 mainline and ramps, approximately 4.6 miles. Additionally, this project required the close coordination with the LDOTD Project Engineer and his staff, and the contractor's construction manager. Approximate contract value $350,000. (With previous employer)
(2014 – 2015)	**I-10 Widening from Highland Road to LA-73, Baton Rouge, LA:** Project Manager for this project to widen I-10 from a four-lane divided section to a six-lane divided section. The widening will require the construction of an additional lane of traffic in both eastbound and westbound directions. The proposed additional lane of traffic will require the bridge over Highland Road to be replaced and the existing bridges over Bayou Manchac, and LA-73 to be widened. The approximate length of the project is 6.7 miles and design fees are approximately $1.4 m, with tentative completion date of August 2015. (With previous employer)

(2011 – 2013)	**SPN. H000498: Improvements to US 190 from LA 22 to Lonesome Road, St. Tammany Parish, LA:** Project Manager responsible for the re-design of approximately 1.5 miles of US 190. Activities included close coordination with LADOTD, revisions to drainage plans, redesign of traffic signals, revision to existing superelevation and traffic control plans. Project was on an expedited schedule and in metric units, making this a challenging project. Approximate contract value $150,000. (With previous employer)
(2015 – 2016)	**LADOTD - Calcasieu River Bridge EIS, SPN. H.006783, Lake Charles, LA:** Project Manager responsible for the coordination of the NEPA process and roadway related tasks such as alternatives development, geometric analysis, and the Interchange Justification Report. The primary purpose of this project is to increase capacity along I-10 from the east and west interchanges with I-210 in the Lake Charles region. The study corridor is approximately 9 miles long and includes the high-level Calcasieu River Bridge. It also includes improvements and widening to the interstate approach roadways on either side of the urban bridge, including several complex interchanges. Approximate contract value $6M. (EIS in development). (With previous employer)
(Work Prior to HEI.)	**SPN. H.004791, LADOTD- Belle Chasse Tunnel and Bridge Replacement Stage 1- Environmental Assessment, Plaquemines Parish, LA:** Project Manager responsible for the coordination of the NEPA process in particular the Bridge and Tunnel Historic Preservation alternatives. The Belle Chasse Tunnel and the Judge Perez Bridge are critical transportation links for residents, businesses and industries in the Westbank, Plaquemines Parish. Concerns have been identified with the functionality and reliability of these existing structures that form the LA 23 crossing of the Algiers Canal/Algiers Alternate Route of the Gulf Intracoastal Waterway (GIWW) and their ability to meet the needs of both the vehicular and maritime transportation corridors and the surrounding community. Replacing the existing structures will make both daily commutes and hurricane evacuations easier, faster, and more reliable. It will help encourage economic growth in the area by providing the area's businesses and industries with a more efficient transportation system. A new bridge is also expected to be far less expensive to operate and maintain than the existing Belle Chasse Tunnel and Judge Perez Bridge. Project was on an expedited schedule and in metric units, making this a challenging project. (With previous employer)
(Work Prior to HEI.)	**Intersection Improvements US 190 at Northpark, St. Tammany Parish, LA -** Project Manager responsible for final layout of intersection improvements on two streets within the Northpark Business Park which connect to US Highway 190. Improvements include widening existing streets to add capacity for turn movements and improving traffic signals as needed to accommodate new movements. The design of an additional left turn lane from US 190 to Northpark, and a right turn lane from Northpark to US 190 was also included. Approximate contract value $120,000. (LADOTD, State Project No. 700-30-0270) (Construction Completed)
(Work Prior to HEI.)	**I-110 Bridge Rehabilitation, Biloxi, MS -** Project Manager responsible for the development of complex traffic control plans for a heavily traveled bridge requiring rehabilitation. Task included maintaining traffic on the bridge during rehabilitation work. Approximate contract value $70,000. (MDOT) (Completed)

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers		
Name	**David L. Atkins**	Years of relevant experience with this employer	**9 (2015)**
Title	**Designer**	Years of relevant experience with other employer(s)	**44 (1971)**

Degree(s) / Years / Specialization			**N/A**
Active registration number / state / expiration date			**N/A**
Year registered	**N/A**	Discipline	**N/A**
Contract role(s) / brief description of responsibilities			**Designer**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
	Mr. Atkins has over 45 years of Design and Construction Administration experience for local, state and federal agencies in Mississippi and Louisiana. Mr. Atkins is a well-rounded designer with experience in roads, bridges, hydraulics, sewer treatment and collection, water treatment and distribution, permitting, large-scale erosion-control projects and miscellaneous Airport design. His experience is as follows:
(2017 – 2018)	**SPN H.012884, FAP H.012884: Woodmere Blvd. Panel Replacement, Jefferson Parish, LA:** Mr. Atkins performed quantity take-offs and QC/QA for this concrete panel replacement project with an expected cost of $3,000,000. HEI Project No 12-092-13
(01/2019 – 05/2020)	**UTL-17-002, Task Order No. HEI-19-003, LA HWY 42 – LA HWY 73 Roadway Corridor (Project Area P1-6), Ascension Parish, LA.** HEI performed a preliminary engineering study to determine two potential sewer collection alignments/ conceptual design including construction costs based upon finding of current sewer flows. HEI Project No 12-031-12C
(2017 – 2020)	**C. Braud Road Safety Widening, Ascension Parish, LA:** Approx. 1 mile of safety widening along C. Braud Rd. and adding turning lanes on LA 928 onto C. Braud Rd. Design includes Roadway, Drainage and Sequence of Construction. HEI Project No 12-031-13
(Work Prior to HEI.)	**Road and Bridge Experience:** Mr. Atkins has designed and constructed over 100 Mississippi State Aid Road and Bridge Projects in Adams and Wilkinson Counties. Mr. Atkins was involved in the widening of U.S. 61 and U.S. 84 (50 miles) and the relocation of Hwy 33 and 28 for MDOT. (Work performed under previous consulting firm)
(Work Prior to HEI.)	**Airport Experience:** Mr. Atkins has designed all major aspects of the Natchez-Adams County Airport, including runways, T-hangers, drainage, etc. (Work performed under previous consulting firm)
(Work Prior to HEI.)	**Drainage and Erosion Control Experience:** Mr. Atkins has designed and constructed over 150 NRCS EWP projects. The largest being the Natchez Bluff Stabilization project funded by the USACE and NRCS, ($30 million construction cost). Mr. Atkins managed and designed over 25 projects funded by the USACE 592 program. (Work performed under previous consulting firm)
(Work Prior to HEI.)	**Sewer and Water Experience:** Mr. Atkins has designed and constructed over 90 sewer collection and 75 water distribution projects. He was also responsible for upgrading the capacity of Natchez Water and Wastewater Treatment Plants and managed the O&M for both

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Connor D. Guidry, E.I.**	Years of relevant experience with this employer	**7 (2017)**	
Title	**Project Engineer**	Years of relevant experience with other employer(s)	**1 (2017)**	
Degree(s) / Years / Specialization		**B.S., 2018, Civil Engineering, Louisiana Tech University, Ruston, LA**		
Active registration number / state / expiration date		**EI.0033801 / Louisiana / 03/31/2023**		
Year registered	**2017**	Discipline	**Civil**	
Contract role(s) / brief description of responsibilities		**Engineer Intern**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2015 – 2024 est.)	**SPN H.009320/F.A.P. H009320: Acadian Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Design of a traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson ST. in Thibodeaux, LA. The proposed roundabout shall branch from LA 20 into Canal Blvd. and Jackson St., also connecting Back St. and Thompson Pl. at the east and west approaches. Design will conform to EDSM V1.11.6. HEI Project No 12-092-09
(09/2022 – On Going)	**SPN H.0141112, LADOTD - Task Order – LA 16, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include removing the existing storm drain system and replace with a larger system. Also, to reduce head losses and sedimentation by removing the 90° angle in the system and implement uniformity in pipe size where applicable. These improvements will help prevent the flooding of LA 16 by adding a properly sized system with reduced head losses and in addition helping to eliminate flooding possibilities for the businesses fronting LA 16. HEI Project No 12-092-14b
(02/2022 – 2023)	**SPN H.012914.5, LADOTD - Task Order – LA 3073: Ambassador @ Bonin Improvements, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include extending existing turn lanes to LA 89 and LA 3073. Extend the eastbound and westbound left turn lanes on LA 3073 and remove island between the left turn lane and the through lanes. Also, extend the eastbound and westbound right turn lanes on LA 3073. The widening of roadway and the median modifications in appropriate locations are to meet design standards. HEI Project No 12-092-14z
(09/2021 – 07/2022)	**SPN H. SPN H.014100.5, LADOTD - Task Order – LA 408: I-110 End of Concrete Section (Hooper Rd.), IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** The project includes concrete panel replacement and composite pavement repair along the travel lanes of LA 408 from 565- ft west of the CL of the I-110 overpass up to the end of concrete section (and including the intersection of LA 410 and LA 408). The Project also includes curb repair as needed. HEI Project No 12-092-14a
(2019 – On Going)	**SPN H.972104 US 190 Sidewalk Improvements (US 11 (Front St.) to 14th St.), Slidell, LA.:** Mr. Guidry provided Engineering Support for the preparation of Plans (letter size) and Specifications for the removal of Existing Sidewalks and Pedestrian Signals and replace with updated ADA compliant sidewalks, Handicap Ramps and Pedestrian Signals Construction Value of approximately $500,000. HEI Project No 12-090-11

(2016 – 2017)	**SPN H.011007 Chateau Blvd Resurfacing, Jefferson Parish, LA**.: Mr. Guidry provided Engineering Support for the preparation of the design of a resurfacing project for 0.75 miles of a boulevard section, which included Plans and Specifications for Milling and Asphalt Concrete Overlay, Base Course Replacement and Curb and Gutter Replacement. Construction Value of $1.2 million. HEI Project No 12-092-12
(2017 – 2018)	**SPN H.012884: LADOTD – Woodmere Blvd. Panel Replacement, Jefferson Parish, LA**.: Mr. Guidry provided Engineering Support for the preparation of Plans and Specifications under HEI's previous Retainer Contract for Pavement Preservation for the replacement of concrete panels in an Urban residential neighborhood. Construction value of approximately $3 million. HEI Project No 12-092-13-10
(2011 – 2016)	**SPN 742-26-0033 / H.007175, F.A.P. No. 6130 (010): LADOTD - Lapalco Boulevard Improvements (Victory Dr. to Westwood Dr.) Jefferson Parish, LA:** Preliminary and final construction plans for 0.8 miles of road widening (from 4-6 lanes), drainage improvements, wetland delineation and jurisdictional determination, public hearings, regulatory agency coordination, permitting, (404 from COE, Coastal Use from LDNR, Water Quality Certification from LDEQ), and wetland mitigation. HEI Project No 11-014-53
(2017 – 2020)	**C. Braud Road Safety Widening, Ascension Parish, LA:** Approx. 1 mile of safety widening along C. Braud Rd. and adding turning lanes on LA 928 onto C. Braud Rd. Design includes Roadway, Drainage and Sequence of Construction. HEI Project No 12-031-13
(09/2017 – On Going)	**RR 189 Village De L'est Group C, DPW Project NO. 2017-RR189, DPQ REMA PW NO. 21032:** Engineering and construction management services for fall roadway reconstruction including drainage, water, and sewer replacements. Construction cost is approximately $8,000,000. HEI Project No 11-014-92
(2015 – 2017)	**LA 30 AT Purpera Intersection Improvements, Project No. SPN H.0011490, Ascension Parish, LA –** Mr. Guidry provided Engineering Support for the intersection improvements for traffic safety and efficient traffic movement at LA 30 and Purpera Avenue in the City of Gonzales. The proposed improvements include widening LA 30 to provide room for constructing a left turn lane for East and Westbound traffic signal, drainage improvements, removal of a commercial driveway, and a new pavement are all incidental improvements to the proposed work. (HEI Project No 12-031-07)

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Madeline M. Bourgeois, E.I.**	Years of relevant experience with this employer	**3 (2021)**	
Title	**Engineer Intern**	Years of relevant experience with other employer(s)	**0**	
Degree(s) / Years / Specialization		**B.S., 2019, Civil Engineering, Louisiana State University, Baton Rouge**		
Active registration number / state / expiration date		**E.I. EI34782 / Louisiana / 09/30/2023**		
Year registered	**2021**	Discipline	**Civil**	
Contract role(s) / brief description of responsibilities		**Project Engineer**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(09/2021 – 07/2022)	**SPN H. SPN H.014100.5, LADOTD - Task Order – LA 408: I-110 End of Concrete Section (Hooper Rd.), IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** The project includes concrete panel replacement and composite pavement repair along the travel lanes of LA 408 from 565- ft west of the CL of the I-110 overpass up to the end of concrete section (and including the intersection of LA 410 and LA 408). The Project also includes curb repair as needed. HEI Project No 12-092-14a
(09/2022 – On Going)	**SPN H.0141112, LADOTD - Task Order – LA 16, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include removing the existing storm drain system and replace with a larger system. Also, to reduce head losses and sedimentation by removing the 90° angle in the system and implement uniformity in pipe size where applicable. These improvements will help prevent the flooding of LA 16 by adding a properly sized system with reduced head losses and in addition helping to eliminate flooding possibilities for the businesses fronting LA 16. HEI Project No 12-092-14b
(02/2022 – 2023)	**SPN H.012914.5, LADOTD - Task Order – LA 3073: Ambassador @ Bonin Improvements, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include extending existing turn lanes to LA 89 and LA 3073. Extend the eastbound and westbound left turn lanes on LA 3073 and remove island between the left turn lane and the through lanes. Also, extend the eastbound and westbound right turn lanes on LA 3073. The widening of roadway and the median modifications in appropriate locations are to meet design standards. HEI Project No 12-092-14z
(12/2021 – On Going)	**RR056 Gentilly Terrace Group F – Project No. 2021-RR056 (DPW FEMA PW No. 21032), City of New Orleans, LA:** HEI is responsible for performing design engineering services and construction administration services for FEMA-eligible roadway repairs on assigned streets within RR056 Gentilly Terrace Group F neighborhoods. Includes replacing damaged underground water, sewer, and drainage lines, repaving the roadway, replacing, replacing damaged sidewalks and driveway aprons, and installing ADA compliant curb ramps at intersections. HEI Project No 11-076-10

Firm employed by HEI Hartman Engineering, Inc. Consulting Engineers				
Name	**Jordan E. LeBas, E.I.**	Years of relevant experience with this employer	**1 (2023)**	
Title	**Engineer Intern**	Years of relevant experience with other employer(s)	**0**	
Degree(s) / Years / Specialization		**B.S., 2021, Civil Engineering, Louisiana State University, Baton Rouge, LA**		
Active registration number / state / expiration date		**E.I. EI35548 / Louisiana / 03/31/2024**		
Year registered	**2023**	Discipline	**Civil**	
Contract role(s) / brief description of responsibilities		**Project Engineer**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2022 – 2023)	**Bedico-Faubourg Interconnect 12-inch Waterline, St. Tammany Parish, LA:** Prepare Construction Plans and Specifications, Bidding and Construction Management Services for 5,000 LF of 12" Waterline Extension. This project will connect two different water systems. (HEI Project No 12-126-02)
(2022 – Ongoing)	**Roosevelt Blvd. Roadway Improvements – W. Metairie Ave. to W. Napoleon Ave., S.P.N. H.615120, City of Kenner, LA:** Project improvements include the reconstruction of Roosevelt Boulevard from W. Napoleon Avenue to W. Metairie Avenue. Work comprises of the following: pavement removal and replacement, drainage lateral replacement, curb inlet adjustments, drainage trunkline repairs, roadway cross-slope correction, driveway replacement (to R/W), minor sidewalk adjustments (at driveways), and removal of median trees. (HEI Project No 11-011-88)

Firm employed by	HEI Hartman Engineering, Inc. Consulting Engineers			
Name	**Stephen F. Urquhart**	Years of relevant experience with this employer	**27 (1997)**	
Title	**Civil/CAD Designer**	Years of relevant experience with other employer(s)	**0**	
Degree(s) / Years / Specialization	**Associate degree, 1997, Drafting/Design (AutoCAD/GIS)**			
Active registration number / state / expiration date	**N/A**			
Year registered	**N/A**	Discipline	**N/A**	
Contract role(s) / brief description of responsibilities	**CAD Specialist**			

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
(2015 – 2024 est.)	**SPN H.009320/F.A.P. H009320: Acadian Roundabout, Route LA 20 (Canal Boulevard) and Local Routes (Back St., Jackson St., Thompson Place), LaFourche Parish, LA:** Performed CAD services for design of a traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodaux, LA. The improvements include roadway widening, valve engineering, utility relocations, drainage design, geometric design, extensive phasing, and temporary traffic control. Design will conform to EDSM V1.11.6., and current 2017 roadway design guidelines. HEI Project No 12-092-09
(09/2022 – On Going)	**SPN H.0141112, LADOTD - Task Order – LA 16, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include removing the existing storm drain system and replace with a larger system. Also, to reduce head losses and sedimentation by removing the 90° angle in the system and implement uniformity in pipe size where applicable. These improvements will help prevent the flooding of LA 16 by adding a properly sized system with reduced head losses and in addition helping to eliminate flooding possibilities for the businesses fronting LA 16. HEI Project No 12-092-14b
(02/2022 – 2023)	**SPN H.012914.5, LADOTD - Task Order – LA 3073: Ambassador @ Bonin Improvements, IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** HEI's responsibilities will include extending existing turn lanes to LA 89 and LA 3073. Extend the eastbound and westbound left turn lanes on LA 3073 and remove island between the left turn lane and the through lanes. Also, extend the eastbound and westbound right turn lanes on LA 3073. The widening of roadway and the median modifications in appropriate locations are to meet design standards. HEI Project No 12-092-14z
(09/2021 – 07/2022)	**SPN H. SPN H.014100.5, LADOTD - Task Order – LA 408: I-110 End of Concrete Section (Hooper Rd.), IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62:** The project includes concrete panel replacement and composite pavement repair along the travel lanes of LA 408 from 565- ft west of the CL of the I-110 overpass up to the end of concrete section (and including the intersection of LA 410 and LA 408). The Project also includes curb repair as needed. HEI Project No 12-092-14a

(2011 – 2015)	**SPN H.004747 F.A.P. No. STP-3609(518): LADOTD - Lake Forest Blvd. Widening (Eastover to I-510), New Orleans, LA:** Provided CADD services for the extension (approx. 650') a new westbound section of this urban collector road, approximately 450 ft west of its interchange with I-510. Responsible for the design and coordination efforts between LADOTD, City of New Orleans, and the Regional Planning Commission. HEI Project No 12-092-08
(2015 – 2024 est.)	**I-12 To Bush Corridor LA3241 (I-12 TO LA36) SPN H.004957, St. Tammany Parish, LA:** The project improvements include preliminary design of a rural arterial (RA-3) 4-lane corridor with a raised median. The corridor is primarily a control-of-access route featuring bridge and intersection design. HEI provides consultant coordination and project management, QA/QC coordination, geometric roadway and intersection design, drainage design, roadway modeling via InRoads software, specifications review and preparation, construction cost estimate and quantity take-offs preparation. Mr. Urquhart provided drafting services. HEI No 12-092-10
(2011 – 2016)	**SPN 742-26-0033 / H.007175, F.A.P. No. 6130 (010): LADOTD – Lapalco Blvd. (Victory Dr. to Westwood Dr.) Jefferson Parish, LA.:** Provided CAD services for the widening of this major arterial boulevard section Urban Systems Project from 4 lanes to 6 lanes. The project is approximately 0.8 miles and includes installation of new curb and gutter sections, subsurface drainage, pavement widening, utility relocation and temporary traffic control. HEI Project No 11-014-53
(2015 – 2017)	**SPN H.011490, F.A.P. No. H.011490: LADOTD – LA 30: Left Turn Lane at S. Purpera Ave, Ascension Parish, LA:** Mr. Urquhart is responsible for electronic plan preparation and development via Bentley MicroStation in conformance with LaDOTD drafting requirements, plan production via Bentley Interplot Professional software, certification via CADconform, and submittal assistance utilizing the Bentley Projectwise Interface. HEI Project No 12-031-07
(2004 – 2013)	**SPN 700-55-0101: LADOTD - Hollywood Road (Junc. LA 311 to Junc. LA 3040), Terrebonne Parish, LA:** Provided CAD services for this urban systems project that consisted of providing environmental analysis, evaluation and documentation, preliminary and final plans for the widening of Hollywood Road in the City of Houma. The project began at the junction of LA 311 and ended at the junction of LA 3040. The proposed undivided urban section consisted of 4-3.6 m (12ft) travel lanes with curb and gutter, and sub-surface drainage. The project was approximately 1.931 km (1.20 miles) in length. Project included modifications to an existing signal and new signal design. HEI Project No 12-092-02
(2018 – 2022)	**Intersection Improvements (Veterans Blvd. – Bonnabel Blvd.) JP Parish Project 2017-028-RBP, Jefferson Parish, LA:** Mr. Urquhart provided all drafting services for this capacity improvements project at the intersection of Vets/Bonnabel. Additional left turn lanes are included in both directions along Veterans, new U-turns along Bonnabel, new signal to include pedestrians and future bike path (HEI Project No 11-014-95)
(2017 – 2020)	**C. Braud Road Safety Widening, Ascension Parish, LA:** Approx. 1 mile of safety widening along C. Braud Rd. and adding turning lanes on LA 928 onto C. Braud Rd. Design includes Roadway, Drainage and Sequence of Construction. HEI Project No 12-031-13

16. Staff Experience: APS Engineering and Testing, LLC

Firm employed by	APS Engineering and Testing		
Name	**Sergio Aviles, P.E., M.ASCE**	Years of relevant experience with this employer	**12**
Title	**President**	Years of relevant experience with other employer(s)	**10**
Degree(s) / Years / Specialization		**BS Civil Engineering/2001/Geotechnical**	
Active registration number / state / expiration date		**0033571/ LA / 03-31-2024**	
Year registered **2007**	Discipline	**Civil**	
Contract role(s) / brief description of responsibilities		**Project Manager/Design Guidance/Field Crew and Lab Management**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
11/19 - 06/22	**Project No. H. H.001352 and H.002273: Comite River Diversion Bridge at LA-67, LA-19 and LA-19 Railroad Bridge LA-67 and LA- 19-** A P S was selected with the winning team for the design of the diversion CMAR project. A P S performed the Geotechnical Design for the project. Mr. Aviles was the Project Manager for the Project Design team.
09/19 - 05/23	**Project No. H.004100: I-10 Widening LA 415 to Essen LN-** A P S was tasked thru our DOTD Geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington Exit and ending at the LSU Lakes. A P S drilled a total of eight (8) over the waterborings and 44 land borings. Along with this drilling and sampling, A P S tested for strength and engineering characteristics of the soils with approximately 1000 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits. Mr. Aviles was the Project Manager to the Geotechnical Investigations
11/19 - 12/23	**Project No. H.010155: US 90 Railroad Overpass SE of LA 85-** A P S was selected with the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of six (6) deep borings were drilled and tested for Geotechnical recommendation. Mr. Aviles was the Project Manager for the Project Design team.
03/19 - 05/19	**Project No. H.001344: US 190 over Bogue Falaya River-** A P S was selected with the winning team for the Geotechnical Investigation and Design of the proposed new bridge. A total of 19 deep borings were drilled and tested for the foundation recommendation. Mr. Aviles was the Project Manager for the Project Design Team.
08/6 - 10/19	**Project No. H.012422: I-110 Interchange Modification at Terrace Ave-** A P S was tasked thru our DOTD Geotechnical retainer to drill and sample a total of six (6) deep borings for the design of the Terrace Ave Exit. A P S tested for strength and engineering characteristics of the soils with approximately 100 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits performed by A P S Laboratory. Mr. Aviles was the Project Manager to the Geotechnical Investigations

11/17 - 02/18	**Project No. H.013193: US 61 Thompson Creek Bridge Replacement-** A P S was tasked thru our DOTD geotechnicalretainer to drill and sample a total of eight (8) deep borings for the replacement bridge at US 61 over Thompson Creek. A P S tested for strength and engineering characteristics of the soils. Mr. Aviles was the Project Manager to the Geotechnical Investigations and Analysis assigned for roads and bridges.
07/14 - 08/14	**Project No. 700-51-0110: US 90 elevated portion for the I-49 corridor-** A P S performed all the preliminary drilling, testing, and CPTs for US 90 and Highway 318 Intersection. A total of 46 borings and 11 CPTs along with all the testing required by LADOTD was completed. Mr. Aviles was the Project Manager to the Geotechnical Investigations and Analysis assigned for roads and bridges design.
03/01 – 05/05	The following list consists of projects that Mr. Aviles did the design or assisted on the design while at LADOTD. These projects include pile design, slope stability, settlement analysis, and construction services (PDA, CAPWAP, and WEAP). **ONSYSTEM PROJECT LIST**: Mr. Aviles served as the staff geotechnical engineer while at the Pavement and Geotechnical Section for the following projects below. Projects include Embank Design, Pile Design, Drilled Shaft Design, MSE Wall Design, and Construction Supervision. Major project costs estimated over one million dollars: 015-04-0037 LA524-LA123 Route US165, 015-05-0035 LaSalle, 015-07-0044 (Route 165 Cadwell, 276-03-0016 Tangipahoa River Bridge, 3132 01-0029, 362-01-0009 Rat Bois, 452-01-0039 I-55 CrossOvers, 742-07- 0098 Susek Drive, Bayou Perrie and Sand Beach Bayou 103-01-0025, Broadway Ave.700-40-0127, Cameron Route La. 27 193-02-0042, Causeway Boulevard interchange Route I-10 450-15-0098,Clayton-Greenville 026-03-0025, Crescent City Connection 283-08-0143(46), Cross Bayou Bridge 090-01-0020, Flannery at Florida 742-17-0008.Innerloop 427

Firm employed by	APS Engineering and Testing		
Name	**Sairam (Sai) Eddanaudi, M.E., P.E.**	Years of relevant experience with this employer	**12**
Title	**Chief Engineer**	Years of relevant experience with other employer(s)	**9**

Degree(s) / Years / Specialization			**ME/Civil Engineering**
Active registration number / state / expiration date			**BE/Civil Engineering**
Year registered	**2008**	Discipline	**Civil**
Contract role(s) / brief description of responsibilities			**Laboratory QA Manager/Design Engineer**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
11/19 - 06/22	**Project No. H. H.001352 and H.002273: Comite River Diversion Bridge at LA-67, LA-19 and LA-19 Railroad Bridge LA-67 and LA- 19-** A P S was selected with the winning team for the design of the diversion CMAR project. A P S performed the Geotechnical Design for the project. Mr. Sai was the Senior Design Engineer for the Project Design team.
09/19 - 05/23	**Project No. H.004100: I-10 Widening LA 415 to Essen LN-** A P S was tasked thru our DOTD Geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington Exit and ending at the LSU Lakes. A P S drilled a total of eight (8) over the waterborings and 44 land borings. Along with this drilling and sampling, A P S tested for strength and engineering characteristics of the soils with approximately 1000 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits. Mr. Sai was the project QA to the Geotechnical Investigations.
11/19 - 12/23	**Project No. H.001344: US 190 over Bogue Falaya River-** A P S was selected with the winning team for the Geotechnical Investigation and Design of the proposed new bridge. A total of 19 deep borings were drilled and tested for the foundation recommendation. Mr. Sai was Senior Design Engineer for the Project Design team.
03/19 - 05/19	**Project No. H.010155: US 90 Railroad Overpass SE of LA 85-** A P S was selected with the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of six (6) deep borings were drilled and tested for Geotechnical recommendation. Mr. Sai was Chief Engineer for the Project Design team.
08/6 - 10/19	**Project No. H.012422: I-110 Interchange Modification at Terrace Ave-** A P S was tasked thru our DOTD Geotechnical retainer to drill and sample a total of six (6) deep borings for the design of the Terrace Ave Exit. A P S tested for strength and engineering characteristics of the soils with approximately 100 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits performed by A P S Laboratory. Mr. Sai was QA to the Geotechnical Investigations.
11/17 - 02/18	**Project No. H.013193: US 61 Thompson Creek Bridge Replacement-** A P S was tasked thru our DOTD Geotechnical retainer to drill and sample a total of eight (8) deep borings for the replacement bridge at US 61 over Thompson Creek. A P S tested for strength and engineering characteristics of the soils. Mr. Sai was QA to the Geotechnical Investigations.

Firm employed by	APS Engineering and Testing		
Name	**Surendra Pathak, M.S., P.E.**	Years of relevant experience with this employer	**11**
Title	**Staff Engineer**	Years of relevant experience with other employer(s)	**10**

Degree(s) / Years / Specialization			**MSCE/2013/Civil Engineering** **BE/2007/Civil Engineering**
Active registration number / state / expiration date			**004348/LA/09-03-2025**
Year registered	**2019**	Discipline	**Civil**
Contract role(s) / brief description of responsibilities			**Laboratory QA Manager/Design Engineer**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
11/19 - 06/22	**Project No. H.002273, H.000710, and H.001352 Comite River Diversion Bridge at LA-67, LA-19 and LA-19 Railroad Bridge LA-67 and LA-19:** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of 12 deep borings for the new and replacement bridges at Highway 19, 67, and 964. A P S tested for strength and engineering characteristics of the soils. Mr. Surendra was a Design Engineer for the Project Desing team.
09/19 - 05/23	**Project No. H.004100: I-10 Widening LA 415 to Essen LN-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of 52 deep borings starting at the Washington Exit and ending at the LSU lakes. Along with this drilling and sampling A P S will also test for strength and engineering characteristics of the soils with. A total of eight (8) over the waterborings and 44 land borings with approximately 1000 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits. Mr. Surendra was an engineer to the Geotechnical Investigations.
11/19 - 12/23	**Project No. H.010155: US 90 Railroad Overpass SE of LA 85-** A P S was selected with the winning team for the Geotechnical Investigation and Design for the proposed new overpass. A total of six (6) deep borings were drilled and tested for Geotechnical recommendation. Mr. Surendra was an engineer for the Project Design team.
03/19 - 05/19	**Project No. H.001344: US 190 over Bogue Falaya River-** A P S was selected with the winning team for the Geotechnical Investigation and Design of the proposed new bridge. A total of 19 deep borings were drilled and tested for the foundation recommendation. Mr. Surendra was a Design Engineer for the Project Design team.
08/6 - 10/19	**Project No. H.012422: I-110 Interchange Modification at Terrace Ave-** A P S was tasked thru our DOTD geotechnical retainer to drill and sample a total of six (6) deep borings for the design of the Terrace Ave Exit. A P S tested for strength and engineering characteristics of the soils with approximately 100 Triaxial Compression, Unconsolidated Drained Or Undrained (UU) and Atterberg Limits performed by A P S Laboratory. Mr. Surendra was an engineer to the Geotechnical Investigations.
11/17 - 02/18	**Project No. H.013193: US 61 Thompson Creek Bridge Replacement-** A P S was tasked thru our DOTD geotechnicalretainer to drill and sample a total of eight (8) deep borings for the replacement bridge at US 61 over Thompson Creek. A P S tested for strength and engineering characteristics of the soils. Mr. Surendra was an engineer to the Geotechnical Investigations.

16. Staff Experience: Hardesty & Hanover

Firm employed by	H&H Designed to Amaze, Engineered to Last®		
Name	**Babak Naghavi, PhD, PE, PH**	Years of relevant experience with this employer	**7**
Title	**Regional Manager**	Years of relevant experience with other employer(s)	**36**
Degree(s) / Years / Specialization		**PhD / 1993 / Civil Engineering** **M.S. / 1982 / Civil Engineering** **B.S. / 1979 / Civil Engineering**	
Active registration number / state / expiration date		**Professional Engineer: 20745 / LA / 9/30/2024** **ATSSA Traffic Control Supervisor Refresher – ATSSA Flagger Safety Inspection of In-Service Bridges, NHI # 130055/53** **Maintenance & Rehabilitation of Historic Bridges (LADOTD) Underwater Bridge Inspection, NHI # 130091** **Bridge Inspection Non-Destructive Testing, NHI # 130099**	
Year registered	**1983**	Discipline	**Civil and Environmental Engineering**
Contract role(s) / brief description of responsibilities		**H&H Project Manager / Quality Control Manager**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/19 – Present	**H.004396 Lapalco Boulevard Movable Bridge over Harvey Canal | Westwego, LA | Jefferson Parish DPW/LADOTD:** **Project Manager** for the pre-design inspection, the rehabilitation and widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction, and the design of a new three-lane double bascule movable bridge crossing of Harvey Canal. Scope of work includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane. The scope of work also includes the design of a new bridge to be constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. Improvements to bridge and roadway approaches for eastbound and westbound traffic is also included in scope of work. Load rating was performed using AASHTOWare BrDR load rating software. All design work is according to Louisiana DOTD Standard and Specifications and reviewed by LADOTD.
06/23 – Present	**H.009730.5 LADOTD In-Depth Bridge Inspection of Complex Structures | Statewide, LA | LADOTD:** **Project Manager** supervising inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis and Miller's Bluff) and a vertical lift bridge (West Fork) have been completed to date.
06/22 – Present	**SR 609 Movable Bascule Bridge Inspection and Load Rating | Ocean Springs, MS | MDOT:** **Project Manager** responsible for the inspection and load rating services of SR 609 bascule bridge, as a task-order under the IDIQ Master Bridge Contract. Scope of work includes the in-depth, NSTM, routine, and element level inspection of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches. Load rating is being performed using AASHTOWare BrDR load rating software.
06/18 – Present	**H.002798.6 Bayou Teche Movable Bridge at Oaklawn Rehabilitation | St. Mary Parish, LA | LADOTD:** **Project Manager** responsible for design and plan preparation of the bridge power distribution and relay-based control system for this movable bridge located in St. Mary Parish, LA. The new through girder swing-span rotates with hydraulically actuated slewing (push-pull) cylinders. The project is currently in the construction phase.

08/20 - Present	**H.001498.6 LA 24 and LA 16 Company Canal Vertical Lift Bridge | Bourg, LA | LADOTD:** **Project Manager** delivering construction engineering and inspection services for a new vertical lift bridge and operator's house. Scope of work include daily monitoring of all construction activities; maintaining all construction field records; coordinating with DOTD, contractor, parish government, and utilities; performing field testing; maintaining records of contractual operations, pay estimates, and progress reports; preparing final estimate packages; conducting construction progress meetings; construction closeout, etc.
08/20 – 12/22	**SR 605 Movable Bascule Bridge Rehabilitation | Ocean Springs, MS | MDOT:** **Project Manager** responsible for the assessment, design, plan review, and quality control of SR 605 double-leaf bascule bridge, as a task-order under the IDIQ Master Bridge Contract which includes developing standard and special bridge services statewide for MDOT. Scope of work includes inspection and rehabilitation of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches and development of maintenance and repair plans. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications. Load rating was performed using AASHTOWare BrDR load rating software.
08/18 – 06/22	**Lake Pontchartrain Causeway Safety Bay Improvement Project | New Orleans, LA | Greater New Orleans Expressway :** **Project Manager** responsible for construction engineering and inspection services for this fast-paced $60 million bridge improvement project designed according to LADOTD Standards and Specifications. Scope of work utilized the Construction Manager at Risk (CMAR) delivery method. Improvements increased emergency stopping areas and widened both causeway bridges to provide new shoulders in at least six locations in each direction.
01/11 – 12/13	**I-10 Calcasieu River Bridge Repairs | Calcasieu Parish, LA | LADOTD:** **Project Manager** for construction engineering and inspection for structural repairs to 1-10 Calcasieu River Bridge. The project consisted of repairs to main deck truss and steel cantilever truss members, approach trestle pin plate connections, approach trestle anchor bolt repair, approach trestle bent repairs, deck joints repair, bridge railing repair, and approach roadway pavement expansion joints. The project also included cleaning and removal of lead-based paint and painting of truss connections and the replaced railing.
03/14 – 01/17	**Off-System Hwy Bridge Replacement – St. Ann Bridge Over Bayou Terrebonne | Terrebonne, LA | LADOTD:** **Project Manager** for this construction engineering and inspection project that involved removal of a single-lane truss swing span bridge structure, existing fender system, timber bulkhead, operator house, and existing timber piling. New construction involved a single swing span bridge, concrete slab bridge approaches, concrete approach slabs, timber fender system, navigational lighting, grading, aggregate surfacing, and asphaltic concrete roadway paving.
01/20 – Present	**Almonaster Avenue Railroad Bridge of the Industrial Canal Rehabilitation | New Orleans, LA | Port of New Orleans** **Project Manager** for the bridge assessment, rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of this historic bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. All design work is in accordance with LADOTD Standards and Specifications and reviewed by LADOTD.
08/20 – Present	**I-10 & I-12 College Drive Flyover Ramp Design-Build | East Baton Rouge Parish, LA | LADOTD** **Quality Manager** overseeing design and construction quality control/quality assurance for this flyover ramp design-build project which is located at the I-10 West exit to College Drive, in advance of the I-10 & I-12 West merge. H&H serves as Design-Builder's Construction Quality Control Firm (CQCF) and oversees all Design Quality Control and Construction Quality Control activities for the project. Responsibilities include the development and implementation of Comprehensive Quality Plan to ensure the design and construction conforms to all specified requirements. H&H will also develop, maintain, and update Contractor Quality Management Plan and provide all necessary qualified Inspectors, material sampling, testing, independent testing labs to ensure contractors and off-site fabrication facilities meet project specifications.

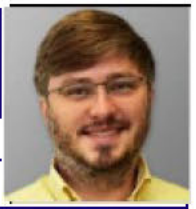
Firm employed by	H&H Designed to Amaze, Engineered to Last®			
Name	**Corey Bourgeois, PE**	Years of relevant experience with this employer	**<1**	
Title	**Bridge Engineer**	Years of relevant experience with other employer(s)	**9**	

Degree(s) / Years / Specialization			**B.S. / 2013 / Civil Engineering**
Active registration number / state / expiration date			**Professional Engineer: 42362 / LA / 9/30/2024;** **Certifications: NHI 130078 Fracture Critical Inspection Techniques for Steel Bridges; NHI 130092 Fundamentals of LRFR and Applications of LRFR For Bridge Superstructures; NHI 130081 Load and Resistance Factor Design (LRFD) For Highway Bridge Superstructures; NHI 130056 Safety Inspection of In-Service Bridges**
Year registered	**2018**	Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities			**Bridge Engineer – Meets MPR 5**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/21 – 11/23	**LADOTD Bridge Maintenance Section | LADOTD:** **Load Rating Engineer** tasked with overseeing the Off-System and Timber Bridge Load Rating Programs. He performed ratings on a variety of bridge types including timber, concrete, and steel structural members. He also performed load ratings for many routine and super load permits.
11/23 – Present	**H.004396 Lapalco Boulevard Movable Bridge over Harvey Canal | Jefferson Parish, Louisiana | Jefferson Parish:** **DPW/LADOTD Bridge Engineer** for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction. The new bridge was constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. Project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane, improvements to bridge and roadway approaches, and development of a traffic control plan. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
11/17 – 11/21	**H.012622 I-12 Hog Branch Bridge Widening | Livingston Parish, LA | LADOTD:** **Task Manager** for third phase of widening projects along the I-12 corridor in Livingston Parish. The bridge consists of AASHTO type III girder superstructure and pile bent substructure. Performed load rating on the existing structure to determine if any strengthening was required. Responsible for designing all bridge members for this $16M project.
08/17 – 01/22	**H.012071 US 51 Yellow Water River Bridge | Hammond, LA | LADOTD:** **Project Manager** for this slab span bridge is located on a highly traveled section of US 51 in Hammond near Southeastern University. Due to rapidly deteriorating site conditions and other political pressure, this project was expedited to a much more compressed schedule than we typically see for bridge projects. He developed alternatives to maintain traffic during construction in this critical section of highway. A unique design was chosen where the bridge will be built in phased construction to allow for a complete replacement with a median turn lane.

05/21 – 12/22	**H.014672 I-12: LA 1032 Overpass Repair | Tangipahoa, LA | LADOTD:** **Project Manager** This is an emergency repair project where an over height vehicle completely destroyed an exterior prestressed concrete girder. This required the exterior shoulder to be closed in a very busy section of I-12. Served as Project Manager and procured the consultant and immediately began the task order creation with one of our in house retainer contracts. Facilitated constant communication with the consultant making sure that this priority project was kept on schedule.
04/16 – 05/19	**H.012411 LA 1054 at Big Creek Bridge Replacement | Tangipahoa Parish, LA | LADOTD:** **Project Manager** for this emergency project where one of the roadway approaches completely washed out during the March 2016 flooding in Tangipahoa Parish, Louisiana. Since the bridge was a candidate for replacement, it was decided that we should replace the entire bridge while the roadway was out of service. Assisted in coordinating with FEMA for emergency funding while also performing all bridge design and construction support.
05/17 – 03/22	**H.000337 US 61 Bayou Manchac and Francois Bridges | East Baton Rouge & Ascension Parishes, LA | LADOTD:** **Task Manager** for this replacement project consisting of twin 300 foot long concrete girder bridges including load rating. The superstructure was AASHTO Type IV girders and substructure was pile bents. Some unique challenges with this project included a severe skew, continuous deck units, and the crossing being part of the Scenic Rivers Program. Corey designed all bridge features including as designed and load rating for this $10M project.
08/18 – 06/20	**H.000133 US 80 at KCS Railroad | Simsboro, LA | LADOTD:** **Task Manager** for this replacement project for a 290-foot-long railroad overpass in a S-curve. The bridge superstructure consisted of slab spans and an LG-36 span over the railroad. The substructure was column bents with drilled shaft foundations. This bridge had various geometric difficulties including superelevation, horizontal and vertical curvature, and railroad clearances. Corey designed all bridge features including as-designed load rating for this$6.5M project.
12/23 - Present	**DPDB Dutch Point Viaduct Design Build | Hartford, CT | CDOT:** **Structural Engineer** for this design-build project to replace the deck and rehabilitate I-91 in downtown Hartford, CT. Performing a load rating on the existing structure to determine the scope of repairs needed to facilitate the new deck. H&H additionally performed load ratings for the various construction phases.
11/23 - Present	**WAC On-System Bridge Replacements Contract No. 36-0IDP5067 (PES020025-WA1) | Waco, TX | TXDOT:** **Structural Engineer** for this indefinite deliverable (ID) contract. This work authorization consists of replacing four bridges in the Waco area. The new structures are precast beam slab bridges. Reviewing the final plans and creating the final construction cost estimates.
11/23 - Present	**CRP Off-System Bridge Replacements Contract No. 36.0IDP5067-WA2 (PES-20025-WA2) | Corpus Christi, TX | TXDOT:** **Structural Engineer** for this indefinite deliverable (ID) contract. This work authorization consists of replacing three county owned concrete box culverts. Coordinating with the designers and subconsultants to develop preliminary plans.

Firm employed by	H&H Designed to Amaze, Engineered to Last®		
Name	**Erik Diaz, PE**	Years of relevant experience with this employer	**5**
Title	**Senior Structural Engineer**	Years of relevant experience with other employer(s)	**11**



Degree(s) / Years / Specialization			**B.S. / 2008 / Civil Engineering**
Active registration number / state / expiration date			**Professional Engineer: 37712 / LA / 09/30/2025** **Certifications: Maintenance & Rehabilitation of Historic Bridges (LADOTD); NHI 130078 Fracture Critical Inspection Techniques for Steel Bridges; NHI 130092 Fundamentals of LRFR and Applications of LRFR For Bridge Superstructures; NHI 130081 Load and Resistance Factor Design (LRFD) For Highway Bridge Superstructures; NHI 130056 Safety Inspection of In-Service Bridges**
Year registered	**2013**	Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities			**Senior Bridge Engineer – Meets MPR 4**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
02/22 – Present	**SR826 Palmetto DB Design and Post | Miami-Dade County, FL | FDOT:** **Structural Engineer** for bridge located in downtown Miami urban area. The bridge design requirement was to keep existing bridge and roadways open to traffic while widening construction was being performed. Performed design calculations for concrete superstructure and steel substructure elements for bridge widening. Created details and plan sheets for superstructure and substructure elements for bridge widening.
08/19 – Present	**H.004396 Lapalco Boulevard Movable Bridge over Harvey Canal | Jefferson Parish, Louisiana | Jefferson Parish DPW/LADOTD:** **Senior Structural Engineer** for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction in an urban area. The new bridge was constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. Project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane, improvements to bridge and roadway approaches, and development of a traffic control plan. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
06/23 - Present	**H.009730.5 LADOTD In-Depth Bridge Inspection of Complex Structures | Statewide, LA | LADOTD:** **Structural Team Leader** for inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis and Miller's Bluff) and a vertical lift bridge (West Fork) have been completed to date.
06/22 – 08/23	**SR 609 Movable Bascule Bridge Inspection and Load Rating | Ocean Springs, MS | MDOT:** **Senior Structural Engineer** responsible for the inspection and load rating services of SR 609 bascule bridge, as a task-order under the IDIQ Master Bridge Contract. Scope of work includes the in-depth, NSTM, routine, and element level inspection of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches. Load rating is being performed using AASHTOWare BrDR load rating software.

06/12 – 04/13	**H.009933 Macarthur Interchange Completion | Harvey LA | LADOTD: Structural Engineer** for the project located in a dense urban area at Manhattan Blvd and West Bank Expressway in Harvey, LA. Designed reinforced concrete bent caps, columns, and footings supported on either steel or PPC piles. Detailed and created plan sheets for bent caps, columns, footings, and piles. Provided construction support by reviewing submittals and responding to RFIs.
10/14 – 12/16	**Bridge Ratings for 110 Bridges | Statewide | LADOTD: Bridge Structural Engineer** responsible for developing spreadsheets and processes for rating of several bridge structures. He performed load ratings for bridge superstructures and substructures using AASHTOWare BrR load rating software and Excel and developed the bridge load rating reports.
08/20 – 12/22	**SR 605 Bascule Bridge Over Industrial Waterway | Harrison County, MS | MDOT: Senior Structural Engineer** performing the bridge load rating for movable and fixed bridge approaches. Contributing to structural design for the comprehensive rehabilitation of this bascule bridge over the Industrial Waterway. Work on this project includes design and detailing of a new PPC pile-supported reinforced concrete generator platform as well as the design and detailing of steel access improvements. All designs are in accordance with AASHTO, FHWA and MDOT guidelines and specifications. Load rating was performed using AASHTOWare BrDR load rating software.
08/18 – 01/19	**H.001234 Port Allen Bridge Design | Port Allen, LA | LADOTD : Structural Engineer** to design a new bridge to replace the existing bridge on LA-1 in Port Allen, LA. Design of the reinforced concrete substructure elements. Detailed and created plan sheets for the substructure.
12/17 – 11/18	**Widening of I-12 Bridges in Livingston Parish | Livingston Parish, LA | LADOTD: Structural Engineer** for a project located on heavily traveled I-12 in Livingston Parish, LA. Existing bridge traffic was required to be maintained during construction. Designed reinforced concrete slab spans, PPC girder spans, and reinforced concrete pile bents. Detailed and created plans for slab spans, PPC girder spans, and reinforced concrete pile bents. Provided construction support by reviewing submittals and responding to RFIs.
12/12 – 10/15	**Houma Navigation Canal Bridge Rehabilitation | Houma, LA | LADOTD: Bridge Structural Engineer** responsible for performing bridge inspections to identify repairs for rehabilitation as well as providing bridge load rating using AASHTOWare BrR load rating software to identify areas for strengthening. Also, designed and detailed various elements for bridge rehabilitation.
08/15 – 02/19	**Vermillion River Vertical Lift Bridges Rehabilitation | Vermillion Parish, LA | LADOTD: Senior Structural Engineer** for the inspection, rating, and final rehabilitation recommendations report for two steel vertical lift bridges. Work on this project included inspection and load rating to identify components of the bridge to be rehabilitated. Evaluation of various alternatives for strengthening the bridge and increasing vehicular vertical clearance. Produced engineers cost estimate for repairs, and prepared final report of recommendations.
01/20 – Present	**Almonaster Avenue Railroad Bridge of the Industrial Canal Rehabilitation | New Orleans, LA | Port of New Orleans: Bridge Structural Engineer** for the bridge assessment, rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of this historic bridge revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications to other bridge elements were deemed necessary to accommodate the rehabilitated superstructure. All design work is in accordance with LADOTD Standards and Specifications and reviewed by LADOTD.
08/19 – 10/19	**Seabrook Bascule Bridge Bearing Repairs | New Orleans, LA | Port of New Orleans: Movable Bridge Field Engineer** for the construction of repairs to the concrete bent cap at the toe of the span. Work on this project included design of bent cap strengthening due to cracking at bridge bearing, tracking contractor progress, and construction compliance with design plans. Preparation of final acceptance report upon completion of construction.

Firm employed by	H&H Designed to Amaze, Engineered to Last®			
Name	**Linh Kim, PE**	Years of relevant experience with this employer	**3**	
Title	**Civil Engineer**	Years of relevant experience with other employer(s)	**2**	

Degree(s) / Years / Specialization			**B.S. / 2017 / Civil Engineering**
Active registration number / state / expiration date			**Professional Engineer: 47527 / LA / 9/30/2025** **Certifications: NHI 130055 – Safety Inspection of In-Services Bridges; ATSSA Traffic Control Supervisor and Flagger; NHI 130092 Fundamentals of LRFR and Applications of LRFR For Bridge Superstructures**
Year registered	**2023**	Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities			**Structural Engineer**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
04/22 – Present	**SR826 Palmetto DB Design and Post | Miami-Dade County, FL | FDOT:** **Structural Engineer** for bridge located in downtown Miami urban area. The bridge design requirement was to keep existing bridge and roadways open to traffic while widening construction was being performed. Performed design calculations for concrete superstructure and steel substructure elements for bridge widening. Created details and plan sheets for superstructure and substructure elements for bridge widening.
02/21 – Present	**Lapalco Boulevard Movable Bridge over Harvey Canal | Westwego, LA | Jefferson Parish DPW/LADOTD:** **Structural Engineer** for the pre-design inspection, rehabilitation, and widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction, as well as the design of a new three-lane double bascule movable bridge crossing of Harvey Canal in an urban area. The scope of services also includes the design of a new bridge to be constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
07/23 – Present	**H.009730.5 In-Depth Bridge Inspection of Complex Structures | Statewide, LA | LADOTD :** **Structural Inspector** performing inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis and Miller's Bluff) and a vertical lift bridge (West Fork) have been completed to date.
09/20 – Present	**Almonaster Avenue Railroad Bridge over the Industrial Canal | New Orleans, LA | Port of New Orleans :** **Structural Inspector** assisting with a variety of repairs on this steel Strauss Trunnion Bascule Bridge. Major work included replacement of components of the railroad floor system stringers and floor beams that rated lower than E-60 and replacement of deteriorated lateral connection plates. The cracked concrete on the rest pier in the area of the bearings was removed and replaced with higher strength concrete. The replacement and tightening of loose or missing fasteners throughout the entire structure was also included in the repair scope. Scope included bridge design and repair plans, contract specifications, construction inspection, construction support services. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD.

01/19 - 04/19	**H.009498.5 LA 121: Calcasieu River Bridge | Lake Charles, LA | LADOTD :** **Civil Engineer Intern.** Designed and detailed an LG-36 (I-Beam) Concrete Prestressed Girder Bridge using continuous deck spans on a horizontal curve with a 5% slope. The continuous deck spans were 240-foot- long using four 60-foot-long deck spans with a bridge width of 42.5-foot-wide. The superstructure and girders were designed using Bentley's Conspan software and DOTD's Bridge Design Evaluation Manual. The substructure consists of pile bents that were designed using STAAD Modeling software and Excel.
04/22 – 12/22	**SR 605 Bascule Bridge over Industrial Waterway | Harrison County, MS | MDOT:** **Civil Engineer** for the comprehensive rehabilitation of this bascule bridge over the Industrial Waterway. Work also included design and detailing of a new PPC pile-supported reinforced concrete generator platform. All designs are in accordance with AASHTO, FHWA, and MDOT guidelines and specifications. Load rating was performed using AASHTOWare BrDR load rating software.
06/22 – 08/23	**SR 609 Movable Bascule Bridge Inspection and Load Rating | Ocean Springs, MS | MDOT:** **Civil Engineer** for inspection of SR 609 Bridge. Scope of work included the in-depth, NSTM, routine, and element level inspection of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches. Load rating was performed using AASHTOWare BrDR load rating software.
12/23 - Present	**DPDB Dutch Point Viaduct Design Build | Hartford, CT | CDOT :** **Structural Engineer** for this design-build project to replace the deck and rehabilitate I-91 in downtown Hartford, CT. Performing a load rating on the existing structure to determine the scope of repairs needed to facilitate the new deck. H&H additionally performed load ratings for the various construction phases.
09/19 – 11/19	**H.009482.5 LA 113: Jim Burney Branch Bridge | LADOTD :** **Civil Engineer Intern.** Prepared 60% final plans review and submittal. Completed revisions for initial design due to comments from the district and Project Engineer reviewer. Completed a bridge rating using AASHTOWare Bridge Rating software and STAAD Analysis.
09/19 – 11/19	**H.002176.5 LA 10 Bridges (Burton's Lake, Bayou HaHa, Bayou TawPaw) | LADOTD:** **Civil Engineer Intern.** Created General Plans set for three different bridges after receiving information from Road Design and Hydraulics. Prepared 60% Preliminary Plans Set to be sent out Hydraulics, Property Survey, and Subgrade Soil Survey sections.
11/19 – 12/19	**H.009498.5 LA 121: Calcasieu River Bridge | Lake Charles, LA | LADOTD :** **Civil Engineer Intern.** Completed revisions for my initial design for this project via Project Engineer's review. Prepared a deep soil boring request.
12/19 – 04/20	**I-10: Texas State Line - East of Coone Gully | LADOTD :** **Civil Engineer Intern.** Checked bent detail and quantities for 3 of 5 bridge sites (6 bridges total). Completed a bridge rating using AASHTOWare Bridge Rating software and STAAD Analysis for all bridge sites (10 bridges total). Checked Pile data quantities to ensure Geotechnical and Bridge Plans have the same values. Designed a custom elastomeric bearing pad for prestressed girder bridges.
03/19 - 04/19	**H.010916.6 Prien Lake Re-Deck & Safety Improvements | LADOTD:** **Civil Engineer Intern.** Completed shop drawings for end dams. Added #7 bars staggering at continuous deck joints to support spans at continuous deck joints. Created a change order for sheets showing bridge plan views.

Firm employed by	H&H Designed to Amaze, Engineered to Last®			
Name	**Dalton Hunt, EI**	Years of relevant experience with this employer	**2**	
Title	**Civil Designer**	Years of relevant experience with other employer(s)	**0**	

Degree(s) / Years / Specialization	**B.S. / 2017 / Civil Engineering**
Active registration number / state / expiration date	**Engineer in Training:** 35118 / LA / 9/30/2024 **Certifications:** NHI 130055 – Safety Inspection of In-Services Bridges; ATSSA Traffic Control Supervisor and Flagger
Year registered: **2022** / Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities	**Structural Designer**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
02/22 – Present	**Lapalco Boulevard Movable Bridge over Harvey Canal | Westwego, LA | Jefferson Parish DPW/LADOTD:** **Engineer Intern** for the pre-design inspection, rehabilitation, and widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction, as well as the design of a new three-lane double bascule movable bridge crossing of Harvey Canal in an urban area. The scope of services also includes the design of a new bridge to be constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
06/23 – Present	**H.009730.5 In-Depth Bridge Inspection of Complex Structures | Statewide, LA | LADOTD:** **Structural Inspector** for inspection of complex structures such as cantilever trusses, cable-stayed bridges, steel vertical lift bridges, and plate girder bascule bridges statewide under separate task orders. Inspection of two steel truss bridges (Jimmie Davis and Miller's Bluff) and a vertical lift bridge (West Fork) have been completed to date.
01/22 – 11/22	**Almonaster Avenue Bridge Rehabilitation and New Connector Road | New Orleans, LA | Port of New Orleans:** **Engineer Intern** for the bridge assessment, complete rehabilitative engineering design, and road design services required for the partial replacement of the Almonaster Avenue Bridge and a new connector road. The road design services include a new alignment for the connecting road, including all drainage structures. H&H also developed a hydraulic study and site plan that includes several retention ponds for drainage improvements. All design work is according to LADOTD Standards and Specifications and reviewed by LADOTD.
04/22 – 12/22	**SR 605 Bascule Bridge over Industrial Waterway | Harrison County, MS | MDOT:** **Engineer Intern** for the comprehensive rehabilitation of this bascule bridge over the Industrial Waterway. Work also included design and detailing of a new PPC pile-supported reinforced concrete generator platform. All designs are in accordance with AASHTO, FHWA, and MDOT guidelines and specifications. Load rating was performed using AASHTOWare BrDR load rating software.
06/22 – 08/23	**SR 609 Movable Bascule Bridge Inspection and Load Rating | Ocean Springs, MS | MDOT :** **Engineer Intern** for inspection of SR 609 Bridge. Scope of work included the in-depth, NSTM, routine, and element level inspection of structural, mechanical, and electrical components of the bridge, as well as the roadway approaches. Load rating was performed using AASHTOWare BrDR load rating software.

04/22 – Present	**H.001498.6 LA 24 and LA 16 Company Canal Vertical Lift Bridge | Bourge, LA | LADOTD:** **Civil Intern** delivering construction engineering and inspection services for a new vertical lift bridge and operator's house. Services include daily monitoring of all construction activities; maintaining all construction field records; coordinating with DOTD, contractor, parish government, and utilities; performing field testing; maintaining records of contractual operations, pay estimates and progress reports; preparing final estimate packages; conducting construction progress meetings; construction close-out, etc.
07/22 – Present	**I-10 & I-12 College Drive Flyover Ramp Design-Build | East Baton Rouge Parish, LA | LADOTD:** **Engineer Intern** for this flyover ramp design-build project which is located at the I-10 West exit to College Drive, in advance of the I-10 & I-12 West merge. H&H serves as Design-Builder's Construction Quality Control Firm (CQCF) and oversees all Design Quality Control and Construction Quality Control activities for the project. Responsibilities include the development and implementation of Comprehensive Quality Plan to ensure the design and construction conforms to all specified requirements. H&H will also develop, maintain, and update Contractor Quality Management Plan and provide all necessary qualified Inspectors, material sampling, testing, independent testing labs to ensure contractors and off-site fabrication facilities meet project specifications.
03/22 – 01/23	**IDIQ Contract for ADA Design Projects Statewide | Slidell, LA | LADOTD:** **Engineer Intern** responsible for the evaluation and consideration of current sidewalk features of Robert Blvd. in Slidell Louisiana. Plans were designed and revised in house in preparation of the overhaul of sidewalks and adding of ADA compliant handicap ramps and landing areas along the roadway to bring the sidewalks up to current LADOTD standards.
03/23 – 11/23	**H.002798.6 Bayou Teche Movable Bridge at Oaklawn | St. Mary Parish, LA | LADOTD:** **Engineer Intern** for the design, calculations, and plan preparation of the bridge power distribution and relay-based control system for this movable bridge located in St. Mary Parish, LA. The new through girder swing-span rotates with hydraulically actuated slewing (push-pull) cylinders. The project was on hold, now in the design phase.
01/23 – Present	**I-59 / I-20 Box Girder Bridges Inspection and Load Rating | Meridian, MS | MDOT:** **Engineer Intern** for the load rating of the two box girder bridges. Bridge No. 147.9A at I-59 and Bridge No. 131.5B at I-20 are located near Meridian in Lauderdale County. The inspection required night work to avoid lane closures on I-20 and I-59, as well as traffic control for lane closures and use of a confined space rescue team for inspection of inside the boxes. The load rating analyses included developing a finite element model of each bridge and for load ratings to follow LFR considering MDOT's permitted vehicle legal loads. The repair recommendations will be made based on the inspection results and the load rating.
12/23 – Present	**H.015028.6 Bayou Barataria Movable Bridge Replacement (CE&I), Phase 1, LA 302 | Jefferson Parish, LA | LADOTD:** **Engineer Intern** responsible for providing construction contract administration and Construction Engineering and Inspection (CE&I) services for: Bayou Barataria Movable Bridge Replacement. This project consists of construction of the movable swing span bridge, operator's house, associated substructure elements, and pier protection system along relocated LA 302 in Jefferson Parish.

Firm employed by	H&H Designed to Amaze, Engineered to Last®		
Name	**Frederick L. Wetekamm, III, PE**	Years of relevant experience with this employer	**5**
Title	**Senior Bridge Engineer**	Years of relevant experience with other employer(s)	**30**

Degree(s) / Years / Specialization	**M.E. / 2018 / Construction Management** **B.S. / 1984 / Civil Engineering**
Active registration number / state / expiration date	**Professional Engineer:** 25369 / LA / 3/31/2024 **Certifications:** FHWA NHI 130078 Fracture Critical Inspection Techniques for Steel Bridges; FHWA NHI 130055 Safety Inspection of In-Service Bridges; FHWA-NHI 130053 Bridge Inspection Refresher Training; ATSSA Traffic Control Supervisor and Flagger; Maintenance & Rehabilitation of Historic Bridges (LADOTD); FHWA NHI #139005, Driven Pile Foundations – Construction Monitoring
Year registered: 1993 / Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities	**Bridge Constructability Review**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/96 – 06/07	**LADOTD Bridge Maintenance Engineer | LADOTD:** **Bridge Maintenance Engineer** responsible for managing the program for inspection, operation, and maintenance of tunnels and pump stations including the tunnel maintenance crews. Performed routine inspections of the three tunnels in the New Orleans Area (Houma, Belle Chasse, and Harvey) on annual basis for over 12 years. Inspections included evaluation of structural, lining, roadway, mechanical and electrical components. He was responsible for creating and distributing tunnel repair work orders to the appropriate LADOTD personnel and coordinating the repairs, materials, equipment, and labor for tunnel and pump station repairs, and coordinating media information and traffic control. Wrote major repair requests (sole source and biddable projects) and generated project plans and specifications for repair projects and accident damages. Wrote major repair requests (biddable projects) and generated project plans and specifications for repair projects for the tunnels and pump station projects. Served as the lead coordinator for the projects with LADOTD District and statewide forces, contractors, consultants, public officials, and media. Provided technical training to mechanics and electricians on implementing processes in the Manuals that increased the reliability and performance of the tunnels and pump stations. Provided damage assessments (DIR) for federally reimbursed repairs from hurricanes and tropical storms. He has extensive experience with specialized traffic requirements for the bridge/ tunnel couplets and District traffic and marine requirements for temporary closures.
08/19 – Present	**H.004396 Lapalco Boulevard Movable Bridge over Harvey Canal | Jefferson Parish, Louisiana | Jefferson Parish DPW/LADOTD:** **Senior Bridge Engineer** for the pre-design inspection and design of a new three-lane double bascule movable bridge crossing of Harvey Canal and the widening of the existing four-lane Lapalco Boulevard to provide a facility carrying three lanes of traffic in each direction in an urban area. The new bridge was constructed as an independent structure immediately adjacent and north of the existing bridge with a new operator house. Project includes rehabilitation to the existing four-lane bridge with three lanes of traffic and a new pedestrian/bike lane, improvements to bridge and roadway approaches, and development of a traffic control plan. All design work is accordance to LADOTD Standards and Specifications and reviewed by LADOTD. Load rating was performed using AASHTOWare BrDR load rating software.
08/20 – Present	**H.001498.6 LA 24 and LA 16 Company Canal Vertical Lift Bridge | Bourge, LA | LADOTD:** **Construction Engineer** responsible for delivering construction engineering and inspection services for a new vertical lift bridge and operator's house. Services include daily monitoring of all construction activities; maintaining all construction field records; coordinating with DOTD,

	contractor, parish government, and utilities; performing field testing; maintaining records of contractual operations, pay estimates and progress reports; preparing final estimate packages; conducting construction progress meetings; construction and close-out.
01/20 – Present	**Almonaster Avenue Railroad Bridge over the Industrial Canal Rehabilitation, New Orleans, LA – Port of New Orleans/LADOTD:** **Senior Bridge Engineer** for the bridge assessment, complete rehabilitative engineering design, and construction inspection services required for the partial replacement of the Almonaster Avenue Bridge, a movable Strauss-heel trunnion bridge. H&H's 2019 assessment of the circa-1920, eligible for the National Register of Historic Places bridge, revealed that improvements to the electrical and mechanical systems, superstructure, and counterweight were required to return this bridge to its full operating capability. Although the existing substructure could remain, modifications were deemed necessary to accommodate the rehabilitated superstructure. H&H developed necessary design plans to replace the span drive and span lock machinery, operating strut, guide assembly, live load bearings, counterweight trunnion pin, and bushing. The main trunnion bearings were rehabilitated and repositioned. All design work is according to LADOTD Standards and Spec and reviewed by LADOTD.
07/16 – 09/18	**Bayou La Loutre Vertical Lift Bridge Rehabilitation (SP 002562) | St. Bernard Parish, LA | LADOTD:** **Senior Project Engineer and CEI Inspector** in responsible charge. Contributed to the rehabilitation design to aid designers in understanding the bridge operation and maintenance preferences for the LADOTD and provided construction engineering and inspection services during construction. The Bayou La Loutre Bridge Rehabilitation Project scope consisted of bridge structural repairs, cleaning and painting of the bridge structure, installation of a new fender system, and replacement of the bridge operator house utilizing the current LADOTD BDEM and LSSRB. Built in 1957, this project was the first major rehabilitation to the bridge.
01/96 – 06/07	**Special Inspections of Bridges in District 02 (New Orleans Area) | LADOTD:** **Team Leader and Structural Engineer** responsible for all special inspections required during tenure as Bridge Maintenance Engineer. Inspections included marine vessel accident damage inspections, motor vehicle accident damages, and post-storm damage assessments. Performed all construction contract repair inspections generated from special inspections. Performed 100% hands-on inspection of fracture critical girders, pier caps, primary members, structural deck, and secondary members.
02/23 – Present	**H.015028.6 Bayou Barataria Movable Bridge Replacement (CE&I), Phase 1, LA 302 | Jefferson Parish, LA | LADOTD:** **Senior Bridge Engineer** responsible for providing construction contract administration and Construction Engineering and Inspection (CE&I) services for: Bayou Barataria Movable Bridge Replacement. This project consists of construction of the movable swing span bridge, operator's house, associated substructure elements, and pier protection system along relocated LA 302 in Jefferson Parish.
11/15 – 03/18	**Danziger Vertical Lift Bridge Rehabilitation (SP 000303.6) | Orleans Parish, LA | LADOTD:** **Project Area Engineer** in responsible charge of contract administration and supervising the Project Engineer and LADOTD Certified Inspectors for construction inspection. This project scope involved the replacement of the asphaltic concrete roadway on the lift span (310-lf x 72-lf) with a latex modified concrete, replace the lifting ropes, replace most of the mechanical operating components, and rehabilitation of the operator house.
08/20 – Present	**I-10 & I-12 College Drive Flyover Ramp Design-Build | East Baton Rouge Parish, LA | LADOTD:** **Senior Bridge Engineer** overseeing design and construction quality control/quality assurance for this flyover ramp design-build project which is located at the I-10 West exit to College Drive, in advance of the I-10 & I-12 West merge. H&H serves as Design-Builder's Construction Quality Control Firm (CQCF) and oversees all Design Quality Control and Construction Quality Control activities for the project. Responsibilities include the development and implementation of Comprehensive Quality Plan to ensure the design and construction conforms to all specified requirements. H&H will also develop, maintain, and update Contractor Quality Management Plan and provide all necessary qualified Inspectors, material sampling, testing, independent testing labs to ensure contractors and off-site fabrication facilities meet project specifications.

Firm employed by	H&H Designed to Amaze, Engineered to Last®		
Name	**John Corven, P.E.**	Years of relevant experience with this employer	**2**
Title	**Civil Designer**	Years of relevant experience with other employer(s)	**40**

Degree(s) / Years / Specialization	**M.S. / 1979 / Civil Engineering** **B.S. / 1978 / Civil Engineering**
Active registration number / state / expiration date	**Professional Engineer: 38309 / LA / 3/31/2024**
Year registered: **2013** / Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities	**Civil Designer – Meets MPR 4**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
05/21 – Present	**I-395 Segmental Bridges | Miami, FL | FDOT:** **Chief Engineer** for the design of five new precast segmental bridges that are a part of the SR 836/I-95/I-395 urban corridor improvements. This design-build project is being constructed by the Archer Western-De Moya Joint Venture. The overall construction value of the project is $800 million, and the segmental bridges have a deck area of 700,000 square feet (approximately $200 million). Directed the development of the bridge layouts, cross sections, and construction methodology. The work also includes design, load rating, oversite of the final design, shop drawings, and construction engineering.
01/23 – Present	**I-59 / I-20 Box Girder Bridges Inspection and Load Rating | Meridian, MS | MDOT:** **Senior Structural Engineer** for the load rating of the two box girder bridges. Bridge No. 147.9A at I-59 and Bridge No. 131.5B at I-20 are located near Meridian in Lauderdale County. The inspection required night work to avoid lane closures on I-20 and I-59, as well as traffic control for lane closures and use of a confined space rescue team for inspection of inside the boxes. The load rating analyses included developing a finite element model of each bridge and for load ratings to follow LFR considering MDOT's permitted vehicle legal loads. The repair recommendations will be made based on the inspection results and the load rating.
03/13 – 05/23	**Replacement of the Viaducts at I-59/I-20 Central Business District (CBD) | Birmingham, AL | ALDOT:** **Chief Engineer** who performed the longitudinal analysis of the precast segmental superstructure for the project including load rating analysis. Interstates 59 and 20 converge in downtown Birmingham to form the most heavily traveled roadway in Alabama. H&H designed segmental concrete urban viaducts to replace substandard steel bridges built in the early 1970s. The project, which includes 1 million square feet of elevated bridge deck, was constructed in less than 12 months, and plays a significant role in the wider revitalization of the central business district. The project has separate eastbound and westbound mainline structures, each with a length of 6,500'. Each of these bridges is comprised of two precast box girders joined by a longitudinal closure joint. The combined widths vary from 80' to 90'. Span lengths vary from 110' to 165' and were built by the span-by-span method.
04/22 – 09/22	**I-82 Columbia River Bridge at Umatilla | Umatilla, OR | WSDOT:** **Chief Engineer** for the load rating of the I-82 westbound structure, a cast-in-place balanced cantilever segmental bridge that opened to traffic in 1988. The bridge has eight spans and a length of 3,365 feet. The bridge features two 660-foot spans crossing the Columbia River. These two spans are supported by fixed, twin-walled columns. The columns provided overturning stability during cantilever construction. In service, the twin-wall piers provided increased longitudinal flexibility to accommodate creep, shrinkage, and thermal movements. The superstructure of the I-82 westbound bridge is a variable depth box girder with a width of approximately 51 feet. The bridge carries two 12-foot lanes, shoulders, and

	a barrier separating the pedestrian lane. H&H completed an in-depth load rating of the I-82 westbound bridge. Involved in the three-dimensional model using CSiBridge software, including construction stages and calculated the time-dependent properties of the concrete. Reviewed flexural and shear capacities of the concrete segments.
06/12 – 12/18	**WMATA Segmental Bridges – Inspections and Repairs | Washington, DC | Washington Metropolitan Area Transit Authority:** **Project Manager / Lead** for the design of the aerial structures. The inspection of segmental bridges J2e, E6f, and F10a. Post-tensioning corrosion was observed during a routine inspection on WMATA's precast segmental bridges. Performed an inspection, an evaluation of the post-tensioning systems and a load rating of seven segmental bridges. Project tasks included inspection, remediation plan, and load rating.
07/11 – 09/14	**Plymouth Avenue Bridge Post-Tensioning Repair | Minneapolis, MN | City of Minneapolis:** **Project Manager** for the inspection of the 934-foot bridge consisting of two connected box girders with span lengths from 120 to 260 feet. The total width is 75 feet, 6 inches and the box girders vary in depth from 10 to 13 feet. Severe post-tensioning corrosion was found during a routine inspection. Assessed the condition of the post-tensioning system and the integrity of the bridge, analyzed the stresses in the bridge, and developed construction documents to restore the integrity of the bridge. During construction, provided onsite technical assistance. The final phase of the project included a load rating of the bridge.
03/01 – 05/05	**New Directions for Florida Post-Tensioned Bridges | Statewide, FL | FDOT:** **Project Manager and Principal Author** who worked with the Central Office of the Florida DOT, developed guidelines for load rating post-tensioned bridges. Guidelines were developed first for segmental bridges and then extended to all prestressed concrete bridges. John helped prepare load rating analyses to calibrate load and resistance factors appropriate to operating and inventory load ratings for segmental bridges.
06/02 - 12/04	**I-75 / SR 826 Ramp A Widening | Miami, FL | FDOT:** **Project Manager / Principal Designer** for the widening of this 3000' long precast segmental bridge. This project represents the first segmental bridge to be widened in America. The 17-year-old single-lane bridge was widened to accommodate a second lane of traffic. Prepared the final design for the widening. Time-dependent construction analyses were performed to determine the current state of stress in the bridge and to study the effects of additional post-tensioning to strengthen the bridge. Three-dimensional analyses of the complete bridge were performed to determine the effect of the sequence of bridge widening transversely and the effects of lateral shifts in traffic required to maintain traffic throughout the widening.
07/10 – 09/12	**Foothills Parkway Bridge No. 2 | Wears Valley, TN | National Park Service/Federal Highway Administration:** **Engineer of Record** for this $25 million precast segmental bridge is located on the Foothills Parkway near the Great Smoky -Mountain National Park. Complex geometry around the mountainsides and environmental sensitivity constraints required balanced cantilever construction "from the top down" using a unique system of temporary bridge and segment hauler to place segments. The project was delivered as a design-build project with Bell Construction of Brentwood, TN. The project was managed by or the Eastern Federal Lands Highway Division of the FHWA on behalf of the National Park Service.
05/12 – 06/18	**Brattleboro Bridge | Brattleboro, VT | Vermont Agency of Transportation:** **Design and Construction Review Engineer** for this bridge that carries I-91 across the West River near Brattleboro, Vermont. The design-build project consists of a single 1036' continuous structure built in balanced-cantilever and using form travelers to construct the cast-in-place segments. Span lengths are 263', 510', 263'. The superstructure is 104'-8" wide and consists of a single box girder with two cells. The single box girder varies in depth from 12' at mid-span to 30' at the piers. Serving as a subconsultant to VHB, engineering services were provided to the Vermont Agency of Transportation included peer reviews with independent analyses.
02/16 – 03/17	**Monongahela River Bridge | Allegheny County, PA | Pennsylvania Turnpike Commission:** **Chief Engineer** for the conceptual study and preliminary design of a new concrete cable-stayed bridge across the Monongahela River near Pittsburgh, PA. The 2,490' bridge features a 1,120' cable-stayed main-span. The 95' wide bridge is comprised of edge girders with floor beams to support the deck.

Firm employed by	H&H Designed to Amaze, Engineered to Last®		
Name	**Dennis Gowins, P.E.**	Years of relevant experience with this employer	**2**
Title	**Structural Engineer**	Years of relevant experience with other employer(s)	**42**

Degree(s) / Years / Specialization	**B.S. / 1978 / Civil Engineering** **M.S./ 1990 / Civil Engineering**
Active registration number / state / expiration date	**Professional Engineer: 0024468 / LA / 09/30/2025**
Year registered **1991** Discipline	**Civil Engineering**
Contract role(s) / brief description of responsibilities	**Structural Engineer – Meets MPR 5**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
05/21 – Present	**I-395 Segmental Bridges | Miami, FL | FDOT:** **Structural Engineer** for the design of five new precast segmental bridges that are a part of the SR 836/I-95/I-395 urban corridor improvements. This design-build project is being constructed by the Archer Western-De Moya Joint Venture. The overall construction value of the project is $800 million, and the segmental bridges have a deck area of 700,000 square feet (approximately $200 million). Directed the development of the bridge layouts, cross sections, and construction methodology. The work also includes design, load rating, oversite of the final design, shop drawings, and construction engineering.
06/13 – 05/23	**I-59 / I-20 Central Business District Viaducts | Birmingham, AL | ALDOT:** **Structural Engineer** for the design and load rating of 1 million square feet of new elevated urban viaducts to replace the existing interstate bridges. The project has separate eastbound and westbound mainline structures, each with a length of 6,500'. Each of these bridges is comprised of two precast box girders joined by a longitudinal closure joint. The combined widths vary from 80' to 90'. Span lengths vary from 110' to 165' and were built by the span-by-span method.
06/22 – Present	**SR826 Palmetto DB Design and Post | Miami-Dade County, FL | FDOT: Structural Engineer** for bridge located in downtown Miami urban area. The bridge design requirement was to keep existing bridge and roadways open to traffic while widening construction was being performed. Performed design and load rating calculations for concrete superstructure and steel substructure elements for bridge widening. Created details and plan sheets for superstructure and substructure elements for bridge widening.
01/23 – Present	**I-59 / I-20 Box Girder Bridges Inspection and Load Rating | Meridian, MS | MDOT:** **Load Rating Engineer** for the load rating of the two box girder bridges. Bridge No. 147.9A at I-59 and Bridge No. 131.5B at I-20 are located near Meridian in Lauderdale County. The inspection required night work to avoid lane closures on I-20 and I-59, as well as traffic control for lane closures and use of a confined space rescue team for inspection of inside the boxes. The load rating analyses included developing a finite element model of each bridge and for load ratings to follow LFR considering MDOT's permitted vehicle legal loads. The repair recommendations will be made based on the inspection results and the load rating.
08/14 – 10/15	**I-269 Over Coldwater River | Marshall County, MS | MDOT:** **Structural Engineer** responsible for the seismic analysis and load rating of this 4,054-foot-long, 62 span bridge (17 units) carrying I-269 over Coldwater River. The 98-foot-wide bridge carries six lanes of traffic with barriers. The 65-foot spans are comprised of nine Type III AASHTO beams on 11-foot, 6-inch spacings with an 8-inch concrete deck. The bridge is supported on precast concrete pile bents with 24-inch prestressed concrete piles. A site-specific response spectrum analysis was performed with an extensive 3D finite element model. Nonlinear springs were applied along each pile element to emulate the response of the extremely variable soil layers.

06/03 – 12/04	**Replacement of the US 17A Over I-26 | Berkeley County, SC | SCDOT:** **Structural Engineer** for the development of the final design including load rating of the 360-foot, four-span bridge replacement. This structure, which was analyzed for site-specific seismic loads and is located on a main arterial between the northern suburbs and the City of Charleston. The 145-foot-wide superstructure is supported by bulb-tee and AASHTO girders, which in turn are supported by traditional bents and drilled shafts founded in cooper marl.
09/13 – 06/14	**Tampa International Airport Taxiway B Bridge | Tampa, FL | Hillsborough County Aviation Authority:** **Structural Engineer** responsible for independent checks of the longitudinal analyses, principal stresses, load rating, and 3-D finite element analyses of the adequacy of the existing bridge. The project included the inspection / peer review of the 227-foot, 6-inch-long by 217-foot, 6-inch-wide bridge and calculations following inspection. The inspection revealed cracking in the deck and blocked tendons. The major spans of the bridge are 97 and 94 feet with a small outer span of 36 feet. The bridge is a multicell cast-in-place post-tensioned (31K6 tendons) concrete bridge. The bridge is founded on columns supported on four-foot drilled shafts.
08/16 – 06/21	**SR 836 / I-95 / I-395 Interchange | Miami , FL | FDOT: Structural Engineer** responsible for all substructure and miscellaneous structural designs and load rating for the segmental bridges during the successful design-build pursuit. For final design, responsible for review of all substructure bridge designs (bridges 4,5,6w,6e,7w,7e and 11 – 12,600 lf) and final design of all abutments and miscellaneous structures. The segmental bridges are built in balanced cantilever and are founded on footings supported by auger cast concrete pilings. This $800 million project is all about transforming Miami by reconnecting communities that were once divided, creating a safer environment for pedestrian and vehicular traffic, and solving mobility challenges that have inhibited traffic for many years.
06/97 – 12/01	**SR 84 Bridge over South Fork New River | Davie, FL | FDOT:** **Bridge Structural Engineer** responsible for the design, detail of repairs, and preparation of cost estimates for a $4 million Hopkins trunnion single-leaf bascule span bridge rehabilitation. The project included in-depth structural, mechanical, and electrical inspection; reports; load ratings on bascule and approach spans; and rehabilitation plans for the structural, mechanical, and electrical systems.
02/08 – 12/10	**SR 5 / US 1 Parker Bascule Bridge Rehabilitation | Palm Beach, FL | FDOT:** **Bridge Project Engineer** responsible for project coordination for the twin double-leaf Hopkins trunnion bascule span bridge rehabilitation project. Scope included in-depth inspection, condition report with load ratings, rehabilitation recommendations, as well as preparation of structural, architectural, mechanical, and electrical plans for hydraulic machinery retrofit, electrical system improvements, control house modifications, bridge widening, roadway design, and embankment improvements
01/98 – 08/07	**SR 786/PGA Boulevard Bascule Bridge Rehabilitation | Palm Beach Gardens, FL | FDOT**: **Bridge Structural Engineer** responsible for the design, repair details, load rating analysis, and cost estimate preparation. This $15 million multi-phase construction project included in-depth inspection, condition report with load ratings and recommendations, preparation of structural, mechanical, and electrical rehabilitation plans, and bascule span replacement plans for this twin double-leaf bascule span bridge. Project design utilized existing bascule pier foundations and approach span structure to minimize costs. The design required multi-phase construction to maintain traffic.
01/06 – 06/07	**Widening of the Huey P. Long Bridge over the Mississippi River | Jefferson Parish, LA | New Orleans Public Belt Railroad:** **Project Manager/Design Engineer** for the independent design review of the proposed widening of the 1,850' main span cantilever truss spanning the Mississippi River. The main bridge consisted of a 790' main span in conjunction with 2 532' cantilever side spans. In addition to this main bridge, an approach through truss of 532' was analyzed for the proposed widening. The proposed widening to the existing bridge was to accommodate 6 11' lanes in addition to 2 rail lines. The current bridge can only accommodate 4 9' lanes in addition to the two existing rail lines. The analysis also included load rating and investigation of the substructure elements.

16. Staff Experience: Urban Systems, LLC

Firm employed by	URBAN SYSTEMS INC.		
Name	**Alison C. Michel, P.E., PTOE, PTP, RSP2i**	Years of relevant experience with this employer	**22**
Title	**President/Transportation Engineer**	Years of relevant experience with other employer(s)	**3**

Degree(s) / Years / Specialization			**BS / 1997 / Civil Engineering**
Active registration number / state / expiration date			**30261 / Louisiana / 03/31/2025**
Year registered	**2002**	Discipline	**Professional Engineer: Civil Engineering**
Active registration number / state / expiration date			**1023 / Louisiana / 11/06/2026**
	2002 / 2017		**Professional Traffic Operations Engineering/ No.1023 / 11/06/2026**
Active registration number / state / expiration date			**Professional Transportation Planner /No. 626/ 11/20/2026**
	2023		**Road Safety Professional 1/ No. 115 / 12/2024**
Active registration number / state / expiration date			**Road Safety Professional 2i / No. 148/ 03/2026**
Contract role(s) / brief description of responsibilities			**Professional In Charge of Traffic Engineering Tasks**

	Ms. Michel has over twenty-five (25) years' experience in Traffic Engineering and Transportation Planning. Ms. Michel has a wide array of experience with transportation studies including traffic impact, safety, corridor, feasibility/Stage 0, environmental/Stage 1, multi-modal and transit facilities. She has experience in the timing of coordinated signal systems and progression analyses. She is proficient in microscopic simulation modeling using VISSIM and CORSIM and also in analysis programs such as Highway Capacity Software (HCS),Tru-Traffic and SIDRA. She has extensive design experience that includes permanent and temporary traffic signals, traffic control devices for work zones, intelligent transportation systems, signage and striping.
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
11/08 - 11/12	**Interstate 10 at LA 44 and LA 44 at Edenborne Pkwy Traffic Signal Design -** Ms. Michel was the Principal in Charge responsible for the management and QA-QC of the project to design the new traffic signals for the River Parish Community College (RPCC) based development in Gonzales, LA. The design included interconnection between the signals and connected into LADOTD's mainline fiber network. She coordinated between the developer and the LADOTD District Traffic Engineer to obtain a permit for the construction. This included collaborating with the LADOTD Traffic Engineering Management section on use of the latest TSI forms and with the LADOTD Intelligent Transportation System office regarding tying into the mainline fiber optic communication network along Interstate 10.
01/14 - 08/19	**US 90 (I-49 South) Albertson's Parkway to Ambassador Caffery Design-Build Project, Lafayette Parish, LA (LADOTD) -** Ms. Michel was a member of the key personnel for this design-build project as the Traffic Engineer. The project included converting US 90 to a controlled access facility by converting at-grade intersections to an interchange in Lafayette, LA. The bridge structure had to span the intersection and a railroad. She supervised the design and analysis and performed QA-QC for temporary and permanent signal plans, permanent signage plans, **temporary traffic control plans and the Transportation Management Plan**.

	Signal plans were prepared using the DOTDs latest TSI format. Analysis included developing design hour volumes for the design year and modeling signals in Synchro. Phasing and timing were developed for both permanent and temporary signal operation.
01/06 - 06/07	**Intersection Improvements Livingston & St. John Parishes -** Ms. Michel was project manager for intersection signal design for intersections on US 190, LA 3282 and LA 1030, where signalization was added or modified. A left turn lane was added to the eastbound approach of LA 64 and the westbound approach of LA 1026. A left turn lane was added on the eastbound LA 44 approach and separate right turn lanes on the LA 44 westbound and LA 3223 southbound approach. The signage and striping were designed by Ms. Michel to incorporate the added lanes.
10/10 - current	**Pecue Lane / I-10 Interchange Environmental Assessment -** Ms. Michel was the Principal in Charge for the Traffic Engineering tasks as a sub-consultant for the Pecue Lane / I-10 Interchange project. She managed the staff, communicated with clients and performed the technical QA/QC for each phase. The phases included preparing a traffic study for the Stage 1 Environmental Assessment, updating the Interchange Justification Report for submittal to FHWA, preparing a Transportation Management Plan, and designing traffic signals using the LADOTD TSI format. At the time of the design, this was to be Louisiana's first Diverging Diamond Interchange (DDI). Ms. Michel worked closely with DOTD and Baton Rouge City-Parish to develop signal phasing and timing for the DDI using Highway Capacity Software and VISSIM. The design of the signal at the intersection of Pecue Ln at Rieger Rd was also reviewed by Ms. Michel. Her familiarity with Highway Capacity Software, Transcad, CORSIM and VISSIM was critically important during the various phases of the project. Ms. Michel reviewed the construction cost estimates for each signal. The last phase of this project will be construction administration.
10/15 - 09/16	**Ascension Parish TIAs -** Ms. Michel has been conducting Traffic Impact Analyses (TIA) for proposed developments in Ascension Parish for more than twenty years. TIAs for the Ascension Parish School Board included K-5 Bluff Road, K-5 Emory Ficlin Road and Central Primary. Under Ms. Michel's direction, USI staff prepared TIAs for East Creek Villas, Mosaic Faustina Facility Expansion, Serenity Oaks, Eagles Landing Subdivision, Megan's Lake Subdivision, Mossy Oaks Subdivision, Prairieville C-Store and many others. She is familiar with the roadway network in Ascension Parish, LADOTD Traffic Impact and Access Management Policies, and preparing plans in LADOTD format. Many of these projects included **designing improvements for impact mitigation**. She also supervised two projects for Ascension Parish to review their Traffic Impact Policy and prepare updates.
01/08 - 06/08	**Tanger Boulevard Traffic Signal Design and Modification / Tanger Outlet Mall Parking Lot Re-Design -** For Tanger Properties regarding the Tanger Outlet Mall, Ms. Michel, conducted a traffic study, prepared a parking lot re-design and developed traffic signal design and modification plans for Tanger Boulevard at LA 30/Nicholson Drive in Gonzales, LA. Modifications were required to accommodate the new triple left turn geometry, including the removal and replacement of a mast arm. She performed capacity and progression analysis to determine the optimum phasing and timing for the subject signal and the coordinated signal plans to provide progression between the signal and the signals at the Interstate 10 ramps. Design sheets included **striping layout, traffic signal layout**, traffic signal wiring diagram, coordinated signal timing, and standard plans and details.
02/20 - current	**LA 23: Belle Chasse Bridge & Tunnel -** Ms. Michel is managing USI's tasks for Owner Verification services focused on reviewing design plans for traffic related submittals from the design-builder. These submittals included capacity analysis, plans for traffic signals, signage and striping. Ms. Michel conducted Quality Assurance/Quality Control reviews to confirm adherence with LADOTD standards and the Manual of Uniform Traffic Control. During the construction, Ms. Michel may provide support by reviewing Traffic Control Devices Plans for proposed lane closures, detours and advanced warning signage in Plaquemines Parish, LA .

Firm employed by URBAN SYSTEMS inc.				
Name	**Nicole Stewart, P.E., PTOE**	Years of relevant experience with this employer	**19**	
Title	**Vice President / Transportation Engineer**	Years of relevant experience with other employer(s)	**1.5**	

Degree(s) / Years / Specialization			**BS / 1997 / Civil Engineering**
Active registration number / state / expiration date			**34750 / Louisiana / 09/30/2025**
Year registered	**2009**	Discipline	**Professional Engineer: Civil Engineering**
Active registration number / state / expiration date			**2923 / Louisiana / 08/14/2024**
	2012		**Professional Traffic Operations Engineering**
Contract role(s) / brief description of responsibilities			**Traffic Engineering/Striping signage TCDP & TMP**

	Ms. Stewart has nineteen (19) years of experience in Traffic and Transportation Engineering and is a certified Traffic Control Design Specialist. Ms. Stewart has extensive experience in preparing Transportation Management Plans and site-specific traffic control devices plans for every possible environment. This includes closing downtown streets with bike lanes and sidewalks, suburban road closures on multilane highways, and rural road closures requiring extensive detours as well as ramp and interstate closures, both intermittent and long term. Ms. Stewart has designed numerous traffic signals with and without pedestrian accommodations. She has conducted safety studies for public and private clients to improve pedestrian mobility and safety in areas with high volumes of pedestrian activity. Ms. Stewart has experience in signal design and timing of coordinated systems for LADOTD. She has experience using Highway Capacity Software (HCS), Synchro, and SIDRA.
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/06 - 04/09	**Ryan Street at Prien Lake Road Intersection Improvements** Ms. Stewart prepared the design plans for roadway modifications and traffic signal upgrade in Lake Charles, LA. The turn lanes on both Ryan Street and Prien Lake Road had to be designed within limited Right of Way. Modifications to existing subsurface drainage were included. The construction documents were prepared per LADOTD standards. Ms. Stewart prepared an opinion of probable cost based on LADOTD pay items. The intersection improvements were successfully constructed.
04/08 - 11/10	**LA 431 Corridor Stage 0 Traffic Study** Ms. Stewart led the efforts as the engineer responsible for the safety analysis in Ascension Parish. The primary focus of the study was to identify the causes of the high number of roadway departures on LA 431 between LA 42 at US 61. Improvements were identified and analyzed for the eight major intersections within the study area. After conducting a review of detailed accident reports, speed studies and intersection analysis, recommendations included converting the LA 431 at LA 42 intersections to a roundabout with lighting to reduce nighttime collisions. The roundabout was successfully constructed.
02/15 - 06/16	**Bridge Preventative Maintenance District 61** Ms. Stewart was the principal in charge for Traffic Management Plans (TMP) for bridge replacement and repairs for various locations in Louisiana. This included developing various levels of TMP's based on LADOTD EDSM guidelines. Tasks included conducting capacity analysis, safety analysis, detour analysis and developing proposed mitigations where applicable. For the

	reconstruction of the LA 1 bridge over the Intracoastal Waterway, a detailed Level 3 TMP was prepared. For this TMP, detailed work zone impact management strategies were developed to help minimize the project's impact on mobility.
04/10 - 08/11	**LA 447 and I-12 Interchange Stage 0 Feasibility Traffic Study** This traffic study was conducted by Ms. Stewart along with other team members to develop and analyze seven (7) intersections along LA 447 in the vicinity of the I-12 interchange in Livingston Parish. Roundabouts were considered for three (3) of the intersections. Ms. Stewart managed the data collection efforts that included vehicle and traffic assignments forecasting based on Transcad model output classification, speed, and crash data. Ms. Stewart was responsible for the QA/QC of the traffic analyses using Highway Capacity Software, Plus and SIDRA. The roundabouts have since been designed and constructed by others.
02/20 - 01/23	**US 190 at Northshore and Camp Villere Roundabouts** As the principal in charge, Ms. Stewart was responsible for the Quality Assurance/ Quality Control check of the temporary signal design plans that were required for the complex phasing of roundabout construction. Ms. Stewart also reviewed the preliminary Traffic Control Devices Plans prepared by the prime consultant and provided detailed comments to ensure that the plans conformed to the most recent edition of the MUTCD and the latest LADOTD Traffic Control Details.
05/18 - 04/19	**TMP for I-10: West of 108 to I-210 Interchange: Rubblize and Overlay** As the lead engineer for this Traffic Management Plan, Ms. Stewart was responsible for the preparation of the safety analysis. She conducted the analysis per the guidelines set forth by LADOTD in Guidelines for Crash Data Analysis for this TMP in Lake Charles, LA. She conducted queue analysis to identify when lane closures would be permitted, identified the construction impact area and reviewed crash data for more than 350 collisions. Ms. Stewart identified trends and calculated crash rates and determined that the section of I-10 that was going to be rubblized had a crash rate that was higher than the statewide average and required mitigation.
03/12 - 11/13	**MacArthur Interchange Signal Modification/ Signage & Striping / Traffic Control Devices Plans** The traffic study to evaluate the existing and projected operating conditions of the lower Westbank Expressway in Harvey, LA was prepared by Ms. Stewart. In the second phase, Ms. Stewart designed the new traffic signals for the interchange and neighboring intersections. She prepared the striping and signage plans to accommodate the ramp changes and prepared Traffic Control Devices Plans for the various stages of construction.
02/20 - 05/21	**MDOT Low Cost Safety** As the principal in charge, Ms. Stewart developed a plan to visit and document existing conditions at one hundred and sixty-four (164) intersections in Mississippi, that had been identified by MDOT as needing either basic, intermediate or enhanced low-cost safety improvements. Once a strategic plan to visit each intersection was prepared, Ms. Stewart was one of two engineers to visit each site. She was responsible for design plans for each of the intersections she visited and performed QA/QC on those she did not design. Upgrades to signage and striping was designed for each intersection in accordance with MUTCD ad MDOT standards. Ms. Stewart prepared a construction cost estimate and performed a quality assurance check of the final plans.

Firm employed by URBAN SYSTEMS Inc.				
Name	**Christine M. Darrah, P.E.**	Years of relevant experience with this employer	**9**	
Title	**Transportation Engineer**	Years of relevant experience with other employer(s)	**20**	

Degree(s) / Years / Specialization			**BS / 1997 / Civil Engineering**
Active registration number / state / expiration date			**25828 / Louisiana / 09/30/2025**
Year registered	**1999**	Discipline	**Professional Engineer: Civil Engineering**
Contract role(s) / brief description of responsibilities			**Traffic Engineering/Design Analysis and QA/QC**

	Ms. Darrah has experience in Transportation/Civil Engineering including maintenance of traffic, roadway design plans and specifications, construction management and quality control. She is proficient in the use of AutoCAD, Adobe Illustrator, and Highway Capacity Software (HCS). She also has experience using MicroStation and TransCAD. She has experience developing temporary striping and signage plans for various conditions including lane closures, road closures, flagging operations and full detour plans. Ms. Darrah has prepared traffic signal design plans in LADOTD format. She has been involved in Operational Analysis, Data Collection, Safety Studies, Crash Data Analysis, and Bike/ Pedestrian accommodations. Her many years and wide variety of experiences are valuable during studies, design development and QA/QC.
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
11/20 - 02/23	**US 190 at Northshore and Camp Villere Roundabouts** As project engineer, Ms. Darrah oversaw the design of permanent striping & signage plans per LADOTD standards and specifications. She also designed temporary traffic signals that would be required during the multiple phases of roundabout construction. A Level 2 Traffic Management Plan (TMP) was also prepared. Ms. Darrah coordinated with the prime-consultant, St Tammany Parish, and LADOTD as needed.
06/21 - 10/21	**MSY Entrance Road Capacity, North Terminal Louis Armstrong New Orleans International Airport** Ms. Darrah prepared temporary and permanent striping and signage plans for the widening of the Southbound Airport Access Roadway, realignment of TNC Road, and widening of Northbound Airport Access Rd. As part of this project, she performed a comprehensive review of the adjacent Airport Access Rd Improvements included in the I-10/Loyola Interchange Improvement project. The proposed improvements required temporary closure of one lane of the airport roundabout, roundabout slip lane and right lane of Northbound Airport Access Rd.
03/18 - 05/18	**Ascension Parish TIA Policy Update** Ms. Darrah updated Ascension Parish's Traffic Impact Assessment Policy and created a Traffic Scoping Information form to assist the parish with reviews. She coordinated with Ascension Parish Administration, the Engineering Review Personnel, and Planning Commission on the updates to the policy and the parish ordinance.

03/14 - current	**Transmission Line Reconductoring Projects** Ms. Darrah designed numerous Traffic Control Devices Plans for over 100 miles of transmission line replacement to meet US Army Corps of Engineers, LADOTD, parish and MUTCD standards in New Orleans, LA. The plans and specifications included, but were not limited to, the proper placement of temporary Traffic Control Devices (signs, barricades, and drums, etc.) for city street, highway, and interstate closures to facilitate traffic and oversized equipment safely and efficiently through the traffic control zones. Interstate projects included lane closures, intermittent full closures and rolling closures of the interstate system. Ms. Darrah assisted Entergy with permit preparation for work on state routes and road closure request with local entities.
09/14 - 12/14	**SELA 26 Widening of Florida Ave. Canal Phase II and III** Ms. Darrah designed Traffic Control Devices Plans to meet US Army Corps of Engineers, LADOTD and MUTCD standards at Florida Avenue Canal in New Orleans, LA . The plans and specifications included, but were not limited to, the proper placement of temporary Traffic Control Devices (signs, barricades, drums, roadway markings, etc.) to facilitate traffic safely and efficiently through the traffic control zone. Haul routes were designated when necessary.
04/18 - 01/22	**N. Peters Sidewalk Expansion** Ms. Darrah prepared construction drawings and specifications for the reconstruction of the sidewalk adjacent to Canal Place Shopping Center in the Downtown Development District (DDD) in New Orleans, LA. The plans included the geometric layout, grading, drainage, street lighting, striping and traffic control. The plans followed all DDD, MUTCD, ADA, New Orleans DPW and S&WB requirements. Ms. Darrah also provided Construction Management Services. This included field inspections, responding to inquiries and reviewing contractors invoices.
06/22 - 10/22	**KCS Acadian Thruway** This project included lane closures and full closure of Acadian Thruway at the KCS bridge near the I-10 interchange in East Baton Rouge Parish. Ms. Darrah prepared the Traffic Control Devices Plans applying MUTCD and LADOTD standards for proper placement of traffic control devices. Additional project efforts included designing lane closures on an I-10 onramp for laydown access and police-controlled haul routes.
06/14 - 01/17	**City Park Parking Lot Improvements** Ms. Darrah lent her expertise to design roadway and parking lot improvements in City Park, New Orleans, LA. Ms. Darrah provided QA-QC of the construction drawings and specifications to ensure accordance with all MUTCD, ADA, and New Orleans DPW requirements. Permeable asphalt pavement was used in the parking lot to incorporate green infrastructure in the project. The work consisted of geometric layout, grading, drainage, utility adjustments, striping and signage. Ms. Darrah also conducted construction administration services to ensure compliance with City of New Orleans DPW standards.
07/22 - 08/22	**Mossville** As the project Manager Ms. Darrah designed Traffic Control Devices Plans for two rolling closures of I-10 and associated ramps in Lake Charles, LA for transmission line repairs. Efforts included designing plans for interstate closure and detours. Ms. Darrah coordinated with LADOTD and Calcasieu Parish in identifying optimal locations for Dynamic Message Signage.

Firm employed by				
Name	**Matthew H. Morgan, P.E.**	Years of relevant experience with this employer	**12**	
Title	**Transportation Engineer**	Years of relevant experience with other employer(s)	**0**	

Degree(s) / Years / Specialization			**BS / 2009 / Civil Engineering**
Active registration number / state / expiration date			**47060 / Louisiana / 03/31/2024**
Year registered	**2022**	Discipline	**Professional Engineer: Civil Engineering**
Contract role(s) / brief description of responsibilities			**Traffic Engineering**

	Mr. Morgan has (12) twelve years' experience that ranges from starting as a Data Collection Manager while in college to an E.I and now a P.E. for Traffic Engineering/ Transportation planning projects. He has collected and delivered volume, class, and speed data to project managers using road tube equipment and camera systems. Mr. Morgan has been a team member for many projects that involved intersection, freeway, and highway analysis. He has assisted with Traffic Impact Studies, Traffic Control Device Plans, Interchange Modification/Justification Reports, Stage 0 Studies, Transportation Management Plans, and a variety of other studies. Mr. Morgan's design experience includes from traffic signals, signage and striping. He has been heavily involved in complete streets projects with a focus on bike/ pedestrian facilities. Morgan's wide range of experience in a short time will bring creativity and innovation to roadway projects when traditional methods won't meet the unique needs of the community. He is proficient in the following software: PetraPro, TraxPro, MetroCount, Excel, AutoCAD, SIDRA, HCS, SIDRA, VISSIM, CORSIM, and Adobe Suite.
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/22 - current	**Greenwell Springs** The objective of the preliminary assessment was to evaluate the feasibility of converting the intersection of Greenwell Springs at Morgan Road, in East Baton Rouge Parish into a roundabout. Mr. Morgan coordinated to obtain the collection of 48-hour vehicular turning movement count data. Mr. Morgan reviewed the data and selected peak hours for analysis. He also used the data along with LADOTD historical traffic data to calculate D, K, and T factors and 2022/2042 ADTs for the study roadways. Mr. Morgan used SIDRA traffic analysis software to analyze the intersection as an unsignalized, signalized, and roundabout intersection. He reviewed the reported crashes from the LADOTD database near the intersection for the years 2019-2021 and developed crash rates for comparison to statewide averages.
03/22 - 09/22	**Hundred Oaks Broussard Bridges TCDP** The objective of the Traffic Control Devices Plan (TCDP) was to provide adequate advanced notice and signage to drivers for the closure of two local roadway bridges in East Baton Rouge Parish. Mr. Morgan led the design of the TCDP for each bridge closure which incorporated local municipalities' standards, as well as the Manual on Uniform Traffic Control Devices (MUTCD) standards. Mr. Morgan used aerial photography and the Google Earth mapping program to designate placement of detour and advanced warning signage. He oversaw the creation of the plans in AutoCAD, a CAD-type software oriented to drawing and modeling. He used QA/QC to verify the plans before delivering electronic versions of preliminary plans to the client using Adobe PDF format.

07/22 - current	**LA 3127 Widening** This traffic study to analyze the impact of widening the LA 3127 corridor in St. James Parish, LA from LA 3213 to LA 20 to a four-lane divided highway is being conducted following the LADOTD Traffic Engineering Process and Report (TEPR) guidelines. Mr. Morgan conducted in-person site observations at study intersections during the critical peaks of traffic to identify queuing, circulation, and driving patterns, as well as any other factors, that impact traffic operations. He coordinated the data collection effort to obtain 7-day, 48-hour and, turning movement counts as well as speed data on the study corridors. Mr. Morgan summarized the traffic data collected, the observations, existing study area conditions, and the projected growth rate for the area in Appendix A, Appendix B, and Chapter 1 format following the TEPR. These and Chapter 2 with Appendices C & D which summarized the Existing Safety Analysis and the Existing Conditions Capacity Analysis have been approved by LADOTD. Ongoing tasks include identifying potential improvements at the intersections of LA 3127, LA 3213 and at LA 20.
10/22 - current	**US 190 at LA 433** Mr. Morgan conducted in-person site observations at study intersections during the critical peaks of traffic which included identification of queuing, circulation, and driving patterns that could impact traffic operations in St. Tammany Parish. The report and submittals were in accordance with LADOTD's Traffic Engineering Process and Report (TEPR) guidelines. He performed existing and No Build analysis using SIDRA. Mr. Morgan is currently analyzing potential improvements for this Intersection Control Evaluation (ICE) which includes signalized and roundabout alternatives.

17. Firm Experience: Hartman Engineering, Inc.

Firm name	HEI Hartman Engineering, Inc. Consulting Engineers		Past Performance Evaluation Discipline(s)*	ROAD	
Project name	**Acadian Roundabout, Route LA 20 (Canal Blvd.) and Local Routes (Back St., Jackson St., Thompson Pl.)** HEI No 12-092-09		Firm responsibility (prime or sub?)	**PRIME**	
Project number	**SPN H.009320** **F.A.P. H009320**	Owner's name	**LADOTD**		
Project location	**LaFourche Parish, LA**		Owner's Project Manager	**Tanya Bankston, P.E.**	
Owner's address, phone, email	**1201 Capital Access Road** **Room S-614** **Baton Rouge, LA 70802**		**(225) 379-2522** **Tanya.Bankston@la.gov**		
Services commenced by this firm (mm/yy)	**2015**		Total consultant contract cost ($1,000's)	**$ 450**	
Services completed by this firm (mm/yy)	**2024 est.**		Cost of consultant services provided by this firm ($1,000's)	**$ 3,000**	

PROJECT DESCRIPTION:

Design of a traditional shaped dual lane 5-legged roundabout at the intersection of LA 20 and Jackson St. in Thibodeaux, LA. The proposed roundabout shall branch from LA 20 into Canal Blvd. and Jackson St., also connecting Back St. and Thompson Pl. at the east and west approaches. Design will conform to EDSM V1.11.6.

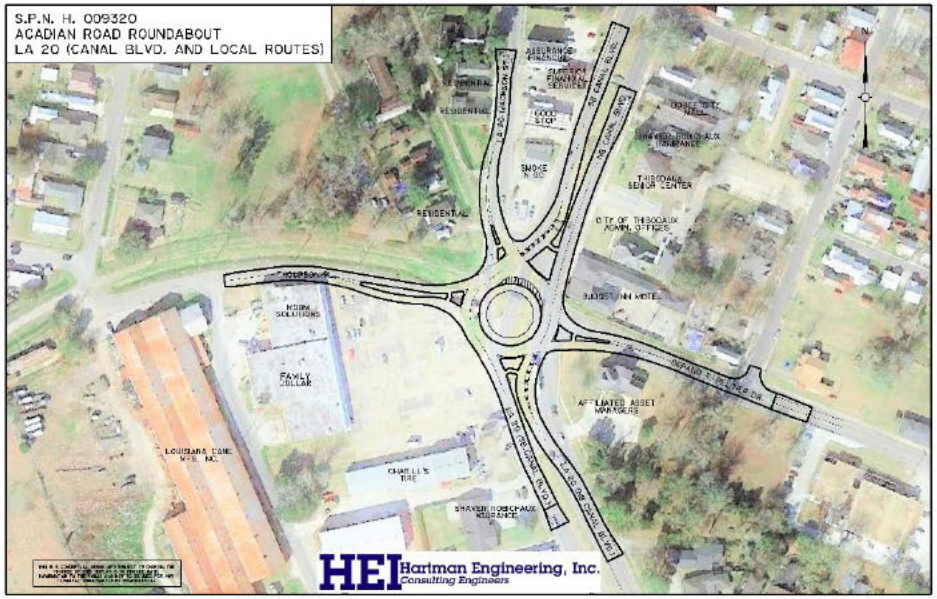
FIRM'S ROLE

Project Management, Roadway, and Traffic Engineering

MEMBERS INVOLVED / TO BE USED IN THIS PROPOSAL:

- Jared B. Monceaux, P.E. (Project Manager)
- Sundararaja C. Rao, P.E. (QC/QA)
- Danielle B. Connelly, P.E. (Lead Engineer)
- Tony R. Tramel, P.E., PTOE (Traffic Engineer)
- Connor D. Guidry, E.I. (Project Engineer)
- Stephen F. Urquhart (CAD)

PERFORMED IN LA: 100%

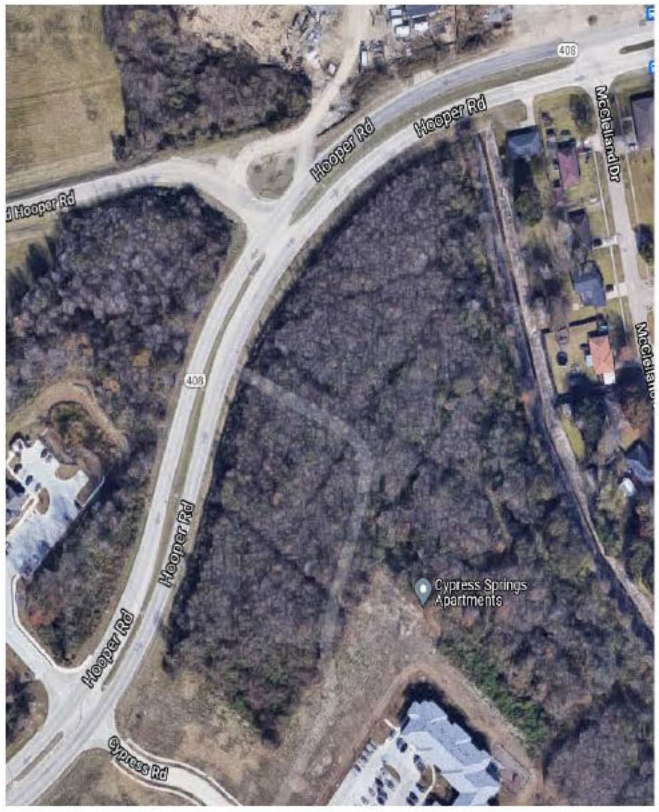


Firm name	HEI Hartman Engineering, Inc. Consulting Engineers			Past Performance Evaluation Discipline(s)*	**ROAD**
Project name	**Task Order – LA 408: I-110 End of Concrete Section (Hooper Rd.) (IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62)** HEI No 12-092-14a			Firm responsibility (prime or sub?)	**PRIME**
Project number	**SPN H.014100.5**	Owner's name	**LADOTD**		
Project location	**East Baton Rouge Parish, LA**		Owner's Project Manager	**Brian May**	
Owner's address, phone, email	**1201 Capital Access Road Baton Rouge, LA 70802**	**225-379-1059 Brian.May@LA.gov**			
Services commenced by this firm (mm/yy)	**09/2021**	Total consultant contract cost ($1,000's)	**$ 74**		
Services completed by this firm (mm/yy)	**2022 est.**	Cost of consultant services provided by this firm ($1,000's)	**$ 74**		

PROJECT DESCRIPTION:

This project is currently being designed under HEI's current LADOTD's IDIQ Pavement Preservation Retainer.

The project includes 6 miles of concrete panel replacement and composite pavement repair along the travel lanes of LA 408 from 565- ft west of the CL of the I-110 overpass up to the end of concrete section (and including the intersection of LA 410 and LA 408). The Project also includes curb repair as needed.



FIRM'S ROLE

Project Management & Roadway Design

MEMBERS INVOLVED / TO BE USED IN THIS PROPOSAL:

- Jared B. Monceaux, P.E. (Project Manager)
- Danielle B. Connelly, P.E. (Lead Engineer)
- Connor D. Guidry, E.I. (Project Engineer)
- Madeline M. Bourgeios, E.I. (Project Engineer)
- Stephen F. Urquhart (CAD)

PERFORMED IN LA: 100%

Firm name	HEI Hartman Engineering, Inc. Consulting Engineers	Past Performance Evaluation Discipline(s)*	ROAD
Project name	**Lapalco Blvd. (Victory Dr. to Westwood Dr.)** HEI No 11-014-53-85	Firm responsibility (prime or sub?)	**PRIME**
Project number	**SPN 742-26-0033 H.007175, F.A.P. No. 61301(010)**	Owner's name	**Jefferson Parish Department of Engineering**
Project location	**Jefferson Parish, LA**	Owner's Project Manager	**Mark Drewes, P.E.**
Owner's address, phone, email	**1221 Elmwood Park Blvd., Suite 904 Jefferson, LA 70123**	**(504) 736-6511 mdrewes@jeffparish.net**	
Services commenced by this firm (mm/yy)	**2011**	Total consultant contract cost ($1,000's)	**$ 550**
Services completed by this firm (mm/yy)	**2016**	Cost of consultant services provided by this firm ($1,000's)	**$ 6,000**

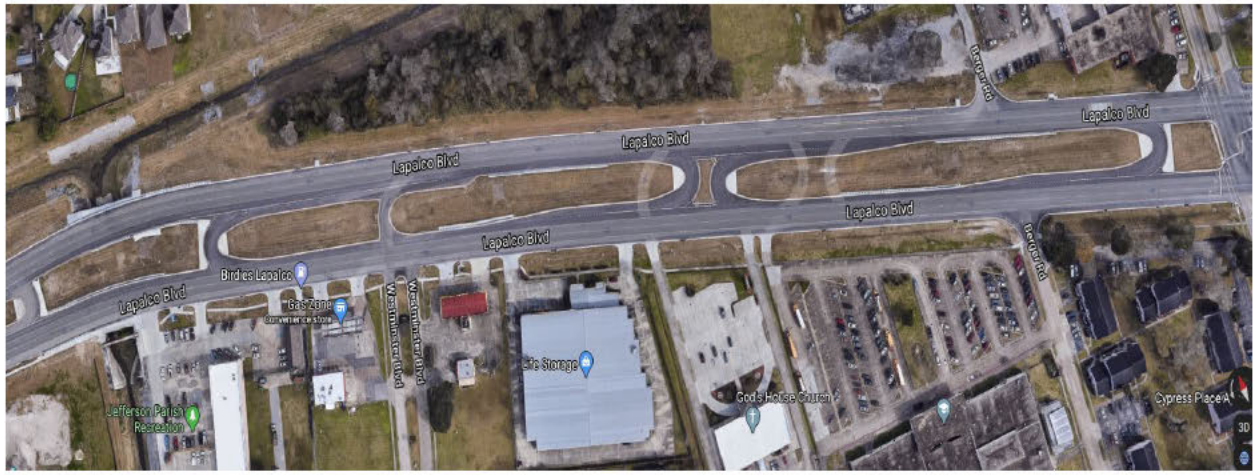
PROJECT DESCRIPTION:

Preliminary and final construction plans for 0.8 miles of urban systems road widening (from 4-6 lanes), drainage improvements, wetland delineation and jurisdictional determination, public outreach and public hearings, regulatory agency coordination, permitting (404 from COE, Coastal Use from LDNR, Water Quality Certification from LDEQ), and wetland mitigation. Construction value was approximately $10 million.

Jefferson Parish
State of Louisiana

FIRM'S ROLE

Project Management, Roadway Design, Environmental, & Traffic Engineering.



MEMBERS INVOLVED / TO BE USED IN THIS PROPOSAL:

- Jared B. Monceaux, P.E. (QC/QA)
- Sundararaja C. Rao, P.E. (Lead Engineer)
- Danielle B. Connelly, P.E. (Project Engineer)
- Tony R. Tramel, P.E. (Traffic Engineer)
- Rolland A. Mura, P.E. (Environmental Engineer)
- Connor D. Guidry, E.I. (Project Engineer)
- Stephen F. Urquhart (CAD)

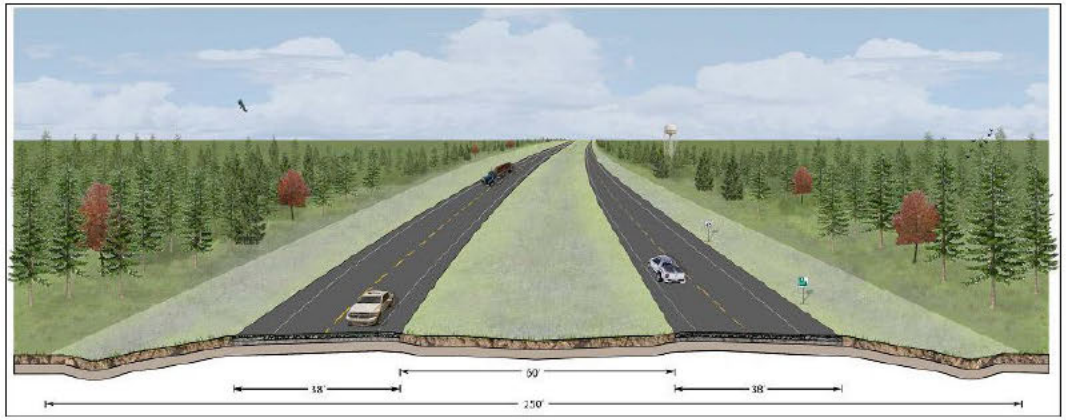
PERFORMED IN LA: 100%

Firm name	HEI Hartman Engineering, Inc. Consulting Engineers	Past Performance Evaluation Discipline(s)*	**ROAD**
Project name	**I-12 to Bush Corridor, LA3241 (I-12 to LA36)** HEI No 12-092-10	Firm responsibility (prime or sub?)	**Sub Consultant**
Project number	**SPN H.004957**	Owner's name	**LADOTD**
Project location	**St. Tammany Parish, LA**	Owner's Project Manager	**Joe Umeozulu, P.E.**
Owner's address, phone, email	**1201 Capitol Access Road Room S-614 Baton Rouge, LA 70802**	**(225) 379-1386 Joachim.umeozulu@la.gov**	
Services commenced by this firm (mm/yy)	**2015**	Total consultant contract cost ($1,000's)	**$ 260 est.**
Services completed by this firm (mm/yy)	**2024 est.**	Cost of consultant services provided by this firm ($1,000's)	**$ 1,006 est.**

PROJECT DESCRIPTION:

The project improvements include preliminary and final design of a rural arterial (RA-3) 4-lane corridor with a raised median. The corridor is primarily a control-of-access route featuring bridge and intersection design.

The I-12 to Bush project is part of the TIMED Program connecting LA 3241 from the LA 40/LA 41 intersections in Bush, LA to I-12 at the LA 434 Interchange. A Record of Decision (ROD) from the US Army Corps of Engineers was granted selecting Alternate Q as the preferred alignment of the new LA 3241. Alternate Q is further described as follows: The alignment ties into I -12 at the existing I -12/LA 434 Interchange (Exit 74) and proceeds northerly along LA 434 for approximately 2.5 miles then leaves the existing highway and proceeds on new alignment until it connects with an abandoned railroad corridor approximately 1.7 miles north of LA 36. Alternate Q then follows the abandoned railroad alignment north and ties into the intersection of LA 40 and LA 41.



FIRM'S ROLE

Roadway Design

MEMBERS INVOLVED / TO BE USED IN THIS PROPOSAL:

- Jared B. Monceaux, P.E. (Project Manager)
- Sundararaja C. Rao, P.E. (QC/QA)
- Danielle B. Connelly, P.E. (Lead Engineer)
- Tony R. Tramel, P.E., PTOE (Traffic Engineer)
- Stephen F. Urquhart (CAD)

PERFORMED IN LA: 100%

Firm name	HEI Hartman Engineering, Inc. Consulting Engineers		Past Performance Evaluation Discipline(s)*	ROAD
Project name	**Task Order – LA 3073: Ambassador @ Bonin Improvements (IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62)** HEI No 12-092-14z		Firm responsibility (prime or sub?)	**PRIME**
Project number	**SPN H.012914.5**	Owner's name	**LADOTD**	
Project location	**Lafayette Parish, LA**		Owner's Project Manager	**Brian May**
Owner's address, phone, email	**1201 Capital Access Road Baton Rouge, LA 70802**	**225-379-1059 Brian.May@LA.gov**		
Services commenced by this firm (mm/yy)	**2022**	Total consultant contract cost ($1,000's)		**$ 258.3**
Services completed by this firm (mm/yy)	**2023 est.**	Cost of consultant services provided by this firm ($1,000's)		**$ 258.3**

PROJECT DESCRIPTION:

This project is currently being scoped under HEI's current LADOTD's IDIQ Pavement Preservation Retainer.

HEI's responsibilities will include extending existing turn lanes to LA 89 and LA 3073. Extend the eastbound and westbound left turn lanes on LA 3073 and remove island between the left turn lane and the through lanes. Also, extend the eastbound and westbound right turn lanes on LA 3073. The widening of roadway and the median modifications in appropriate locations are to meet design standards.

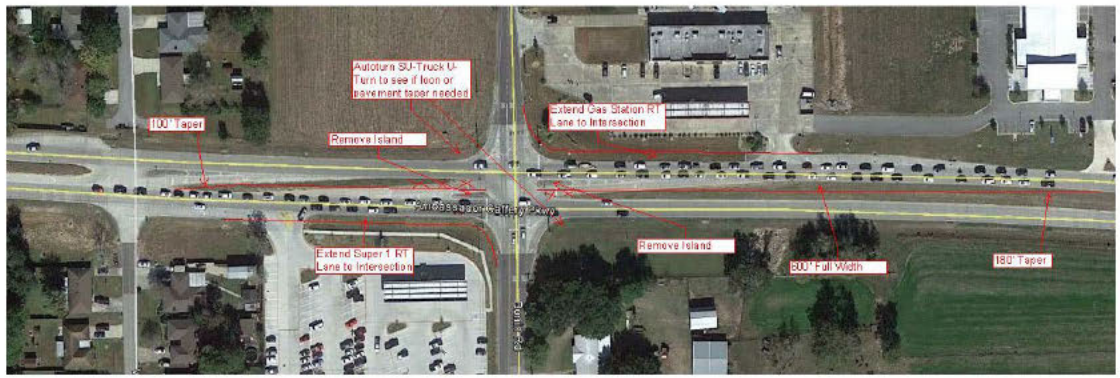
FIRM'S ROLE

Project Management & Roadway Design

MEMBERS INVOLVED / TO BE USED IN THIS PROPOSAL:

- Jared B. Monceaux, P.E. (Project Manager)
- Danielle B. Connelly, P.E. (Lead Engineer)
- Connor D. Guidry, E.I. (Project Engineer)
- Madeline M. Bourgeios, E.I. (Project Engineer)
- Stephen F. Urquhart (CAD)

PERFORMED IN LA: 100%



17. Firm Experience: APS Engineering & Testing, LLC

Firm name	APS Engineering and Testing		Past Performance Evaluation Discipline(s)*	Geotech	
Project name	I-10 Widening LA 415 to Essen LN		Firm responsibility (prime or sub?)	Sub	
Project number	H.004100	Owner's name	LADOTD		
Project location	Baton Rouge, LA		Owner's Project Manager	Kristy Smith, P.E.	
Owner's address, phone, email	1201 Capital Access Road Baton Rouge, LA 70802		225-379-1016 kristy.smith2@la.gov		
Services commenced by this firm (mm/yy)	09/19	Total consultant contract cost ($1,000's)		$ N/A	
Services completed by this firm (mm/yy)	05/23	Cost of consultant services provided by this firm ($1,000's)		$ 400K	

PROJECT DESCRIPTION:

Scope- Geotechnical Investigation to provide client with the necessary information for Planning and Design of I-10 widening.

APS'S ROLE:

APS was tasked to drill and sample a total of 52 deep borings starting at the Washington exit and ending at the LSU Lakes. Along with this drilling and sampling, APS tested the strength and engineering characteristics of the soils. A total of eight (8) over the water borings and 44 land borings with approximately 1000 triaxial compression, unconsolidated drained or Undrained (UU) and Atterberg limits performed.

MEMBERS INVOLVED:

ENGINEERING

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

LABORATORY TESTING

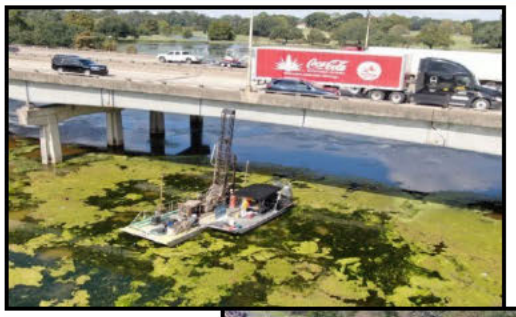
Sergio Avile S, P. E. - QA/ QC
Sai Eddanapudi, M. E., P. E. - QA/ QC

DRILLING

Van George - Driller
Melvin Vasquez – Driller Tech
Eric Bateaste- Driller

SIMILARITIES TO PROFESSIONAL GEOTECHNICAL SERVICES

X	Geotechnical Explorations (GE)
X	Geotechnical Design (GD)
X	Geotechnical Construction (GC)
X	Topographic Survey (LC)
X	CMAR
X	Contract Management (CM)



PERFORMED IN LA: 100%

Firm name	APS Engineering and Testing			Past Performance Evaluation Discipline(s)*	Geotech
Project name	**Comite River Diversion Bridge at LA-67, LA-19 and LA-19 Railroad Bridge**			Firm responsibility (prime or sub?)	**Sub**
Project number	**H.001352; H.002273**	Owner's name	**Huval & Associates, Inc.**		
Project location	**East Baton Rouge, LA**		Owner's Project Manager	**Thomas M. Gattles III, P.E.**	
Owner's address, phone, email	**922 West Don't des Mouton Rd,. Lafayette, LA 70507**	**337-264-3798 tgattle@huvalassoc.com**			
Services commenced by this firm (mm/yy)	**11/19**	Total consultant contract cost ($1,000's)	**$ N/A**		
Services completed by this firm (mm/yy)	**06/22**	Cost of consultant services provided by this firm ($1,000's)	**$ 150K**		

PROJECT DESCRIPTION:

Scope- Geotechnical Engineering to provide client with the necessary information for planning and building of LA-19 RR Bridge - slope stability (embankment), LA-19 RR bridge - embankment/ MSE wall settlement/ retaining wall, LA 19 twin bridges - PPC piles, LA - 67 bridge - drilled shafts.

APS'S ROLE:

APS drilled and sampled a total of 19 borings ranging between 50ft. and 110ft. in depth. Testing of collected soil samples was performed in house by APS laboratory. The testing schedule included visual classification as well as standard methods for determining moisture content, liquid limit, plastic limit, and plasticity, unconsolidated-undrained triaxial compression, and one-dimensional consolidation.

MEMBERS INVOLVED:

ENGINEERING

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

LABORATORY TESTING

Sergio Avile S, P. E. - QA/ QC
Sai Eddanapudi, M. E., P. E. - QA/ QC

DRILLING

Van George - Driller
Eric Bateaste- Driller
Melvin Vasquez – Driller Tech
Oscar Johnson- Driller Tech
Trenton Anderson- Driller Tech

SIMILARITIES TO PROFESSIONAL GEOTECHNICAL SERVICES

X	Geotechnical Explorations (GE)
X	Geotechnical Design (GD)
X	Geotechnical Construction (GC)
X	CMAR
X	Constructability
X	Contract Management (CM)

PERFORMED IN LA: 100%

Firm name	APS Engineering and Testing		Past Performance Evaluation Discipline(s)*	Geotech
Project name	**US-90 Railroad Overpass (S. East of LA-85)**		Firm responsibility (prime or sub?)	**Sub**
Project number	**H.010155**	Owner's name	**Shread-Kurykendall & Associates, Inc**	
Project location	**Iberia Parish, LA**		Owner's Project Manager	**Nicci D. Gill**
Owner's address, phone, email	**13016 Justice Ave., Baton Rouge, LA 70816**	**225-296-1335 ngill@skanger.com**		
Services commenced by this firm (mm/yy)	**11/19**	Total consultant contract cost ($1,000's)		**$ N/A**
Services completed by this firm (mm/yy)	**12/23**	Cost of consultant services provided by this firm ($1,000's)		**$ 105 K**

PROJECT DESCRIPTION:

Scope - Geotechnical Investigation to provide client with the necessary information for planning and design of a 12 ft. X 10 ft. RCB, 412 ft. in length.

APS'S ROLE:

APS drilled a total of twelve (12) borings to a depth of 120 ft each. Undisturbed samples were continuously obtained from the ground surface to a depth of 20 feet and at five (5) feet centers thereafter. A laboratory testing program was conducted to determine pertinent engineering characteristics of the subsurface materials. This program included visual description and classification and determination of the moisture content. Over 60 Atterberg's and UUS were tested by APS with 18 consolidation tests. All the necessary testing was performed in house by APS laboratory. The geotechnical report included MSE wall embankment settlement, stability analysis, pile capacity analysis, design and general construction recommendations.

MEMBERS INVOLVED:

ENGINEERING

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

LABORATORY TESTING

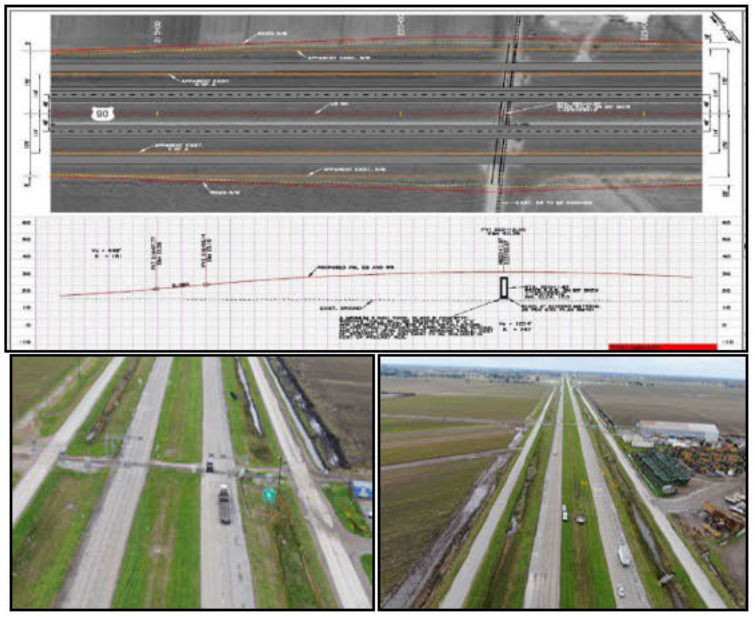
Sergio Avile S, P. E. - QA/ QC
Sai Eddanapudi, M. E., P. E.- QA/ QC
Donna Easterly- Lab Manager
Cindy Falks- Lab Tech

DRILLING

Melvin Vasquez - Driller Tech
Van George - Driller
Eric Bateaste- Driller
Oscar Johnson- Driller Tech
Trenton Anderson- Driller Tech

SIMILARITIES TO PROFESSIONAL GEOTECHNICAL SERVICES	
X	Geotechnical Explorations (GE)
X	Geotechnical Design (GD)
X	Geotechnical Construction (GC)
X	Constructability
X	Contract Management (CM)

PERFORMED IN LA: 100%



17. Firm Experience: Hardesty & Hanover, LLC

Firm name	H&H Designed to Amaze, Engineered to Last®		Past Performance Evaluation Discipline(s)*	**Bridge**	
Project name	**Lapalco Bridge Over Harvey Canal**		Firm responsibility (prime or sub?)	**Prime**	
Project number	**H.004396**	Owner's name	**Jefferson Parish**		
Project location	**Jefferson Parish, LA**		Owner's Project Manager	**Mark Drewes, P.E.**	
Owner's address, phone, email	**1211 Elmwood Park Blvd. Ste. 802, Jefferson, LA 70123**		**504 -736 -6500 mdrewes@jeffparish.com**		
Services commenced by this firm (mm/yy)	**01/18**	Total consultant contract cost ($1,000's)		**$ 7,000**	
Services completed by this firm (mm/yy)	**Ongoing**	Cost of consultant services provided by this firm ($1,000's)		**$ 4,250**	

PROJECT DESCRIPTION:

H&H is designing this new bascule bridge, parallel to the existing bridge, which upgrades its capacity to six lanes of vehicular traffic. The existing bridge will also be fully rehabilitated to function with the new bridge. The proposed improvement is to reconfigure the existing four-lane (two in each direction) Lapalco Boulevard crossing at Harvey Canal to provide three travel lanes in each direction and one bidirectional bike/pedestrian lane in an urban area. This increase from the existing four lanes eases traffic congestion and enhances the area's hurricane evacuation route network. The new bridge will provide a 150-foot-wide navigation channel, a 45-foot vertical navigation clearance, and is designed to match the existing bridge.

Scope of Work Relevant to the contract:

- LOAD RATING CALCULATIONS & ANALYSIS
- BRIDGE AND ROAD WIDENING
- BRIDGE DESIGN IN URBAN SETTING
- REHABILITATION/REPAIR DESIGN
- LADOTD STANDARDS & SPECIFICATIONS
- BRIDGE LOAD RATING USING AASHTOWARE BRDR

H&H'S ROLE:

The project is being designed to LADOTD Standards and Specifications for Roads and Bridges, the LADOTD Bridge Design Manuals and AASHTO, the Manual for Bridge Evaluations; and will be reviewed by LADOTD. Scope of work includes inspection of the existing bridge, survey and geotechnical engineering as well updating the existing Environmental Assessment. Design services include development of Bridge Design Report; roadway design and lighting; utility coordination; load rating for the existing and new fixed and movable structures; structural design of foundation and approach spans; the structural, mechanical, and electrical design of the bascule bridge; as well as permitting.

Load ratings were performed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Manual for Bridge Evaluation (MBE), 3rd Edition – 2018. The Load and Resistance Factor Rating (LRFR) method per Section 6 of AASHTO MBE and the LADOTD Bridge Design and Evaluation Manual requirements were used to produce the rating values. Hand calculations combined with live load modeling software GOBEAM, and AASHTOWare BrR were used. The live load for the bascule span girders was modeled as a two-span continuous unit with a hinge located at the span lock location, which transmits shear and no moment across the joint. Dead loads for the bascule span rating were obtained from the hand calculations using the as-built plans. Live loads for the bascule span were calculated using GOBEAM analysis software and AASHTOWare. For the bridge, four 12'-0" wide vehicular lanes were considered loaded for this rating. HL93 loading was applied to the roadway of the bridge along with additional rating vehicles as required by LADOTD.

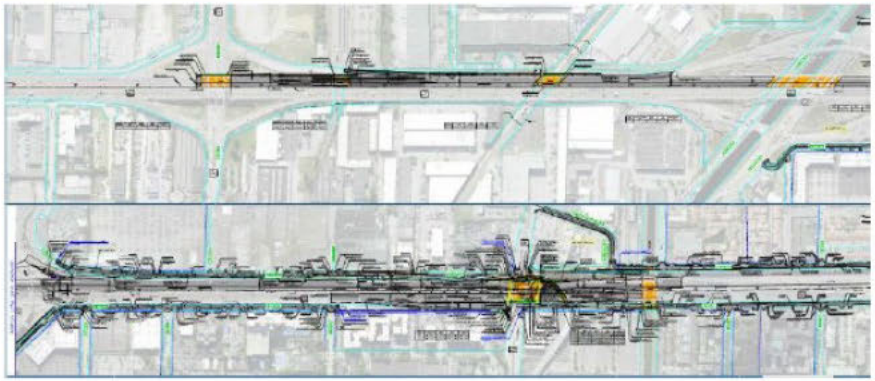
MEMBERS INVOLVED: Erik Diaz, P.E.; Linh Kim, P.E.; Frederick Wetekamm, P.E.; Corey Bourgeois, P.E.; Dalton Hunt, E.I. ***PERFORMED IN LA: 100%***

Firm name	H&H Designed to Amaze, Engineered to Last®	Past Performance Evaluation Discipline(s)*	**Bridge**

Project name	**SR 826 Palmetto Expressway**			Firm responsibility (prime or sub?)	**Prime**
Project number	**N/A**	Owner's name	**FDOT**		
Project location	**Miami-Dade County, FL**		Owner's Project Manager	**Raul Quintela**	
Owner's address, phone, email	**1000 NW 111th Ave. Miami, FL 33172**		**305-470-5457** **raul.quintela@dot.state.fl.us**		
Services commenced by this firm (mm/yy)	**04/21**	Total consultant contract cost ($1,000's)			**$ 6,764**
Services completed by this firm (mm/yy)	**Ongoing**	Cost of consultant services provided by this firm ($1,000's)			**$ 4,549**

PROJECT DESCRIPTION:

This urban design-build project will improve operations for the SR 826 Palmetto Expressway (a multi-lane, limited access expressway) from South of NW 36th Street to North of NW 154th Street in Miami-Dade County, Florida. The project will provide an additional southbound general-purpose lane, auxiliary lanes, and improved shoulder widths, and will require major modifications to the NW 103rd Street interchange, revised access to the NB and SB revises express lanes, a new toll site and improvements to the adjoining frontage road system, all of which will enhance human comfort and well-being.



H&H'S ROLE:

H&H is the lead designer, responsible for roadway, drainage, permitting, traffic control, tolling and bridge design as well as environmental services. The H&H plans include components such as silt fences, swales, and an improved stormwater drainage plan to address erosion and sediment control. H&H is also providing temporary traffic control plans for this design-build project. All improvements are to be completed within 900 days of NTP for this heavily traveled corridor and will meet the specific requirements of Miami-Dade County and FDOT. Bridge design requirement was to keep existing bridge and roadways open to traffic while widening construction was being performed. H&H performed design calculations for concrete superstructure and steel substructure elements for bridge widening. Created details and plan sheets for superstructure and substructure elements for bridge widening.

H&H is providing roadway, drainage, structural, and lighting design, signing and pavement markings, and toll site design for construction of the initial phase of a multi-phase project, for which a Conceptual Permit has been issued by the South Florida Water Management District. H&H obtained a permit modification from the South Florida Water Management District authorizing construction of the initial phase of a highway and structures improvement project included in the previously issued Conceptual Environmental Resource Permit.

Scope of Work Relevant to the Contract:

- BRIDGE DESIGN IN AN URBAN SETTING
- BRIDGE WIDENING
- LOAD RATING CALCULATIONS & ANALYSIS
- AASHTO MANUAL FOR BRIDGE EVALUATION

H&H also performed environmental studies, site audits/assessments and beach restoration activities on this project. H&H coordinated with South Florida Water Management District staff regarding potential project effects on the environment, natural resources, and impacts to animal and plant life and wildlife habitat, to determine the environmental and ecological effects of the proposed transportation improvements. It was determined that, because the project site is within a developed roadway corridor, construction of improvements will not result in significant impacts to natural resources or wildlife. The drainage components of the design will result in improved water quality and will accommodate existing and future utilities within the right-of-way.

MEMBERS INVOLVED: Erik Diaz, P.E.; Dennis Gowins, P.E.; Linh Kim, P.E. ***PERFORMED IN LA: 100%***

Firm name	H&H Designed to Amaze, Engineered to Last®	Past Performance Evaluation Discipline(s)*	Bridge

Project name	I-395 Segmental Bridges			Firm responsibility (prime or sub?)	Prime
Project number	N/A	Owner's name	FDOT		
Project location	Miami, FL		Owner's Project Manager	Auraliz Benitez, P.E.	
Owner's address, phone, email	1000 NW 111th Ave. Miami, FL 33172		305-470-5471 Auraliz.Benitez@dot.state.fl.us		
Services commenced by this firm (mm/yy)	03/21	Total consultant contract cost ($1,000's)			$ 13,000
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)			$ 13,000

PROJECT DESCRIPTION:

Hardesty & Hanover is designing five new precast segmental bridges that are a part of the SR 836/I-95/I-395 corridor upgrade in Downtown Miami urban area. The Archer Western-De Moya Joint Venture is constructing this design-build project. The segmental bridges are constructed with over 2,000 precast and cast-in-place segments erected using the balanced cantilever method. Typical span lengths range from 225 feet to 255 feet supported on cast-in-place piers with auger-cast pile foundations and include C-Piers as well as integral Straddle and T-Piers.

H&H'S ROLE:

H&H created the design-build proposal and pre-bid engineering ahead of the selection process and is providing analyses, final design, shop drawings, construction engineering and the design and as-built load ratings for the segmental bridges. The project's overall construction value is $840 million, and the segmental bridges have a deck area of 700,000 square feet (approximately $200 million). Longitudinal and transverse load ratings of the 20 continuous structural units of segmental bridges and the integral piers was performed for both temporary and final traffic conditions for both the partially completed and completed bridges, incorporating staged construction and time-dependent analysis. Several of the bridges are connected transversely using longitudinal closure pours, requiring refined analysis in determining load distribution and structural behavior.

The load ratings are performed in accordance with the AASHTO Manual for Bridge Evaluation and the FDOT Bridge Load Rating Manual per the LRFR methodology, operating and special legal and permit vehicle rating evaluations at the service and strength limit states. Load ratings are performed both as design ratings prior to construction and as-built load ratings following construction prior to traffic. The as-built ratings consider the actual segment cast and erect dates as well as any construction modifications that may have occurred to provide an accurate assessment of the bridge capacity prior to traffic and future permit load applications.

Scope of Work Relevant to the Contract:

- BRIDGE DESIGN IN AN URBAN SETTING
- LOAD RATING CALCULATIONS & ANALYSIS
- AASHTO MANUAL FOR BRIDGE EVALUATION
- COMPLEX (CONCRETE STRUCTURE) LOAD RATING

MEMBERS INVOLVED: John Corven, P.E.; Dennis Gowins, P.E. ***PERFORMED IN LA: 100%***

17. Firm Experience: Urban Systems, Inc.

Firm name	URBAN SYSTEMS Inc. USI		Past Performance Evaluation Discipline(s)*	**Traffic**	
Project name	**US 90 (I-49 South) Albertson's Parkway to Ambassador Caffery Design / Build**		Firm responsibility (prime or sub?)	**Sub**	
Project number	**SP H.010620**	Owner's name	**LADOTD**		
Project location	**Lafayette Parish, LA**		Owner's Project Manager	**Peggy Jo Paine, P.E.**	
Owner's address, phone, email	**1201 Capitol Access Road, Baton Rouge, Louisiana, 70802**		**225-379-1065 peggy.paine@la.gov**		
Services commenced by this firm (mm/yy)	**01/14**	Total consultant contract cost ($1,000's)		**$ N/A**	
Services completed by this firm (mm/yy)	**08/19**	Cost of consultant services provided by this firm ($1,000's)		**$ 232.6K**	

PROJECT DESCRIPTION:

Urban Systems, Inc. was part of the Design/Build team under the engineering task for this project. The project included upgrading a portion of US 90 from a four-lane facility to a six-lane facility with controlled access. The project also included providing a system of frontage roads to provide connectivity. Urban Systems was responsible for a variety of tasks including developing a signage plan, traffic signal plans, temporary traffic control plans (TCDP), traffic analysis and a Level 3 Traffic Management Plan (TMP) based on **LADOTD EDSM VI.1.1.8.**

USI's ROLE:

Signage and Traffic Signal Plans

As part of the definitive design portion of this project, USI developed signage and traffic signal plans based on LADOTD requirements. The traffic signal plans were also developed in the latest LADOTD TSI format. These plans were updated during the construction phase of the project as unforeseen issues arose. USI worked closely with the contractor, team members and local entities throughout the construction phase.

Temporary Traffic Control Plans (TCDP)

Temporary traffic control plans were developed for the various phases of construction. These plans also included temporary traffic signals for some of the phases. These plans were developed to meet the current LADOTD standards. Additional traffic control plans were developed during the construction phase of the project as required by the contractor. Some of these plans involved complicated detours and devices to maintain access while completing construction.

Traffic Study and TMP

Traffic analysis was conducted to determine the impact construction and the proposed configuration would have on traffic conditions. Traffic volumes were re-routed for each phase on construction and capacity analysis was conducted for each scenario.

A safety analysis was prepared for the study US 90 roadway segment, LA 182-roadway segment, and the US 90 at Albertsons Parkway/St. Nazaire Road intersection based on the guidelines set forth by LADOTD in Part III: Guidelines for Conducting a Safety Analysis for Transportation Management Plans and Other Work Zone Activities, May 2013. The purpose of this analysis was to assess the safety impacts of the construction activities within the project area and mitigate the impact on the state highway. Mitigation strategies were also identified to minimize work zone impacts for incident management to increase construction zone safety.

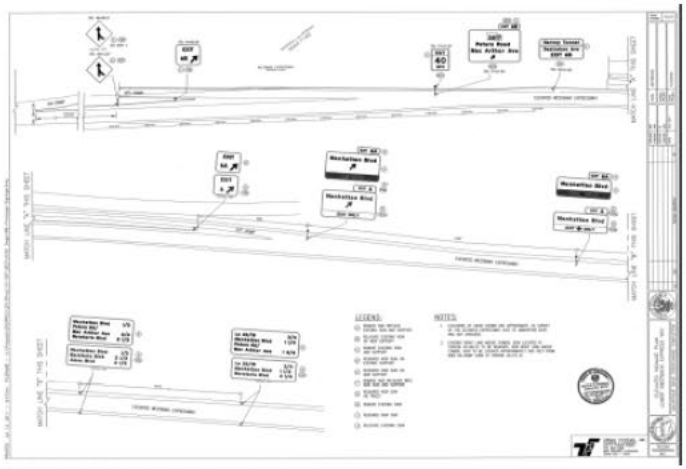
MEMBERS INVOLVED: Alison C. Michel, P.E., PTOE, PTP, RSP_{2i}, Nicole Stewart, P.E., PTOE, & Matthew H. Morgan, P.E. ***PERFORMED 100% LA***

Firm name		Past Performance Evaluation Discipline(s)*	Traffic
Project name	MacArthur Interchange Completion	Firm responsibility (prime or sub?)	Sub
Project number	JP 2001-004-RB	Owner's name	Jefferson Parish
Project location	Harvey, Jefferson Parish, LA	Owner's Project Manager	Peggy Jo Paine, P.E.
Owner's address, phone, email	1221 Elmwood Blvd., Ste 1002 Jefferson, LA 70123	504-736-6607 mdrewes@jeffparish.net	
Services commenced by this firm (mm/yy)	09/10	Total consultant contract cost ($1,000's)	$ 93.3K
Services completed by this firm (mm/yy)	08/11	Cost of consultant services provided by this firm ($1,000's)	$ unknown

USI's Role:

Traffic Study

Urban Systems prepared a technical report which evaluated the existing operating conditions of the lower Westbank Expressway and analyzed the effect of modifications associated with the Mac Arthur Interchange project in Harvey, LA.



Traffic Control Devices Plans

Traffic Control Plans were developed for Phase 1 – Stages 1 through 4 and Phase 2 - Stages 1 and 2. The plans included the placement of traffic control devices and striping to facilitate traffic safely and efficiently through the traffic control zone. This included lane closures on both the Lower and Elevated West Bank Expressway. Signal Modifications were also included for the three signalized intersections within the study area.

Traffic Signals

New traffic signals were designed for both Maplewood and Brown at Lower Westbank Expressway. A two-hundred-foot median separated the east and westbound approaches of both intersections. The Maplewood Intersection signal was designed to operate with phasing to accommodate the new off ramp that tied into the Lower Westbank expressway at the westbound approach.

Permanent Striping

Striping plans were developed for the Lower and Elevated West Bank Expressway in accordance with DOTD specifications and Standard Details. The striping plans included pavement markings at intersections and on roadways with site specific details for the on and off ramp gore areas.

Permanent Signage

Permanent signage plans were prepared for the Westbank Expressway in accordance with DOTD specifications and Standard Details using the latest version of GuidSIGN. Guide Signs were designed to advise motorist of the new Mac Arthur Interchange. The design of each sign included size, color, sign supports and sign placement.

Members Involved: Alison C. Michel, P.E., PTOE, PTP, RSP_{2i}, Nicole Stewart, P.E., PTOE, & K. Pham ***Performed 100% LA***

Firm name		Past Performance Evaluation Discipline(s)*	Traffic
Project name	US 190 at Northshore and Camp Villere	Firm responsibility (prime or sub?)	Sub
Project number	H.012812	Owner's name	LADOTD
Project location	St Tammany Parish, LA	Owner's Project Manager	Jacob Fusilier
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA, 70802	225-379-1185 Jacob.fusilier@la.gov	
Services commenced by this firm (mm/yy)	02/20	Total consultant contract cost ($1,000's)	$ 55K
Services completed by this firm (mm/yy)	02/23	Cost of consultant services provided by this firm ($1,000's)	$ unknown

USI's Role:

Urban Systems provided design services for the construction of two roundabouts on US 190 in St Tammany Parish, LA. Tasks included preparation of striping and signage plans for each roundabout location, and included temporary signalization design and a Level 2 transportation management plan (TMP).

Once base drawings of the geometric layouts were provided, striping and signage plans were designed for permanent conditions in accordance with LADOTD standard details.

Urban Systems reviewed the temporary Traffic Control Devices Plans (TCDP) and provided detailed comments to ensure constructability and compliant with the latest edition of the both the Manual of Uniform traffic Control Devices and the LADOTD Temporary Traffic Control (TTC) Details

The sequence of construction was developed through a number of meetings and concept level plan reviews. For the purpose of this proposal, we estimated that up to 2 temporary signals will be required. AM and PM peak hour analysis were conducted using HCS software for the temporary signalization to develop phasing and timing. The analysis was based on the volumes from the provided US 190 Roundabout Study with re-routing taken into consideration. This analysis was included as part of the Transportation Management Plan.

The Transportation Management Plan (TMP) was developed in coordination with LADOTD, St. Tammany Parish, FHWA and other relevant agencies. The Level 2 TMP was prepared in accordance with EDSM No. VI.1.1.8.

Members Involved: Nicole Stewart, P.E., PTOE, & K. Pham ***Performed 100% LA***

HEI Hartman Engineering, Inc. Consulting Engineers

Approach & Methodology

❖ HEI'S INTERPRETATION OF THE SCOPE OF WORK

The HEI Team understands and is well qualified for the entity contract for the LA 44: Pelican Point Roundabout and Widen in Ascension Parish. The project limits are on LA 44 from the LA 44 corridor between I-10 and LA 22, This contract will be used to perform Design Engineering, and related services including Road, Hydraulic, Bridge, Traffic, and Geotechnical Services for preliminary plans, final plans, and construction support. **HEI's team has project managers, staff, and resources to take on this project and complete it on a fast-paced schedule. HEI is very familiar with working with LADOTD on previous projects, therefore, we understand the work that will need to be provided.**

For HEI's Approach and Methodology, HEI will use its immense experience on Urban LADOTD Intersection and Widening Projects that HEI has completed over the last 38 years. These Projects have included Dual Lane Roundabouts, Multi Lane Widening, and Intersection Improvements.

HEI's most recent projects similar in nature include:

Project Name:	State Project #
Acadian Roundabout, Route LA 20 (Canal Blvd.) and Local Routes (Back St., Jackson St., Thompson Pl.), LaFourche Parish, LA	H.009320
LA 30 at Pupera Intersection Improvements, Ascension Parish, LA	H.0011490
Lapalco Blvd. (Victory Dr. to Westwood Dr.), Jefferson Parish, LA	742-26-0033, H.007175
Intersection Improvements (Veterans Boulevard and Bonnabel Boulevard), Jefferson Parish, LA	2017-028-RBP
Lake Forest Blvd. Widening (I-510 to Eastover)	H.004747
Task Order – LA 3073: Ambassador @ Bonin Improv. (IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62), Lafayette Parish, LA	H.012914.5

HEI projects currently under design include:

Project Name:	State Project #
Lapalco Blvd. Improvements, (Tanglewood to Victory Drive), Jefferson Parish, LA	H.014316
Task Order – LA 3073: Ambassador @ Bonin Improv. (IDIQ Contract for Pavement Preservation Services with Majority of Work in Districts 02, 03, 07, 61, and 62), Lafayette Parish, LA	H.012914.5
Roosevelt Blvd. Roadway Improvements – W. Metairie Ave. to W. Napoleon Ave., City of Kenner, LA	H.615120

❖ DESIGN APPROACH

The approach to this project starts with a culmination of years of experience, local knowledge, research on the latest innovations, and team engagement. HEI's LOCAL presence and knowledge makes us a prime candidate for this project. HEI recognizes that quality, accuracy, and timely work in both the design and construction phases, are the keys to a successful project. This is our commitment to the success of the projects you assign us.

With this in mind, we have implemented a stringent Project Approach program, outlined below:

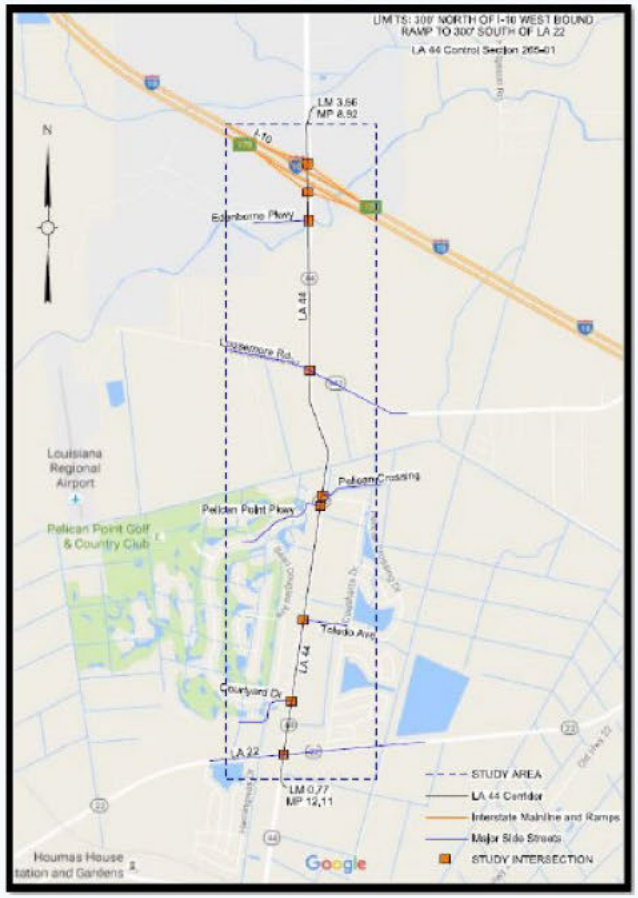
Project Scope. The first action taken by HEI's Project Manager upon award of project is to develop the scope of the project. This scope will include a detailed listing of project tasks to be accomplished, the logical order to accomplish these tasks, and a listing of project deliverables. This scope is typically submitted, or at a minimum discussed, with the project owner to verify that HEI management and the owner see the project, the required tasks, and the final products the same way.

Project Schedule. The second action taken by HEI's Project Manager is to develop a project schedule. Each task listed in the scope is given a start date, an estimated duration, and an estimated finish date. Once again this is forwarded to the owner's representative for approval. The initial schedule is set to the owner's requirements.

Project Kickoff. Conduct Kickoff Meeting/Site Visit with DOTD. Determine Project constraints and R/W issues. Request background information, such as Stage 0 Reports, Traffic Data, Conceptual Layouts, as-builts, utility information, and typical section (or geotechnical analysis). Determine the required level of environmental clearance. Prepare and distribute minutes from the meeting. R/W will be required for this corridor.

Options to resolve issues during design include:

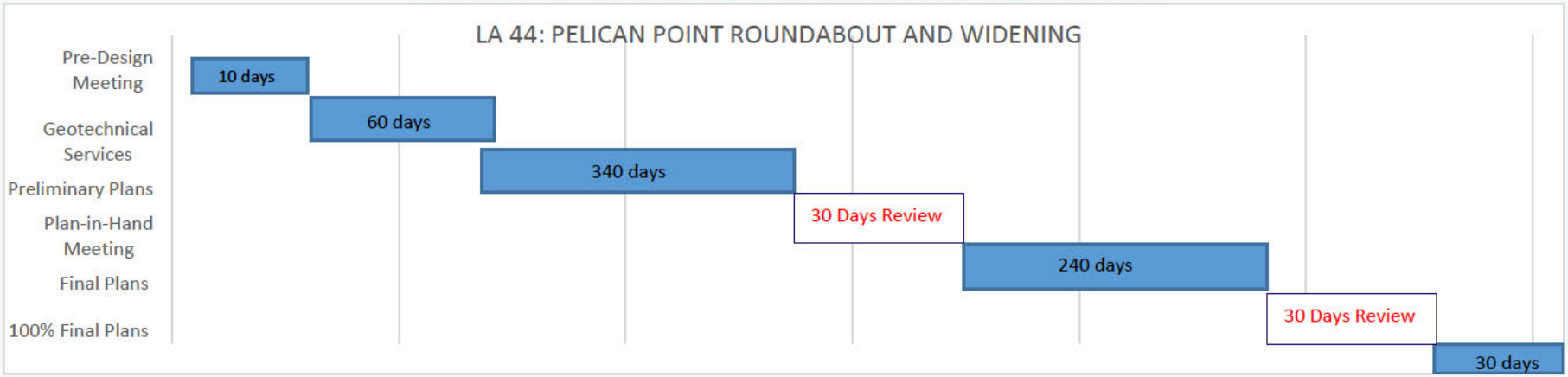
- Work around the utilities to minimize complexities
- Add a curb and gutter (there is an existing curb and gutter on the south eastern portion of the project)
- Have the conflicting utilities relocate their lines
- Soils is a critical factor in this area and must be considered early on



Preliminary Plans. HEI is very familiar with DOTD processes and procedures as shown on our project experience. HEI will follow DOTD's Road Design Manual and Roundabout Guidelines, AASHTO "Green Book" and the DOTD Hydraulic Manual. Quality Reviews prior to each submittal will be completed. HEI will review the LADOTD supplied Topographic survey, Existing Drainage Maps and provide comments prior to Design.

HEI PROJECT DELIVERY SCHEDULE

TOTAL ANTICIPATED DURATION PER ADVERTISEMENT: 2 YEARS



- **30% Preliminary Milestone:**
  - Design Tasks: Prelim. Develop Horizontal and Vertical Alignments on main corridors; Develop preliminary layout; Review of relevant design guidelines for development of conceptual typical sections; Coordination and Review of Survey & Geotech
  - Submitted Sheets: Title, Typical Sections, Plan/Pro Shts for main corridors
- **60% Preliminary Milestone:**
  - Design Tasks: Resolve any Comments; Review and Finalize vertical and horizontal alignments; develop roadway layout including driveways, sidewalks, and medians, model as Corridor and develop 60% Design Surface; Produce Cross Sections from Design Surface, complete Drainage Study in accordance with DOTD's Hydraulic Manual; Calculate 60% Preliminary Quantity Take-Off's. Conflict/Utility Review.
  - New Submitted Sheets: Summary of Quantity Sheets, Drainage Plan/Pro sheets, Survey Control Sheet, Existing/Design Drainage Maps, Summary of Drainage Structures Sheets, Geometric Detail Sheets, Cross Section Sheets
  - Submitted Doc.: Comment/Response Form, Drainage Report, Cost Estimate
- **90% Preliminary Milestone:**
  - Design Tasks: Resolve any Comments; develop Joint; develop Striping & Signage layout; develop Sequence of Construction concept, Calculate 90% Preliminary Quantity Take-Off's. Coordinate, Attend, and document Plan-In-Hand (P.I.H.) Meeting.
  - New Submitted Sheets: Joint Layout Sheets (if req'd.); Striping Sheets, Sequence of Construction Sheets, Permanent Signage Sheets.
  - Submitted Documents: Comment/Response Form, Cost Estimate, Constructability (draft), NS Spec Sections (if req'd.)
- **100% Preliminary Milestone:**
  - Design Tasks: Resolve any P.I.H. Comments, Detail req'd. Detours (including horizontal and vertical alignments. Finalize req'd. R/W. Finalize the Prelim. Quantity Take-Off's 30 days
  - New Submitted Sheets: Detour Sheets (if necessary)
  - Submitted Documents: Comment/Response Form, Cost Estimate, Constructability Review Form, Design Guidelines Report, Design Exception Form, Design Waiver Form, Preliminary Plans QA/QC Form
- **Final Phase Milestones:**
  - Milestone Submittals: 60%, 95%, 98%, & 100% (Sealed & Signed)
  - Design Tasks: Resolve any Comments, develop and finalize graphical grades, lighting plan (if req'd.), erosion control plan; review and update quantity take-offs as necessary; Coordinate R/W Mapping if necessary.
  - New Submitted Sheets: Graphical Grades Shts, Lighting Plans Shts (if req'd.), Erosion Control Sheets
  - Submitted Documents: Comment/Response Form, Cost Estimate, Constructability Review Form (Updated), Utility Certification Letter (if req'd), Final Plans QA/QC Form, SWPP Form
- **Construction Support:**

HEI understands that CE&I will be performed by another selected Consultant. HEI will provide Construction Support, as needed.

HEI has the staff and resources to complete this project on schedule. HEI can commence work within 30 calendar days or even earlier upon receiving the notice to proceed from DOTD.

Approach & Methodology: H&H Designed to Amaze, Engineered to Last®

Bridge Design Services

The bridge services scope of work consists of preparing a comprehensive bridge evaluation report for the bridge on LA 44and providing recommendations to DOTD as to whether the existing structure should be widened or replaced. This structure, built in 2008, is a skewed cast-in-place concrete slab span bridge over the Panama Canal (Recall No. 610246/Str. No. 610302650102371) and is 100 feet long with a 40-foot clear roadway width. The bridge will need to be either widened or replaced to accommodate the proposed 60-foot roadway typical section.

Bridge Evaluation Report - Our team will develop a bridge evaluation report to provide recommendations to which approach would be more feasible. The key evaluation criteria are:

- Provide safe and aesthetically pleasant structures for the traveling public.
- The finished cross section on the bridge to include 4-12' travel lanes, 2-4' outside shoulders, and 2-1' inside shoulders with a 2' median.
- The new structure, including any widening, will be designed in accordance with the latest AASHTO LRFD Bridge Design Specifications, LADOTD Bridge Design Manuals and Bridge Design Technical Memoranda.
- The completed structure will use MASH TL-4 36" single slope bridge rails.
- All guardrails will meet the current DOTD and MASH standards.
- The design water surface elevations provided by DOTD.

The following tasks will be performed for the Bridge Evaluation Report:

Task 1: Review all existing documents pertaining to the structure such as as-built plans, inspection reports, rating reports, accident records, and maintenance records.

Task 2: Conduct an in-depth field investigation of the existing conditions of the structures and have a clear understanding of the structure's health and its serviceability. The investigation will include all bridge elements and all other miscellaneous items at the bridge site that may affect the widening, such as Right-of-Way access, lighting, utilities, etc.

Task 3: Perform a LRFR bridge rating including inventory and operating rating for HL-93 and inventory rating for LADV-11 for the existing bridge. The bridge rating will be in accordance with the latest edition of the AASHTO Manual for Bridge Evaluation, LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and Bridge Design Technical Memoranda. The bridge rating report will also be prepared in accordance with the aforementioned publications for each structure.

Task 4: Prepare the bridge evaluation report for the existing structure. The report will include, but not limited to, the information as follows:

- Assessment of the conditions of the existing bridge structure, including all supporting documents, such as photos, as-built plans, inspection notes, etc.
- Recommendations as to whether the existing structure should be widened or replaced.
- Summary of the bridge rating results from task 3.

The bridge evaluation report will be stamped by an Engineer of Record who possesses professional engineering license in Civil Engineering in the state of Louisiana and submitted to DOTD for review. DOTD will make the final decision on whether to replace or widen the existing bridge structure.

[redacted]

URBAN SYSTEMS Inc.

[redacted]

Throughout our history, we have been honored to support the state of Louisiana, Ascension parish and other local governments in their initiatives in improving mobility for the motoring public. Urban Systems recognizes that transportation professionals have a responsibility to the community to apply their knowledge, experience, insight, and energy to maintain and/or improve quality of life. Urban Systems has successfully completed projects that address all aspects of transportation and planning to enhance traffic safety and operations.

Approach & Methodology

- The striping and signage for the proposed roundabouts will be designed per the latest Manual of Traffic Control Devices and LADOTD Standard Plans and Details. The nuances of each location will be taken into consideration during the design. The Sequence of Construction and associated Traffic Control Devices Plans will follow the same guidelines. The impact to the motoring public will be minimized and temporary signals designed, if needed. The Transportation Management Plan level will be agreed upon prior to the Supplemental Agreement and the scope confirmed with LADOTD during the process.

19. Workload:

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State project number	Project name	Remaining Unpaid Balance**
Hartman Engineering, Inc.	**Road**	**Contract No. -4400004761 and SPN H.004957**	**I-12 Bush, Route LA 3242 (I-12 – LA 36), St. Tammany Parish, LA**	**$1,920**
Hartman Engineering, Inc	**Road**	**Contract No. -4400017687 and TO #4: H.009425.5**	**DOTD PVMT PRESERVATION - (LA 16, Amite)**	**$180,999.25**
Hartman Engineering, Inc	**Road**	**Contract No. -4400017687 and TO #5: H.012914**	**DOTD PVMT PRESERVATION - (LA 3073: Ambassador @ Verot-Chemin-Bonin)**	**$29,298.50**
APS Engineering and Testing, LLC	Geotech	4400091011/ H.001271.5	Retainer Contract for Geotechnical Services- Cane River Bridge	$133,758
APS Engineering and Testing, LLC	Geotech	4400017262/ H.012027	I-20: Union Pacific RR Overpass	$61,644
APS Engineering and Testing, LLC	Geotech	4400017262/ H.012545	Wiggins Bayou Bridge	$14,646
Hardesty & Hanover	Bridge	4400023909 H.002798.6	Oaklawn Bridge Walkway / Parking Lighting	$12,486
Hardesty & Hanover	Bridge	4400023511 H.009730.5 Task 1	Bridge Inspection of Complex Structures Routine Bridge Inspection Services 3 Bridges	$780,098
Hardesty & Hanover	Bridge	4400023511 H.009730.5 Task 2	Bridge Inspection of Complex Structures LADOTD Movable Bridge Inspection Manual	$958,028

Hardesty & Hanover	CE&I/OV	4400017430 H.001498.6	LA 24 and LA 316: Company Canal Bridge, Terrebonne Parish	$1,299,320
Hardesty & Hanover	CE&I/OV	4400024021 H.015028.6	LA 302: Bayou Barataria MB Replacement Route: LA 302	$5,112,344
Urban Systems, Inc.	Traffic	No. 440005142 H.011309.5	Mac Arthur Final Design	$30,687
Urban Systems, Inc.	Traffic	No. PSLC-STJ-Supp-2 H.004891	Reserve to I-10	$1,882
Urban Systems, Inc.	Traffic	No.4400022581 H.011221.5	I-10: NO CBD 3 (Poydras-Louisa)	$100,364
Urban Systems, Inc.	Traffic	No.4400024185 H.015424.5	LA 67 Plank Road over US 61 (Airline Highway) TMP	$2,914

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

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

Louisiana Professional Engineer Licenses

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Jared Blayne Monceaux

License/Certificate Type - Number	Expiration Date
PE.0032202	03/31/2024

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Rolland Anthony Mura

License/Certificate Type - Number	Expiration Date
PE.0014997	03/31/2024

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mrs. Danielle Bordelon Connelly

License/Certificate Type - Number	Expiration Date
PE.0036284	09/30/2025

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Sundararaja Channakesavapura Rao

License/Certificate Type - Number	Expiration Date
PE.0017005	09/30/2025

Status: Retired

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Tony R. Tramel

License/Certificate Type - Number	Expiration Date
PE.0019268	09/30/2024

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Raul H. Regis

License/Certificate Type - Number	Expiration Date
PE.0034006	09/30/2024

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Connor Guidry

License/Certificate Type - Number	Expiration Date
EI.0033801	03/31/2025

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Ms. Madeline M. Bourgeois

License/Certificate Type - Number	Expiration Date
EI.0034782	09/30/2025

Status: Active

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Jordan Edward LeBas

License/Certificate Type - Number	Expiration Date
EI.0035548	03/31/2024

Status: Active

LOUISIANA ASSOCIATED GENERAL CONTRACTORS, INC.
666 North Street – Baton Rouge, LA 70802
Phone: 225/344-0432 * Fax: 225/344-0458
www.lagc.org

Feb 28, 2024

To Whom It May Concern,

This is to verify that the below listed employee of Harman Engineering has successfully completed LADOTD required ATSSA Traffic Control Training.

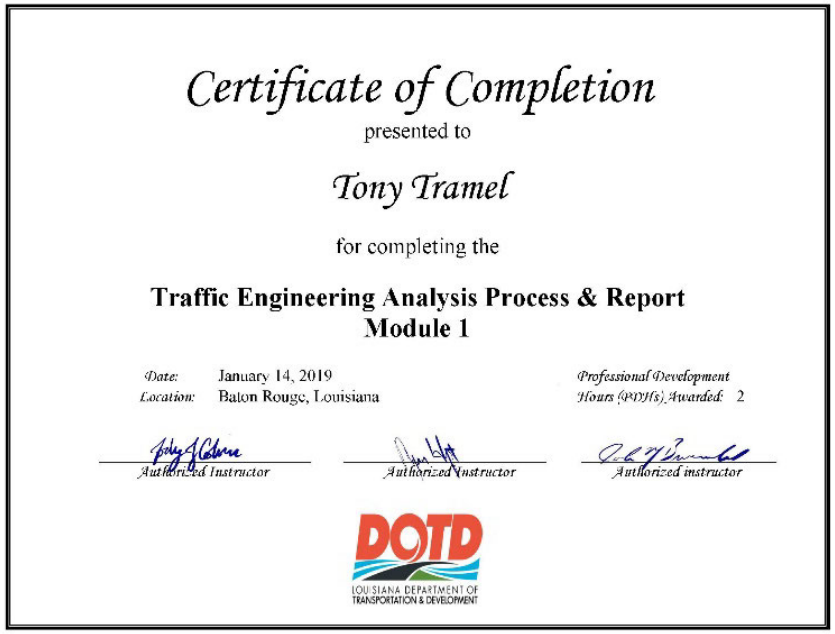
ATSSA Traffic Control Supervisor Training – Feb 21-22, 2024 – Jared Monceaux

This letter will serve as temporary proof of training until above listed employees receive their official certificates from American Traffic Safety Services Association (ATSSA).

If there are any questions regarding this issue, please contact Mr. Brett Morgan of LADOTD at Headquarters in Baton Rouge, LA (225-379-1584) or Judy Brousseau at the above captioned address.

Best Regards,

Ken Naquin- LAGC Chief Executive Officer



Certificate of Completion

presented to

Tony Tramel

for completing the

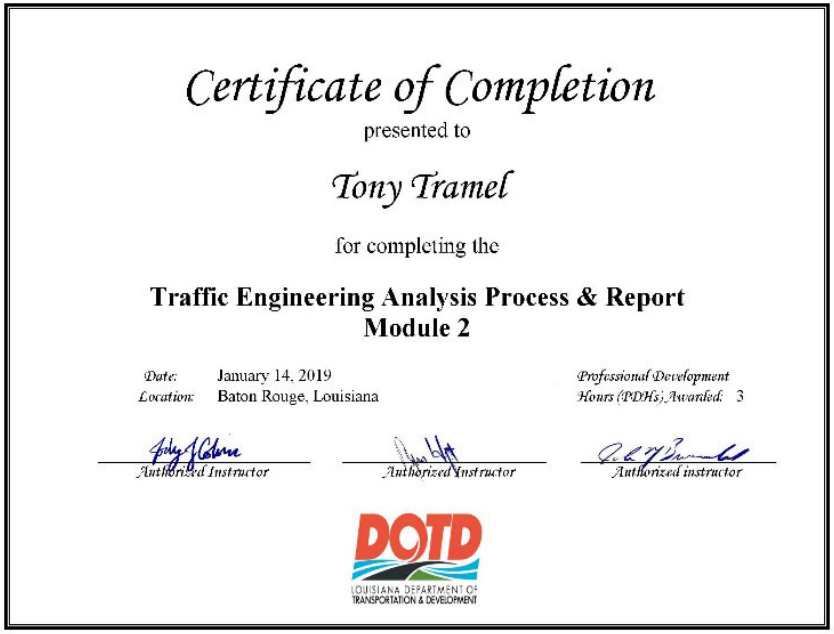
Traffic Engineering Analysis Process & Report
Module 1

Date: January 14, 2019
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 2

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT



Certificate of Completion

presented to

Tony Tramel

for completing the

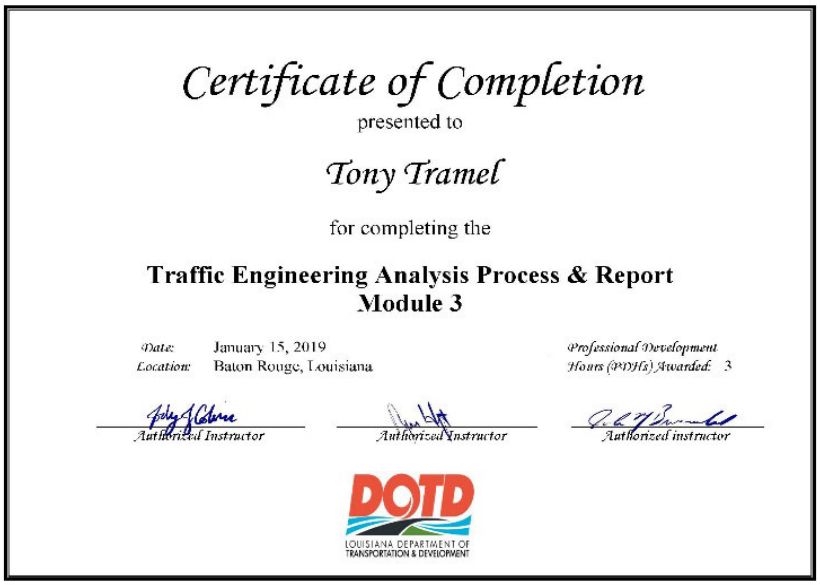
Traffic Engineering Analysis Process & Report
Module 2

Date: January 14, 2019
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT



Certificate of Completion

presented to

Tony Tramel

for completing the

Traffic Engineering Analysis Process & Report
Module 3

Date: January 15, 2019
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

The Louisiana Professional Engineering and Land Surveying Board has the following information on file:

Name:

Hartman Engineering, Inc.

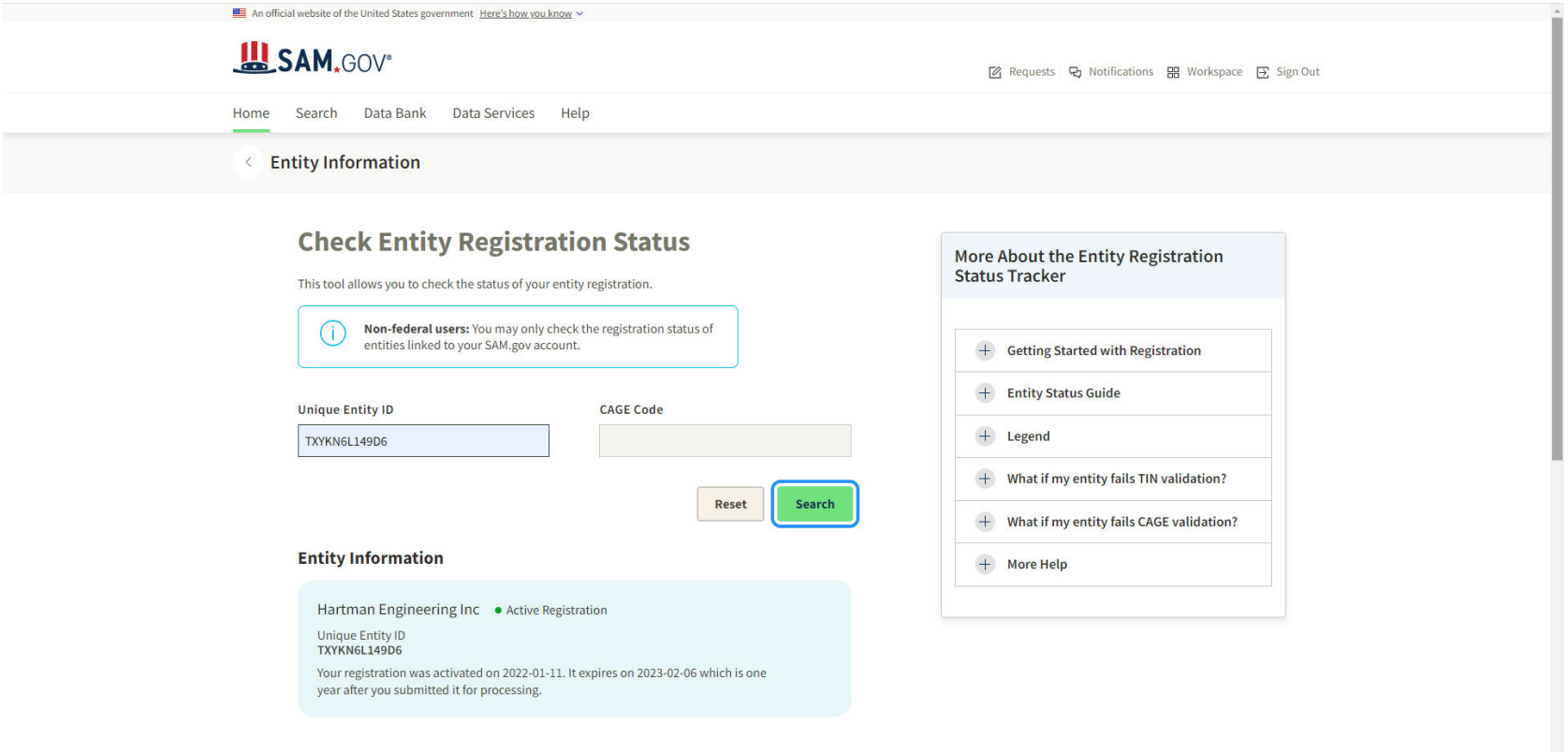
Public Address:

Mr. B.K. Sneed 527 West Esplanade Avenue, Suite 300

Kenner, Louisiana 70065

License/Certificate Information w/ Supervision

License	Status	First Issuance Date	Expiration Date	Supervisor(s)
EF.0001344	Active	09/25/1986	03/31/2024	Mr. Jared Blayne Monceaux # PE.0032202 - Active



Louisiana Professional Engineer Licenses

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Sergio L. Aviles

License/Certificate Type - Number	Expiration Date
PE.0033571	03/31/2024

Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Sairam Venkata Eddanapudi

License/Certificate Type - Number	Expiration Date
PE.0035129	03/31/2024

Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Surendra Raj Pathak

License/Certificate Type - Number	Expiration Date
PE.0043487	09/30/2025

Status: Active

RTA DOTD

LOUISIANA UNIFIED CERTIFICATION PROGRAM

Disadvantaged Business Enterprise Program (DBE)

Small Business Element (SBE)

This is to certify that under Title 49, Part 26 of the Code of Federal Regulations & under the State of Louisiana United Certification Program (LAUCP)

APS Engineering and Testing, LLC

Is a Certified Disadvantaged Business Enterprise (DBE) & Small Business Element (SBE) in the following specialties:

NC221310, NC221320, NC541330, NC541370, NC541380, NC541620, NC541690

NOTE: There may be other approved NAICS Codes. The online DBE Directory includes a complete list of approved codes.

Certificate Eligibility: October 2023 to October 2024

This certificate is valid through the above date provided. This firm meets the on-going programmatic standard and fulfills the annual update requirement to remain in good standing as a DBE. This certification is subject to annual verification and suspension or revocation based upon reasonable cause to believe that the firm is ineligible.

Rhonda Wallace

Rhonda Wallace, DBE/SBE Programs Manager

Louisiana Department of Transportation & Development

ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Surendra Pathak

has attended

Traffic Control Supervisor Virtual Training

Training Course

12/28/2022 to
12/28/2026
Training Valid Through

,
Location

CEU: 1.50

Director of Training

President, CEO

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

This certificate provides proof of training, not certification.

ATSSA American Traffic Safety Services Association ATSSA.com

ATSSA TRAINED

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Sergio Aviles

has attended

Traffic Control Technician Virtual Training

Training Course

1/24/2023 to 1/24/2027
Training Valid Through

,
Location

CEU: 0.75

Director of Training

President, CEO

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

This certificate provides proof of training, not certification.

ATSSA American Traffic Safety Services Association ATSSA.com

Louisiana Professional Engineer Licenses

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Babak Naghavi

License/Certificate Type - Number: PE.0020745
Expiration Date: 09/30/2024
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Corey Richard Bourgeois

License/Certificate Type - Number: PE.0042362
Expiration Date: 09/30/2024
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Erik Rene' Diaz

License/Certificate Type - Number: PE.0037712
Expiration Date: 09/30/2025
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Linh-Thien Damien Kim

License/Certificate Type - Number: PE.0047527
Expiration Date: 09/30/2025
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Dalton Thomas Hunt

License/Certificate Type - Number: EI.0035118
Expiration Date: 09/30/2024
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Frederick Louis Wetekamm III

License/Certificate Type - Number: PE.0025369
Expiration Date: 03/31/2024
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. John Arlington Corven

License/Certificate Type - Number: PE.0038309
Expiration Date: 03/31/2024
Status: Active

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Dennis C. Gowins

License/Certificate Type - Number: PE.0024468
Expiration Date: 09/30/2025
Status: Active

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

COREY BOURGEOIS

has participated in

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

hosted by

LA DOTD/LTRC

Date: October 11-15, 2021 Hours of Instruction: 34

Location: Baton Rouge, LA

Instructor

Instructor

Allison H. Landry
Local Coordinator

Thomas Harman
Thomas Harman, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

NHI

Certificate of Training

COREY BOURGEOIS

has participated in

FHWA-NHI-132082
LRFD for Highway Bridge Substructures

hosted by

LA DOTD/LTRC

Date: February 20-23, 2017 **Hours of Instruction:** 28

Location: Baton Rouge, LA

Scott D Young
Instructor

Instructor

Allison H. Landry
Local Coordinator

Valerie Briggs
Valerie Briggs, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

NHI

Certificate of Training

Corey Bourgeois

has participated in

FHWA-NHI-130081 LRFD for Highway Bridge Superstructures

hosted by

LA DOTD/LTRC

Date: October 17-20, 2016 **Hours of Instruction:** 25

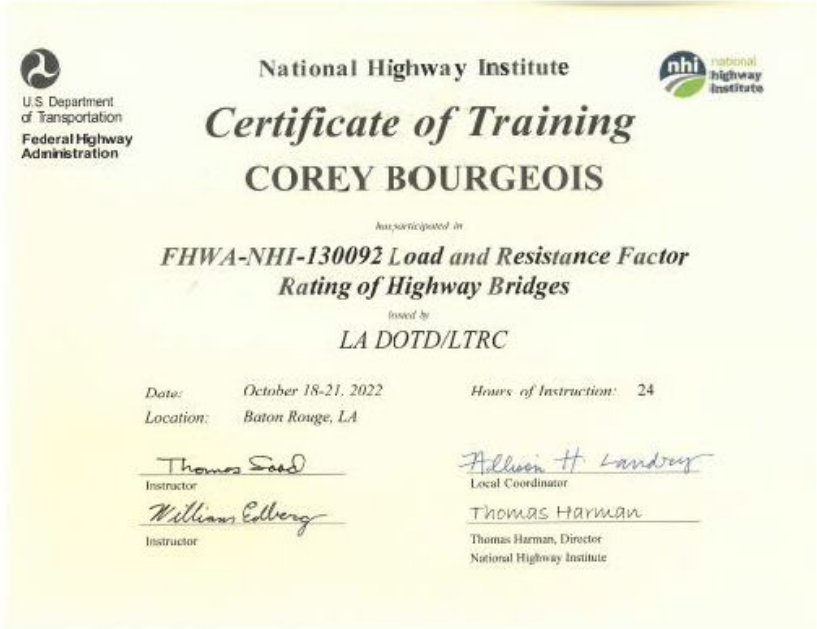
Location: Baton Rouge, LA

Instructor

Instructor

Allison H Landry
Local Coordinator

Valerie Briggs
Valerie Briggs, Director
National Highway Institute



U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

COREY BOURGEOIS

has participated in

FHWA-NHI-130092 Load and Resistance Factor Rating of Highway Bridges

hosted by

LA DOTD/LTRC

Date: October 18-21, 2022 Hours of Instruction: 24

Location: Baton Rouge, LA

Thomas Todd
Instructor

William Edberg
Instructor

Allison H. Landry
Local Coordinator

Thomas Harman
Thomas Harman, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

Erik R. Diaz

Has Successfully Completed

FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges

hosted by

Office State Aid Road Construction

Date: June 07-10, 2022
Location: Ridgeland, MS

Hours of Instruction: 25

Instructor

Instructor

Local Coordinator

Thomas Harman
Thomas Harman, Director
National Highway Institute

National Highway Institute

NHI

Certificate of Training

Erik Diaz

has participated in

NHI Course No. 130092 – Fundamentals of LRFR and Applications of LRFR for Bridge Superstructures

hosted by

LA DOTD/LTRC

Date: June 23-26, 2014
Location: Baton Rouge, LA

Hours of Instruction: 24

Instructor

Instructor

Local Coordinator

Richard Barnaby, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

ERIK DIAZ

has participated in

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

hosted by

LA DOTD/LTRC

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

Hours of Instruction: 34

Instructor

Instructor

Local Coordinator

Thomas Harman
Thomas Harman, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

NHI

Certificate of Training

Erik Diaz

has participated in

FHWA-NHI-130081 LRFD for Highway Bridge Superstructures

hosted by

LA DOTD/LTRC

Date: October 17-20, 2016
Location: Baton Rouge, LA

Hours of Instruction: 25

Instructor

Instructor

Local Coordinator

Valerie Briggs, Director
National Highway Institute

Linh Kim, P.E.

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

Linh Thien Damien Kim

has Successfully Completed

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

hosted by

Office of State Aid Road Construction

Date: March 21-April 01, 2022
Location: Ridgeland, MS

Hours of Instruction: 67

Instructor

Instructor

Local Coordinator

Thomas Harman, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

Linh Kim

has participated in

FHWA-NHI-130092 Load and Resistance Factor Rating of Highway Bridges

hosted by

Mississippi Department of Transportation

Date: June 07-10, 2022
Location: Jackson, MS

Hours of Instruction: 24

Instructor

Instructor

Local Coordinator

Thomas Harman, Director
National Highway Institute

Dalton Hunt, E.I.

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

nhi national highway institute

Certificate of Training

Dalton Hunt

has Successfully Completed

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

hosted by

Office of State Aid Road Construction

Date: March 21-April 01, 2022
Location: Ridgeland, MS

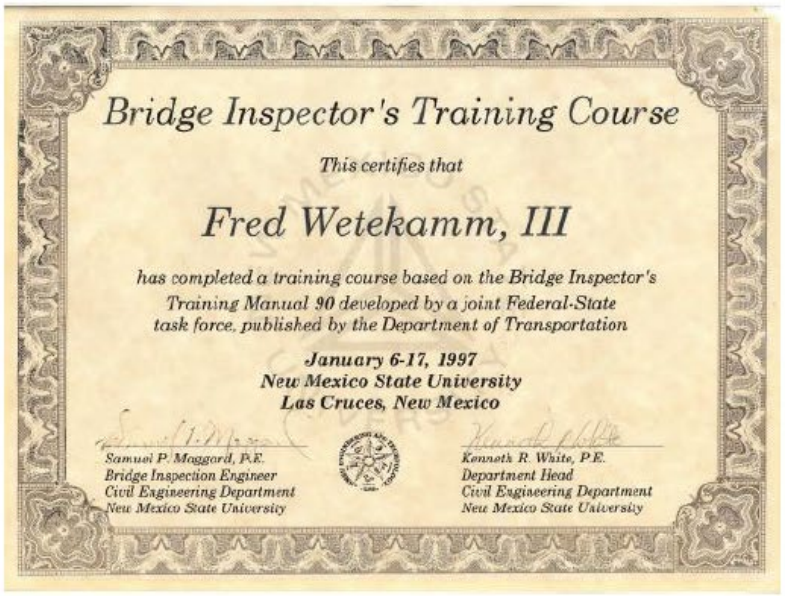
Hours of Instruction: 67

Instructor

Instructor

Local Coordinator

Thomas Harman, Director
National Highway Institute



Bridge Inspector's Training Course

This certifies that

Fred Wetekamm, III

has completed a training course based on the Bridge Inspector's Training Manual 90 developed by a joint Federal-State task force, published by the Department of Transportation

January 6-17, 1997
New Mexico State University
Las Cruces, New Mexico

Samuel P. Maggard, P.E.
Bridge Inspection Engineer
Civil Engineering Department
New Mexico State University

Kenneth R. White, P.E.
Department Head
Civil Engineering Department
New Mexico State University

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

Certificate of Training

FREDERICK WETEKAMM, P.E.

has participated in

FHWA-NHI-130053 Bridge Inspection Refresher Training

hosted by

LA DOTD/LTRC

Date: January 7-9, 2019
Location: Baton Rouge, LA
Hours of Instruction: 18

Instructor

Instructor

Allison H. Landry
Local Coordinator

Michael Davies, Director
National Highway Institute

U.S. Department of Transportation
Federal Highway Administration

National Highway Institute

Certificate of Training

FREDERICK WETEKAMM

has participated in

FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges

hosted by

LA DOTD/LTRC

Date: February 26 – March 1, 2019
Location: Baton Rouge, LA
Hours of Instruction: 25

Instructor

Instructor

Allison H. Landry
Local Coordinator

Michael Davies, Director
National Highway Institute

URBAN SYSTEMS inc.

Alison Catarella Michel, P.E., PTOE, PTP, RSP2i

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Ms. Alison Marie Catarella Michel

License/Certificate Type - Number: PE.0030261
Expiration Date: 03/31/2025
Status: Active

Commonwealth of Pennsylvania
Department of State
Bureau of Professional and Occupational Affairs
PO BOX 2649 Harrisburg PA 17105-2649
23 0301518

License Type
Professional Engineer
ALISON M CATARELLA-MICHEL
400 N PETERS SUITE 206
NEW ORLEANS, LA 70130

License Status
Active
Initial License Date
05/10/2006

License Number
PE073472

Expiration Date
09/30/2025

Acting Commissioner Arion R. Claggett

Signature

ALTERATION OF THIS DOCUMENT IS A CRIMINAL OFFENSE UNDER 18 PA.C.S. 4911

DESTINATION ZERO DEATHS

This certificate of training is presented to

ALISON MICHEL

In Recognition of Attending

Highway Safety Manual Workshop

Baton Rouge, Louisiana

Elizabeth Wemple, PE
Eric Fong, PE
Instructor

18.0 Professional Development Hours

Nov 30—Dec 2, 2011
Date

STATE OF ALABAMA
BOARD OF LICENSURE FOR PROFESSIONAL
ENGINEERS AND LAND SURVEYORS

ALISON CATARELLA-MICHEL

Is duly licensed as a
PROFESSIONAL ENGINEER

License Number: PE27740
Status: Active
Expire Date
12/31/2025

William R. Huett
Executive Director

Transportation Professional Certification Board, Inc.

certifies that

Alison Marie Catarella Michel

has met all of the requirements established by the Certification Board to use the title of

Professional Transportation Planner

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 626 issued in Washington, D.C., U.S.A.

11/20/17

Michael R. Clark
Chair

Jeffrey F. Lindsay
Executive Director

PTP 626

Exp. Date 11/20/2026

Transportation Professional Certification Board, Inc.

certifies that

Alison Catarella Michel

has met all of the requirements established by the Certification Board to use the title of

Road Safety Professional

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 115 issued in Washington, D.C., U.S.A.

12/21/2018

Diane Mendoza
Chair

Jeffrey F. Lindsay
Executive Director

RSP1 113

Exp. Date 12/21/2024

Certificate of Completion

presented to

Alison Catarella-Michel

for completing the

Traffic Engineering Analysis Process & Report
Module 2

Date: June 11, 2018
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH) Awarded: 4

DOTD

Certificate of Completion

presented to

Alison Catarella-Michel

for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: June 4, 2018
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH) Awarded: 4

DOTD

Certificate of Completion

presented to

Alison Catarella-Michel

for completing the

Traffic Engineering Analysis Process & Report
Module 3

Date: September 10, 2018
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH) Awarded: 3

DOTD

U.S. Department Of Transportation Federal Highway Administration

National Highway Institute

NHI

Certificate of Training

Alison Michel

has participated in

NHI Course No. 142005 -
NEPA and Transportation Decision Making

hosted by

LA DOTD/LTRC

Date: May 28-30, 2014
Location: Baton Rouge, LA

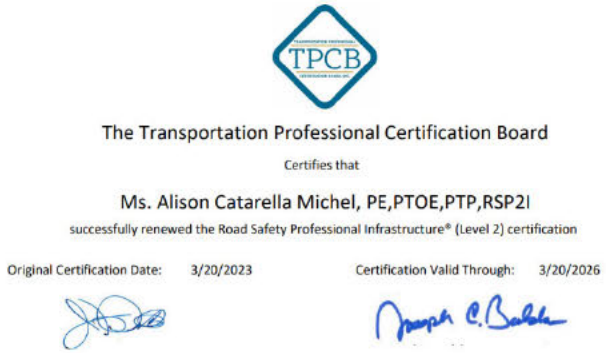
Hours of Instruction: 18

Instructor

Instructor

Local Coordinator

Richard Barnaby, Director
National Highway Institute



TPCB

The Transportation Professional Certification Board

Certifies that

Ms. Alison Catarella Michel, PE,PTOE,PTP,RSP2I

successfully renewed the Road Safety Professional Infrastructure® (Level 2) certification

Original Certification Date: 3/20/2023

Certification Valid Through: 3/20/2026

Jeffrey F. Paniati,
Executive Director and CEO

Joseph C. Balskus, P.E., PTOE, RSP1
TPCB Chair

Certification Number: 148

TPCB

The Transportation Professional Certification Board

Certifies that

Ms. Alison Catarella Michel, PE,PTOE,PTP,RSP2I

successfully renewed the Road Safety Professional® (Level 1) certification

Original Certification Date: 12/21/2018

Certification Valid Through: 12/21/2024

Jeffrey F. Paniati,
Executive Director and CEO

Joseph C. Balskus, P.E., PTOE, RSP1
TPCB Chair

Certification Number: 115

Christine M. Darrah, P.E.

ATSSA CERTIFIED

PROOF OF CERTIFICATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Christine Darrah

THIS INDIVIDUAL IS CERTIFIED BY ATSSA AS A

Louisiana Traffic Control Supervisor

This certified individual has demonstrated a thorough knowledge of the standards, guidelines and practices of traffic control in highway construction and maintenance work areas; has completed all the requirements of the American Traffic Safety Services Association Certification Program to the satisfaction of the Certification Board; and is hereby awarded the above designation. This certified individual is fully entitled to all the rights and privileges associated with this designation. This certificate will remain in effect until the expiration date noted herein unless otherwise revoked by action of the Certification Board.

ISSUE DATE 4/8/2021
EXPIRATION DATE 4/7/2025
CERTIFICATION# 873755

ATSSA American Traffic Safety Services Association
ATSSA.com

CERTIFICATE

Louisiana Urban Stormwater Coalition

WATERWISE NOLA

hereby recognizes that

Christine Darrah

CERTIFIED Design & Construction 1

has completed the LUSC Training

Design, Construction & Maintenance of Green Infrastructure

(8 hours of Classroom Instruction)

and is now a Water Wise NOLA certified Green Infrastructure Professional 1

06/19/2015
Date

Instructor

LOUISIANA URBAN STORMWATER COALITION

LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mrs. Christine Mire Darrah

License/Certificate Type - Number
PE.0028528

Expiration Date
09/30/2025

Status: Active

Louisiana Roads Scholar Program

LTAP

Certificate of Training

PRESENTED BY

Louisiana Local Technical Assistance Program

TO CERTIFY THAT

Christine Darrah

HAS SATISFACTORILY COMPLETED 6 PROFESSIONAL DEVELOPMENT HOURS IN:

Roads Scholar #9: The Road to Better Signing

Director, LTAP

October 26, 2023
Date

New Orleans, LA
Location

Prime: HEI Hartman Engineering, Inc. Consulting Engineers

Certificate of Completion

presented to

Christine Darrah

for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: October 7, 2020
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH's) Awarded: 2.5

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Certificate of Completion

presented to

Christine Darrah

for completing the

Traffic Engineering Analysis Process & Report
Module 2

Date: October 7, 2020
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH's) Awarded: 3.5

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Certificate of Completion

presented to

Christine Darrah

for completing the

Traffic Engineering Analysis Process & Report
Module 3

Date: October 8, 2020
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH's) Awarded: 3.5

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Matthew H. Morgan

Certificate of Completion

presented to

Matthew Morgan

for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: February 25, 2019
Location: Bridge City, Louisiana

Professional Development Hours (PDH) Awarded: 2

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Certificate of Completion

presented to

Matthew Morgan

for completing the

Traffic Engineering Analysis Process & Report
Module 2

Date: February 25, 2019
Location: Bridge City, Louisiana

Professional Development Hours (PDH) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Louisiana Professional Engineering
and
Land Surveying Board

Hereby Certifies that
Mr. Matthew Hansen Morgan
has satisfied the applicable requirements and is therefore licensed as a
Professional Engineer
and hereby entitled to practice engineering in the State of Louisiana.

Baton Rouge, Louisiana - August 12, 2022

License Number PE.0047060

Certificate of Completion

presented to

Matthew Morgan

for completing the

Traffic Engineering Analysis Process & Report
Module 3

Date: February 26, 2019
Location: Bridge City, Louisiana

Professional Development Hours (PDH) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Certificate of Training

this certifies that

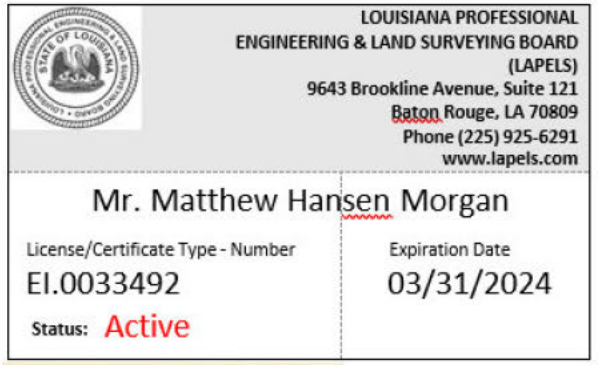
Matthew M. Morgan

has successfully completed the training program requirements for

National Flagger Certification Training Course

Awarded on this 23rd day of August 2022

This certificate is valid for 30 days from the date awarded.



LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Matthew Hansen Morgan

License/Certificate Type - Number	Expiration Date
EI.0033492	03/31/2024

Status: Active

Prime: HEI Hartman Engineering, Inc. Consulting Engineers

Nicole H. Stewart, P.E., PTOE

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Ms. Nicole Harris Stewart

License/Certificate Type - Number: PE.0034750
Expiration Date: 09/30/2025
Status: Active

The Transportation Professional Certification Board

Certifies that

Mrs. Nicole H. Stewart, P.E., PTOE

successfully renewed the Professional Traffic Operations Engineer® certification

Original Certification Date: 8/14/2012
Certification Valid Through: 8/14/2024

Jeffrey F. Paniati,
Executive Director and CEO

Joseph C. Balskus, P.E., PTOE, RSP1
TPCB Chair

Certification Number: 2923

DESTINATION ZERO DEATHS

This certificate of training is presented to

NICOLE STEWART

In Recognition of Attending

Highway Safety Manual Workshop

Baton Rouge, Louisiana

Elizabeth Wemple, PE
Eric Tang, PE
Instructor

18.0 Professional Development Hours

June 1-3, 2011
Date

PROOF OF CERTIFICATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Nicole Stewart

THIS INDIVIDUAL IS CERTIFIED BY ATSSA AS A

Traffic Control Supervisor

This certified individual has demonstrated a thorough knowledge of the standards, guidelines and practices of traffic control in highway construction and maintenance work areas; has completed all the requirements of the American Traffic Safety Services Association Certification Program to the satisfaction of the Certification Board; and is hereby awarded the above designation. This certified individual is fully entitled to all the rights and privileges associated with this designation. This certificate will remain in effect until the expiration date noted herein unless otherwise revoked by action of the Certification Board.

ISSUE DATE 11/4/2020
EXPIRATION DATE 11/3/2024
CERTIFICATION # 840319

American Traffic Safety Services Association
ATSSA.com

TEXAS BOARD OF PROFESSIONAL
ENGINEERS AND LAND SURVEYORS

Certificate of Registration

This acknowledges that

Urban Systems Associates, Inc.
Urban Systems, Inc.

has fulfilled the requirements of the State of Texas to offer and perform engineering services in the State of Texas. In witness whereof we have hereunto set our hands and affixed the seal of the Board, this 28th day of October, 2022.

Registration Number
F - 23935

Dr. Sina K. Nejad, P.E., P.Eng., Board Chair

Coleen Johnson, R.P.L.S., Secretary

PROOF OF TRAINING

THIS CERTIFICATE HEREBY RECOGNIZES THAT

Nicole Stewart
has attended
Traffic Control Technician-LA State Specific
Training Course

4/6/2021 to 4/6/2025
Training Valid Through

Director of Training

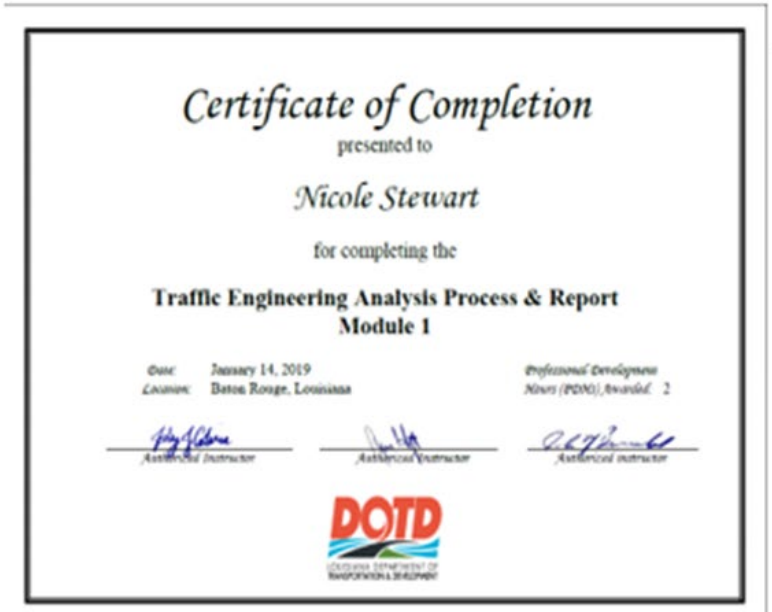
Baton Rouge, LA
Location

President, CEO

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

American Traffic Safety Services Association ATSSA.com

Prime: HEI Hartman Engineering, Inc. Consulting Engineers



Certificate of Completion

presented to

Nicole Stewart

for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: January 14, 2019
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH) Awarded: 2

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Certificate of Completion

presented to

Nicole Stewart

for completing the

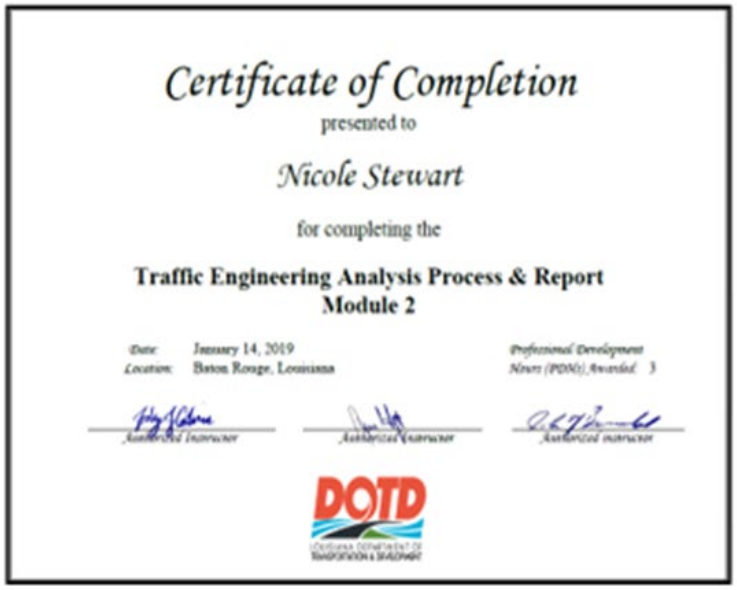
Traffic Engineering Analysis Process & Report
Module 3

Date: January 15, 2019
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD



Certificate of Completion

presented to

Nicole Stewart

for completing the

Traffic Engineering Analysis Process & Report
Module 2

Date: January 14, 2019
Location: Baton Rouge, Louisiana

Professional Development Hours (PDH) Awarded: 3

Authorized Instructor | Authorized Instructor | Authorized Instructor

DOTD

Fadi Madi

Certificate of Completion

presented to

Fadi Madi

for completing the

Traffic Engineering Analysis Process & Report
Module 1

Date: October 7, 2020
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 2.5

DOTD

Certificate of Completion

presented to

Fadi Madi

for completing the

Traffic Engineering Analysis Process & Report
Module 3

Date: October 8, 2020
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3.5

DOTD

Certificate of Completion

presented to

Fadi Madi

for completing the

Traffic Engineering Analysis Process & Report
Module 2

Date: October 7, 2020
Location: Baton Rouge, Louisiana
Professional Development Hours (PDHs) Awarded: 3.5

DOTD

Certificate of Training

this certifies that

Fadi Madi

has successfully completed the training program requirements for

National Flagger Certification Training Course

Awarded on this 18th *day of* August 2022

This certificate is valid for 30 days from the date awarded.

Professional Engineers Ontario

Licence

Issued under the Professional Engineers Act to

Fadi Madi

Licence Number: 100174071

who is hereby entitled to practise as a

Professional Engineer

in the Province of Ontario and who is registered as a member of the Association of Professional Engineers of Ontario

Given under the Corporate Seal of the Association at the City of Toronto this:

11th day of November, 2016

George R. Comis, P.Eng.
President

Gerard Mitchell, P.Eng.
Registrar

Association of Professional Engineers Ontario. This certificate is the property of the Association and must be surrendered on revocation, cancellation, suspension or resignation.

Certificate of Completion

This is to certify that

Fadi Madi

attended and successfully completed

INTRODUCTION TO SIDRA
MODULE 1

Conducted by Akcelik & Associates
in December 2023

Rahmi Akcelik
Director

Mark Besley
Director

SIDRA SOLUTIONS

Certificate of Completion

This is to certify that

Fadi Madi

attended and successfully completed

INTRODUCTION TO SIDRA
MODULE 2

Conducted by Akcelik & Associates
in December 2023

Rahmi Akçelik
Director

Mark Besley
Director

SIDRA SOLUTIONS

Certificate of Completion

This is to certify that

Fadi Madi

attended and successfully completed

INTRODUCTION TO SIDRA
MODULE 3

Conducted by Akcelik & Associates
in December 2023

Rahmi Akçelik
Director

Mark Besley
Director

SIDRA SOLUTIONS

Marcus A. Cepeda E.I.

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Marcus Anthony Cepeda

License/Certificate Type - Number
EI.0035283

Expiration Date
03/31/2025

Status: Active

Congratulations!
Marcus Cepeda

You have completed

Traffic Engineering Analysis Process & Report Class
Modules 1, 2 &3

Date: February 1-2, 2023
Location: Baton Rouge, Louisiana

Professional Development
Hours (PDHs) Awarded: 8.50

Authorized Instructor

Authorized Instructor

DOTD

Benjamin A. Wolf, E.I.

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Benjamin Andrew Wolf

License/Certificate Type - Number: EI.0034974

Expiration Date: 03/31/2024

Status: Active

Congratulations!
Benjamin Wolf

You have completed

Traffic Engineering Analysis Process & Report Class
Module 1,2, 3

Date: November 16, 2023
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 8.50

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Connor Crow, E.I.

Congratulations!
Connor Crow

You have completed

Traffic Engineering Analysis Process & Report Class
Modules 1, 2 &3

Date: November 15-16, 2023
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 8.50

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Evan Hendry, E.I.

Congratulations!
Evan Hendry

You have completed

Traffic Engineering Analysis Process & Report Class
Modules 1, 2 &3

Date: November 15-16, 2023
Location: Baton Rouge, Louisiana

Professional Development Hours (PDHs) Awarded: 8.50

Authorized Instructor

Authorized instructor

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

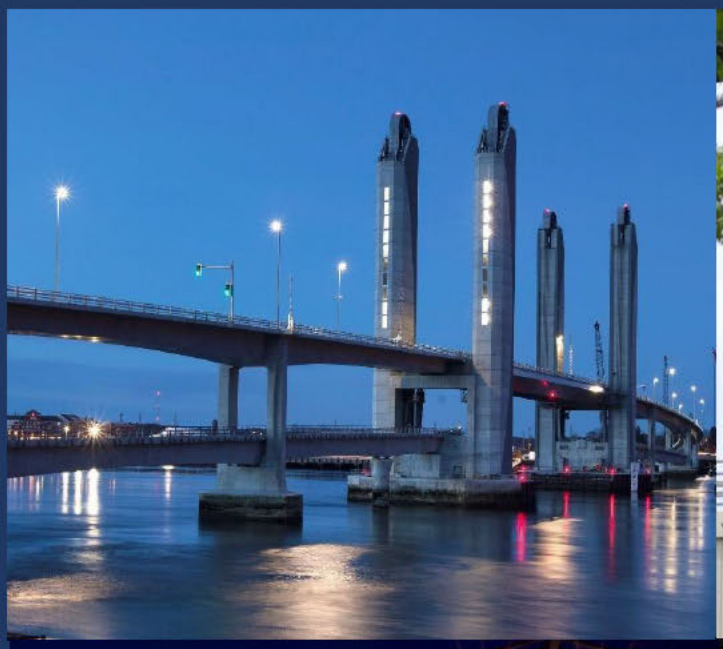
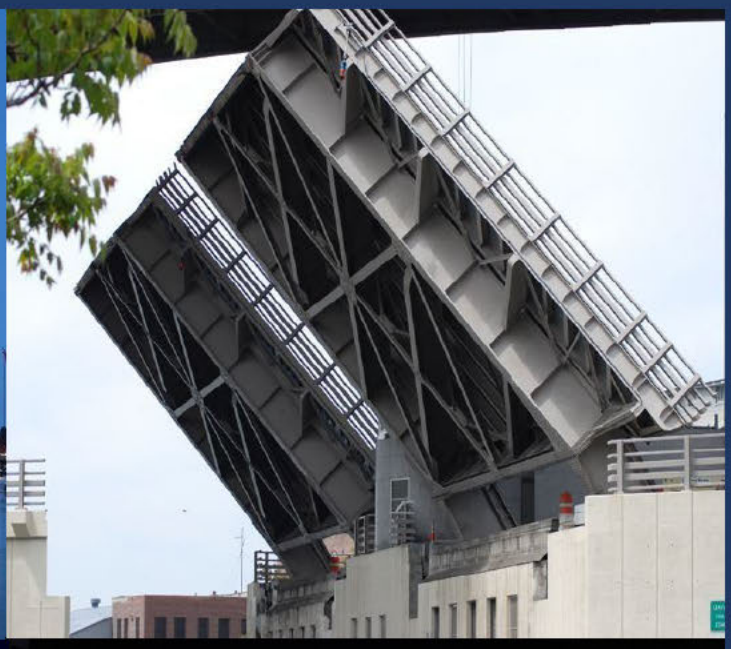
The Louisiana Professional Engineering and Land Surveying Board has the following information on file:

Name:	Public Address:
	Ms. Alison Marie Catarella2000 Tulane Avenue, Suite 200
Urban Systems, Inc.	
	New Orleans, Louisiana 70112

License/Certificate Information w/ Supervision

License	Status	First Issuance Date	Expiration Date	Supervisor(s)
EF.0001342	Active	09/22/1986	03/31/2025	Ms. Alison Marie Catarella Michel # PE.0030261

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

Hardesty & Hanover, LLC
QUALITY MANAGEMENT PLAN

Table of Contents

Quality Management Plan Authorization 1
1. Introduction 2
1.1 Quality Elements 2
1.1.1. Definitions 2
1.1.2. Quality Management System 3
2. Effective Date and Revisions 4
3. Quality Management Plan Development 4
3.1 Project Summary 4
3.2 Bridge Design 6
3.3 Deliverables 8
3.4 Project Specific Procedures 9
3.4.1. Quality Control Plan Modifications 9
3.4.2. Quality Assurance Plan Modifications 9

H&H Quality Assurance Plan ..... Appendix A
H&H Quality Control Plan ..... Appendix B
H&H QA/QC Forms ..... Appendix C
LADOTD QA/QC Forms & Checklists ..... Appendix D

Quality Management Plan Authorization

- The Hardesty & Hanover Quality Management Plan consists of procedures that have been developed to assure that the various elements of the project are carried out in a planned and controlled manner and in accordance with industry standards.

  The herein described Quality Management Plan is an accurate and consistent reflection of Hardesty & Hanover policies and procedures.

Signature
Rodney A. Jarrett, PE
H&H Quality Manager

Date

1. Introduction

Hardesty & Hanover (H&H) has committed to fostering the improvement of quality by generating this Quality Management Plan (QMP) for providing guidance to the project team. The objective of the QMP is to provide tools to the project team so that our professional services are performed and delivered in accordance with applicable industry standards of care and to the satisfaction of project scope requirements while remaining within the allocated schedule and budget.

The Quality Management Plan includes the H&H firm standard Quality Assurance and Quality Control Plans. Together these plans form our Quality Management System (QMS). The intent of the QMS is to define procedures for Quality Control and Quality Assurance which minimize errors, discrepancies, and omissions in H&H's work products.

Hardesty & Hanover acknowledges that H&H and their subconsultants are fully responsible for QC/QA of their own work and the client bears no responsibility for performing QC/QA of the work of Hardesty & Hanover or their subconsultants.

1.1 Quality Elements

1.1.1. Definitions

a) **Contract Requirements:** Established by **LADOTD** for each project, these requirements take precedence over any other practices established by H&H. Notwithstanding specific contract requirements, minimum H&H quality practices and industry standard of care are applicable to all projects. Contract Requirements are identified in the sections below.

b) **Project Specific Engineering Oversight Practices:** These practices are established by H&H during project initiation and will vary depending on the classification of the project as determined by the firm. Engineering Oversight activities are a supplement to, and not a replacement of, project quality activities. Project Specific Engineering Oversight Practices are identified in the sections below.

c) **Quality Control (QC**): Procedures of checking the accuracy and consistency of the work product to minimize errors, discrepancies, and omissions, to ensure adherence to industry standards, and to deliver an exceptional product to our clients.

d) **Quality Assurance (QA):** Procedures of reviewing the design and development processes to ensure the Quality Control procedures are in place, implemented per firm policy and the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve processes where appropriate.

e) **Quality Control Plan:** This document defines the intent and practices for overall Quality Control with an emphasis on the activities of the project technical staff. The design and document review process and practices are defined in this document. Project specific modifications to the Quality Control Plan are identified in Section 3.4.1.

f) **Quality Assurance Plan:** This document defines the intent and practices for overall Quality Assurance and Engineering Oversight, identifying key staff and their respective project management and quality management responsibilities. Project specific modifications to the Quality Assurance Plan are identified in Section 3.4.2.

g) **Design Policies:** These are supplemental documents that are exclusively for internal use. These are not submitted to **LADOTD.** Portions of Design Policies may be used in the development of a Project Quality Control Process, for example if a specific Design Practice is recommended for use to address a particular project design element.

1.1.2. Quality Management System

Customer Satisfaction and Quality Management System Improvement

H&H is continually striving to improve customer satisfaction. Our Quality Management System is a living document that will be continually assessed and revised to reflect best practices and lessons learned. This process includes clarification of design information to support construction or production, correction and prevention of errors and omissions, and response to client comments, complaints, and feedback.

Quality Control Program Objectives

Quality Control is a series of activities, actions and procedures routinely undertaken to ensure that our services and their representative work products are produced to the requisite standard of care and in accordance with the defined technical philosophy of the firm.

Our Quality Control process ensures that each work product is thoroughly reviewed in detail by someone in addition to the review by the Designer/Originator/Producer who prepared that work product for conformity with generally accepted standards of design and engineering practice.

Unless otherwise approved by the engineer in responsible charge, at least one of the primary individuals involved in preparing (Designer) or checking (Checker) a document shall be a Professional Engineer, experienced and qualified in the appropriate engineering discipline and project jurisdiction. Comments generated by the quality control process are to be resolved to the satisfaction of both the Designer and the Checker. The process of Quality Control (QC) is documented and recorded in a manner which allows for management of the process and review of the process through Quality Assurance (QA). The full detailed QC process can be found in our QC Plan attached in Appendix B.

Quality Assurance Program Objectives

The Quality Assurance Program encompasses the systematic review of our design and development processes and our Quality Control activities to confirm that the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve our processes. Quality Assurance is a company-wide process that confirms that the proper processes are in place to assure that our services and products meet the requisite standard of care. A brief summary of our Quality Assurance process follows. The full detailed QA process can be found in our QA Plan attached in Appendix A.

Quality Assurance

Quality Assurance reviews will be performed to confirm conformance with the Quality Management Plan of a given project. The review shall verify that each project has sufficiently accomplished all quality goals set forth in the Quality Management Plan.

Documentation is kept which provides a record that the design development and review process was performed as required. This documentation is to include records of the important steps which led to the development of final planning documents as well as the final design, such as preliminary concepts, model validation, design calculations, computer code input and any communications, instructions, and directives which have a direct bearing on the project.

Types of documentation to be reviewed for compliance with the procedures set out in the Quality Control Plan:

a) Design Criteria
b) Reports – All reports prepared for the project irrespective of type.
c) Interdisciplinary Coordination – Minutes of meetings and attendance lists.
d) Calculations/Computer Solutions
e) Drawings
f) Specifications
g) External Comment Responses
h) Prior Audit Documents – All documentation provided by the Quality Auditor including recommendations for improvement, nonconformance reports, and any other check lists.

Additionally, the Quality Assurance Review is used to identify areas of weakness in the Quality Control process and develop preventive actions that focus on areas of potential nonconformance to reduce the risk associated with these areas.

If the QA Review identifies potential nonconformities, the review shall also include determination of their probable cause, determination of preventive action needed, implementation of preventive action and determining if preventive action was implemented and effective in preventing nonconformity. The Project Manager is responsible for developing and implementing preventive actions that address the potential areas of nonconformance identified in the QA Review and working to reduce or eliminate the risk in these areas.

Control of Nonconforming Product

Corrective action will be appropriate to the severity of the nonconformance identified. The Project Manager shall develop and implement any corrective action procedure taken. The corrective action procedure shall be approved by the Chief Technical Officer. The procedure shall identify the nonconformance root cause and the necessary actions required to resolve the nonconformance to the satisfaction of the client. The procedure shall address nonconformity identification (including client complaints), cause determination, action to prevent recurrence, identifying and implementing the corrective action, recording results, and determining if the corrective action was implemented and effective in resolving the nonconformance.

2. Effective Date and Revisions

As the QMP is a living document that reflects the currently accepted standards of care and lessons learned on H&H projects, the contents of the H&H QMP will be updated as needed. Updates will be issued as controlled documents (i.e., with versions and revision dates).

The project management team is responsible for providing the project staff with relevant portions of the QMP.
Quality Management Plans, once approved by the firm and the client, are unique to the project. Such a plan may not be modified or re-used for another project without approval of the Quality Manager.

3. Quality Management Plan Development

H&H will continually develop and implement measures that assure the various elements of this project are performed in a planned and controlled manner according to, at a minimum, the prevailing standard of care for professional practice applicable to the service being provided.

H&H quality control and assurance activities are dictated by this Quality Management Plan. The plan establishes policy, sets procedures, and controls those which may be specifically assigned to a project.

The plan describes the program, responsibilities and actions required by all project participants to ensure that quality control procedures are performed and documented. As a result, all interested parties can be assured that an appropriate level of engineering quality will be provided, and that the technical staff members will recognize their role in the quality process.

3.1 Project Summary

3.1.1. Project Staff

There are several responsible parties involved in the Quality Assurance and Quality Control of a project from inception to completion. Their project and quality specific roles and responsibilities are described in the Quality Assurance Plan Section 2.0 contained in Appendix A of this document. The H&H Quality Manager (QM) will be responsible for the plan execution. For this project, the following persons will be responsible for the various roles:

H&H Quality Manager (QM) – Rodney A. Jarrett, PE.

The H&H Quality Manager is responsible for the annual review of this QMP. The review shall include all aspects of the plan including but not limited to review of comments by clients, audits by clients and corrective action costs, if any. The QM will recommend improvements to the plan upon completion of the review.

H&H Project Manager (PM) – Babak Naghavi, PhD, PE.

Responsible for all activities necessary to deliver H&H services in accordance with contract requirements, including:

- Licensed by the State of Louisiana as a professional engineer.
- Experienced in the design of similar structures.
- Acts as primary point of contact and project communications for H&H.
- Develops a comprehensive Project Management Plan as a requirement for Project Initiation which includes the Project Technical Approach Plan.
- Establishes and monitors the project budget, schedule, and staffing requirements.
- Establishes design criteria and design parameters, working with the technical discipline leads. Design criteria shall meet all the requirements of the LADOTD Design Criteria Checklist contained in Appendix D.
- Coordinates with Prime Consultant and other subconsultants.
- Provides communication and direction to technical staff.
- Attends project meetings, produces, and distributes minutes as needed.
- Leads the project delivery efforts and works closely with the project Technical Leads in defining the technical direction of the project.
- Serves as Project Quality Lead.
- Reviews the H&H Quality Assurance Review Form prepared by the Project Quality Assurance Lead and certifies the deliverable is ready for submission.
- Completes and signs the LADOTD Consultant Submittal QC/QA Certification Form contained in Appendix D.

The following roles will be designated upon DOTD's decision on the specific scope of work required.

H&H Discipline Leads/EORs:

- Engineers in responsible charge of a specific design segment in their area of expertise.
- Required to sign/seal as Engineer of Record (EOR) unless client or other requirements exist.
- The EOR must stamp the general notes sheets for their discipline.
- Licensed by the State of Louisiana as a professional engineer.
- Experienced in the design of similar structures.
- Ensure the QC/QA certification is signed by all responsible parties.

H&H QC Reviewers:

- Responsible for a specific review of the design segment in their area of expertise.
- Responsible for ensuring that the QC process has met the requirements of this QMP; is complete and the design calculations, drawings, special provisions, and cost estimate are in accordance with LADOTD Bridge Design practices, policies, and procedures.
- Licensed by the State of Louisiana as a professional engineer.
- Experienced in the design of similar structures.

Project Quality Assurance Lead (PQAL):

- Responsible for oversight of project specific quality activities including the collection and appropriate filing of all Quality Control and Quality Assurance documentation. Maintains an auditable record of all QC reporting forms generated during design reviews.
- Communicates with Project Manager on a regular basis to maintain the QC review schedule for projects.
- Verifies that the QC activities have been performed and that qualified and competent personnel have undertaken the QC activities.
- Performs Quality Assurance Reviews documented with the H&H Quality Assurance Review and Certification Form. The PQAL shall review the project Quality Control documentation in advance of submission to confirm that design QC activities are complete, comply with the Quality Management Plan and meet the requirements of the LADOTD Consultant Submittal Review Checklist contained in Appendix D.

H&H Designers:

- Engineers directly responsible for the development of design calculations, drawings, special provisions including Non-Standard items, and cost estimate.
- Licensed by the State of Louisiana as a professional engineer or certified as an engineer intern.
- Assemble design calculations from all designers, finalize the calculation book, and seal the cover sheet of the calculation book for their discipline.
- Ensure the names of the designer, design checker, and reviewer are correctly shown on the title block of each plan sheet. Stamp all plan sheets or designate a designer, design checker, or reviewer who shall be licensed by the State of Louisiana as a professional engineer to stamp the sheets developed under their supervision.
- Prepare the QA information package upon completion of the QC process.

H&H Design Checkers:

- Engineer responsible for performing a full technical review of the design calculations, drawings, special provisions including Non-Standard items, and cost estimate.
- Licensed by the State of Louisiana as a professional engineer or certified as an engineer intern; however, if the designer is an engineer intern, the design checker must be a professional engineer.

3.1.2. Training

H&H will only employ qualified personnel to execute the scope of work.

The Project Manager is responsible for reviewing the record of each employee and determine if the background and experience of the employee is acceptable for the assigned scope of work.

The Project Manager is responsible to ensure staff assigned to the Project is properly trained in the QMP, Procedures/Instructions, any project-unique technical requirements, availability of technical resources, etc. within H&H organization as they relate to the Scope of Work, and has valid evidence of fitness (certification, license, etc.) for executing the work for this Project.

Training will consist of in-house education and field experience. H&H staff found deficient will not be assigned work in their area of deficiency until requirements for the position are met.

3.1.3. Project Description

To provide a comprehensive bridge evaluation report, recommendations, and final bridge plans to DOTD for the stream crossing (Structure No. 610302650102371) on LA 44 from north of Panama Canal to the shopping center south of Pelican Point.

3.1.4. Scope of Work

This project consists of preparing a comprehensive bridge evaluation report, providing recommendations as to whether the existing stream crossing on LA 44 should be widened or replaced, and final bridge plans to DOTD. After the DOTD's review of the report and recommendations, a decision will be made on how to proceed. Final bridge plans will then be prepared in accordance with the decision made.

3.2 Bridge Evaluation/Design

The following tasks will be performed by H&H under this contract:

Task 1:

Review as-built plans including all rehabilitation work have done to the structures, inspection reports, rating reports, accident records, maintenance records, and any other information pertaining to the structures.

Task 2:
Conduct an in-depth field investigation of the existing conditions of the structures and have a clear understanding of the structure's health and its serviceability. The investigation shall include all bridge elements including, but not limited to, deck, slab, railing, guardrail, girder/diaphragm, approach slab, joint, bearing, abutment, bent, pile, column, column protection, revetment, connection, and all other miscellaneous items at the bridge site that may affect the widening, such as the bridge drainage system, lighting, utilities, etc.

Task 3:
Provide LRFR bridge ratings including inventory and operating rating for HL-93 and inventory rating for LADV-11 for the existing bridges. The bridge rating shall be performed in accordance with the latest edition of the AASHTO Manual for Bridge Evaluation, LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and Bridge Design Technical Memoranda. The bridge rating report shall also be prepared in accordance with the aforementioned publications for each structure.

Task 4:
Prepare bridge evaluation report for the existing structure. The report shall include, but not limited to, the information as follows:

- Assessment of the conditions of the existing bridge structure, including all supporting documents, such as photos, as-built plans, inspection notes, etc.
- Recommendations as to whether the existing structure should be widened or replaced. If the structure is recommended for replacement, detailed justifications must be provided. Likewise, if the existing structure is recommended for widening, a comprehensive scope of rehabilitation work must be included.
- Summary of the bridge rating results from task 3.

The bridge evaluation report shall be stamped by an Engineer of Record who possesses a professional engineering license in Civil Engineering in the state of Louisiana. The report shall be submitted to DOTD for review. DOTD will make the final decision on whether to replace or widen the existing bridge structure.

Task 5:
Prepare design criteria and submit it to DOTD for approval prior to proceeding with the design.

Task 6:
Prepare a set of preliminary bridge plans and construction cost estimate for the structure in accordance with the final decisions made by DOTD and the approved design criteria. Attend a Plan-In-Hand meeting for 100% Preliminary Plans.

Task 7:
Prepare final bridge plans for the structure in accordance with the final decisions made by DOTD. Update the design criteria as needed. Attend a 95% Final Plan Review meeting for 98% Final Plans.

Task 8:
Prepare LRFR as-designed bridge rating for the structure in accordance with the latest edition of the AASHTO Manual for Bridge Evaluation, LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and Bridge Design Technical Memoranda. The bridge rating report shall also be prepared in accordance with the aforementioned publications for each structure.

Task 9:
Prepare special provisions and non-standard (NS) pay items.

Task 10:
Prepare construction cost estimate.

Consultant Submittals

- Bridge Evaluation Report
- Bridge Rating Report for the Existing Bridge
- Bridge Design Criteria
- 60%, 90%, 100% Preliminary Plans
- 60%, 95%, 100% Final Plans
- Special Provisions and NS Pay Items
- Construction Cost Estimate for each submittal
- Design Calculations
- As-Designed Bridge Rating Reports and rating files

Services to be performed / items to be provided by DOTD.

- As-built plans
- Most recent DOTD inspection reports
- Existing bridge rating report or rating summary sheet
- Survey
- Hydraulic Analysis
- Friction number for the existing bridge decks (will be collected by LTRC)

3.3 Deliverables

Document	Hold Point	Witness Point
Quality Assurance / Quality Control Plan (QMP)		X
Schedule		X
Bridge Evaluation Report	X	
Bridge Rating Reports for the Existing Bridge	X	
Bridge Design Criteria		X
Bridge Preliminary Plans – 60%	X	
Bridge Preliminary Plans – 90%	X	
Bridge Preliminary Plans – 100%	X	
Bridge Final Plans – 60%	X	
Bridge Final Plans – 90%	X	
Bridge Final Plans – 100%	X	
Special Provisions and NS Pay Items	X	
Construction Cost Estimate for each submittal	X	
Design Calculations	X	
As-Designed Bridge Ratings Report and Rating Files	X	

3.3.2 Electronic Deliverables

Consultants hereby agrees to produce electronic deliverables in conformance with DOTD Software and Deliverable Standards for Electronic Plans document in effect as of the effective date of the most recent contract action or modification, unless exempted in writing by the Project Manager. Consultants is also responsible for ensuring that sub-consultants submit their electronic deliverables in conformance with the same standards. DOTD Software and Deliverable Standards for Electronic Plans document and DOTD CAD Standards Downloads are available via links on the DOTD web site.

Consultants shall apply patches to CAD Standard Resources and install incremental updates of software as needed or required. Consultant hereby agrees to install major updates to software versions and CAD Standard Resources in a timely manner. Major updates of CAD standards and software versions shall be applied per directive or approval of the DOTD Design Automation Manager. Such updates will not have a significant impact on the plan development time or project delivery date, nor will they require Consultant to purchase additional software. Prior to proceeding with plan development, Consultants shall contact the Project Manager for any special instructions regarding project-specific requirements.

If any Digital Plan Delivery Standard conflicts with written documentation, including DOTD plan-development Manuals, the Digital Plan Delivery Standard governs. Consultants are responsible for contacting the Project Manager should questions arise.

Consultant shall upload (or check in) electronic deliverables directly into the DOTD ProjectWise repository at each plan delivery milestone. Consultants are responsible for performing certain operations at each milestone including, but not limited to, the following:

- Upload (or check in) CAD plan deliverables to the discipline "Plans" folder
- Apply and maintain indexing attributes to CAD plans (and other deliverables as needed)
- Publish PDF format plan submittals in ProjectWise using automated publishing tools
- Digitally sign PDF format plan submittals in ProjectWise according to DOTD standards and procedures (Final Plans, Revisions and Change Orders). Signatures shall be applied in signature blocks provided with electronic seals and Title Sheets.

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

3.3.2 Audit Schedule

In accordance with Section 6.2 of the Quality Assurance Plan, Quality Audits shall be determined and scheduled by the Chief Technical Officer or Quality Manager.

3.4 Project Specific Procedures

Quality Management Plans

A Quality Assurance Plan is submitted as Appendix A of this QMP.
A Quality Control Plan is submitted as Appendix B of this QMP.

3.4.1 Quality Control Plan Modifications

There are no modifications to the QC Plan

3.4.2 Quality Assurance Plan Modifications

There are no modifications to the QA Plan.

Appendix A

H&H Quality Assurance Plan

Table of Contents

Table of Contents 1
1.0 Introduction 2
2.0 Key Definitions and Roles 2
2.1 Key Definitions 2
2.2 Key Roles 4
2.2.1 Discipline or Task Lead 4
2.2.2 Project Engineer 4
2.2.3 Project Quality Assurance Lead 5
2.2.4 Project Manager 6
2.2.5 Discipline Chief Engineer 7
2.2.6 Quality Manager 7
2.2.7 Chief Technical Officer 8
3.0 General Intent 8
3.1 Schedule & Frequency of QA Activities 8
4.0 Documentation Requirements 9
4.1 Control of Documents 9
4.2 Change Control of Design Documents 9
4.2.1 Change Control of Design Documents during Design 9
4.2.2 Change Control of Documents during Construction 9
4.3 Control of Records 10
5.0 Communication Protocols 10
5.1 Pre-Project 10
5.2 Project Start-up 11
5.2.1 Project Initiation Technical Meeting 11
5.2.2 Project Staff Kick-off Meeting 11
5.3 Project Development 12
5.3.1 Project Submission Report 12
6.0 Quality Assurance Verification 13
6.1 Quality Assurance Reviews 13
6.1.1 Phase Submittals 14
6.1.2 Design Build Submittals 14
6.2 Quality Assurance Audits 14
6.2.1 Quality Assurance Audit Process 14
6.3 Control of Nonconforming Product 15
6.3.1 Corrective Action 15
7.0 Sub-Consultants 15

1.0 Introduction

Quality Assurance is the systematic review of our design and development processes and our Quality Control activities to confirm that the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve our processes.

Quality Assurance is a company-wide process that confirms that the proper processes are in place to assure that our services and products meet the requisite standard of care.

2.0 Key Definitions and Roles

2.1 Key Definitions

a) **Back Checker**: The individual who reviews the Checker's comments. The Originator / Producer functions as the Back Checker unless another qualified individual is assigned by the PM.

b) **Checker**: The individual who through education and/or experience is knowledgeable within an area of technical subject matter, who has been assigned by project leadership to perform an accuracy and correctness check of technical content.

c) **Check Print**: The copy of the work product to be used in the quality control process. The Check Print may be a hard (paper) copy or a digital file such as a Portable Document File (PDF) that is capable of recording review markups. A Check Print is required at each Hold Point and may be requested by the Client, PM, or HQ at a Witness Point. Refer to the appropriate process by document type / class in section 4 for Check Print contents.

d) **Director of Engineering**: The Director of Engineering is responsible for overall allocation of staff to projects directly or through coordination with the Office Managers and/or other Staffing Managers, depending on the business unit. For the purposes of this document, the title "Staffing Manager" is used to represent the role of the Office Manager, New York Staffing Manager, or Director of Engineering with respect to assignment of resources.

e) **Engineer of Record**: A licensed Professional Engineer responsible for signing and sealing design reports, plans, and specifications which they prepared, or which were prepared under their direct supervision.

f) **Fundamental Project**: Projects that represent core services for existing clients that do not represent significant or unusual risk to the firm or substantial revenue relative to a specific business unit. Refer to Operating Policy OP-06 for further information.

g) **Hold Point**: A level of design where specific aspects of the project such as design objectives, design criteria, and principal geometry are typically locked in. At a minimum, Concept level plans (10-15% design), Final plans (100% design), and Issued For Construction (IFC) or Released For Construction (RFC) plans are mandatory Hold Points.

h) **HQ**: Also referred to as Headquarters Engineering. This specifically refers to the authority of the technical directors such as but not limited to the Chief Technical Officer, Director of Engineering, Risk Management Officer, Quality Manager, or respective Practice Leaders and Chief Engineers.

i) **Independent Check**: Verification of a calculation by performing a separate standalone calculation to confirm results in lieu of performing a detailed check.

j) **Internal Technical Reviewer**: Reviewer for a project or portion thereof that has not been a principal participant in the development of a work product.

k) **Key Project**: Any project that does not meet the definition of a Fundamental Project. Refer to Operating Policy OP-06 for further information.

l) **Originator / Producer**: The individual, qualified by experience in the applicable discipline, who is assigned to prepare documents and/or generate work product.

m) **Phase Submittal**: A milestone submittal of a preliminary work product to a client (i.e., concept plans, 60% plans, or similar prior to final.)

n) **Plans**: Drawings and/or CADD files created by H&H for use by the Client as part of the contract or bid documents or, in the case of alternative delivery such as design/build, to construct the project.

o) **Preliminary**: A document, including reports, plans, specifications, or similar documents, prepared by H&H and submitted to the client prior to the anticipated final submittal of such document. Preliminary documents are 100% complete and validated by QC but represent a lesser level of development than the final work product.

p) **Principal In Charge**: The Principal in Charge (PIC) is responsible for the overall project and delivery of our services to the client. The PIC leads negotiations for contractual agreements with the client and is responsible for overall client satisfaction. The PIC is to be aware of the project performance, both technical and financial, and ensure the Project Manager is performing his/her duties in accordance with the firm requirements.

q) **Project Management Plan (PMP)**: The plan developed by the Project Manager prior to project initiation to describe "how" and "by whom" a specific project will be performed, including detailed budget, schedule, resources, responsibilities, communications, and quality. The Project Management Plan includes the Operations Plan, Technical Plan and Quality Management Plan.

r) **Quality Management Plan (QMP)**: The plan developed by the Project Manager to describe specific quality requirements for a given project. The QMP typically includes variances or enhancements to the firm standard QMP.

s) **Quality Control (QC)**: Procedures of checking the accuracy and consistency of the work product to minimize errors, discrepancies, and omissions, to ensure adherence to industry standards and to deliver an exceptional product to our clients.

t) **Quality Assurance (QA)**: Procedures of reviewing the design and development processes to ensure the Quality Control procedures are in place, implemented per firm policy and the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve processes where appropriate.

u) **Quality Auditor**: A person who is an Engineer or Manager that is assigned by HQ to perform a Quality Assurance Audit for a project.

v) **QC Stamp**: A physical or digital stamp applied to work product to signify that it is the check copy (aka Check Print) and for recording the initials and dates of the individuals who performed the quality control process.

w) **Verifier**: The individual assigned to verify that the Checker's and Originator / Producer's comments have been implemented. The Verifier may be any individual assigned by the PM but will preferably be the Checker.

2.2 Key Roles

There are several responsible parties involved in the Quality Assurance of a project from inception to completion. Their project and quality specific roles and responsibilities are described below.

Based on the project staffing needs identified, in terms of skill set and level of experience, and the basic project organization structure, the staff related to the key roles of Project Manager, Project Engineer, Project Quality Assurance Lead, and Discipline or Task Lead should be identified. An org chart or responsibility matrix showing these positions should be included in the project files and updated to reflect any staff changes as the project progresses.

2.2.1 Discipline or Task Lead

a) Project Responsibilities

1) Typically, the engineer in responsible charge of a specific design segment and required to sign/seal as Engineer of Record (EOR) unless client or other requirements exist.

b) Quality Responsibilities

1) Responsible for ensuring that QC has been completed and that the documents have been provided to the Project Quality Assurance Lead, or the Project Manager if no Project Quality Assurance Lead has been assigned for their specific design segment or portion of a project.

2) Responsible for coordination with the Project Engineer if a Project Submission Report is to be prepared, as described in Section 5

2.2.2 Project Engineer

A project may have more than one Project Engineer (PE) on large multi-disciplinary projects where work is divided into segments or disciplines. The Project Engineer shall be a licensed Professional Engineer in the jurisdiction of the project.

a) Project Responsibilities

1) The Project Engineer is responsible for project development and delivery according to the requirements communicated by the Project Manager (PM).

2) Based on the organization of the project as determined by the Chief Technical Officer and the PM, the Project Engineer may be the technical lead for key decisions during the project development process. Alternatively, the Project Engineer may lead the project delivery efforts and work closely with the project Technical Lead in defining the technical direction of the project.

3) Provides communication and direction to technical staff.

4) In coordination with each design lead, the Project Engineer is encouraged to prepare a Project Submission Report as described in Section 5

b) Quality Responsibilities

1) Serves as an intermediary between the Project Quality Assurance Lead and project development activities.

2) In instances where the Project Engineer is the technical lead for the project, the Project Engineer is responsible to document the key decisions including code interpretations, contract nonconformances, and deviations made and document acceptance of these decisions by the PM. Documentation of such instances must be made available to the Project Quality Assurance Lead and Quality Manager.

3) In instances where the Project Engineer is the Project Quality Assurance Lead, the Project Engineer is responsible for all responsibilities listed in Section 2.2.3 below including but not limited to:
    a) Scheduling Quality Assurance Reviews as required in Section 3.1 below.
    b) Providing necessary information to the Quality Auditor. Necessary information includes write-ups for complex or complicated design documents or computations to facilitate review.

2.2.3 Project Quality Assurance Lead

The Project Quality Assurance Lead (PQAL) is assigned by the Project Manager and may be a third party not involved in project development but is typically the Project Engineer. The PQAL is responsible for the collection and appropriate filing of all Quality Control and Quality Assurance documentation. If separate from the Project Engineer, the PQAL should be a licensed professional engineer, and responsible for oversight of project specific quality activities.

The PQAL shall report to the Project Manager and the Quality Manager as outlined below.

The PQAL must be familiar with Client Requirements.

a) Project Responsibilities
    1) Communicates with Project Manager and Project Engineer on a regular basis to maintain the QC review schedule for projects.
    2) Maintains an auditable record of all QC reporting forms generated during design reviews.

b) Quality Responsibilities
    1) Has 'halt work' authority for nonconformance.
    2) Responsible for management of the Quality Control and Quality Assurance process either directly or through delegation.
    3) Shall direct QC efforts and verify that the QC activities have been performed and that qualified and competent personnel have undertaken the QC activities in coordination with the Project Engineer. Quality Control shall be done by project level staff directly involved with design activities.
    4) Responsible for performing Quality Assurance Reviews. The PQAL shall review the project Quality Control documentation in advance of submission to confirm that design QC activities are complete and comply with the Quality Management Plan.
        a. Quality Control Documents that are not accompanied by appropriate information or explanation may be rejected by the PQAL and returned to the Project Engineer for completion.
        b. Documents the results of the QA review activities, verifies incorporation of comments made during QA reviews, and resolves outstanding comments through communication with the Project Manager and Project Engineer.
            i. Identifies and records nonconformance on the Quality Assurance Report Form.
            ii. Tracks, monitors, and reports to the Project Manager and Quality Manager on the status of outstanding design-related nonconformance reports as requested.
    5) Generates Quality Assurance reports using the Quality Assurance Report Form when requested by the Quality Manager. The report is submitted to HQ and a copy is placed in the project files.

2.2.4 Project Manager

The Project Manager (PM) is responsible for all activities necessary to deliver H&H services in accordance with the contract requirements.

a) Project Responsibilities:

1) The Project Manager is responsible for the project financial performance as well as oversight of the technical sufficiency of the services.

2) The PM is responsible for developing the Project Technical Approach Plan in accordance with Operating Policy OP-06 and for meeting all project specific goals set forth in the Plan.

3) The PM directs the development and delivery process. The PM also directs all communication with the Client.

4) The PM coordinates with the Staffing Manager on project staff needs.

5) The PM's activities shall include, as a minimum, assessment and evaluation of the following as they are applicable to a given project:

a. Design reports

b. Analytical approach

c. Drawing details for conformity to Contract requirements

d. Project Specifications for conformity to Contract requirements

e. Design and Work Plans

f. Major temporary components' effect on permanent components

g. Field design changes

h. Design approvals for Materials and procedures

i. As-Built Plans for conformity with final design and Contract requirements.

6) The PM, and/or staff working under the direct supervision of the PM, shall conduct an assessment and evaluation of design such that the PM can certify to the Chief Technical Officer, the Quality Manager, and to the Client, if required, that the design satisfies the Contract requirements, including the following requirements:

a. Accuracy

b. Adequacy

c. Conformance to standards of practice

d. Compliance with codes and standards

e. Quality

f. Fitness for purpose and/or function as specified and/or implied in the Contract

g. Conformance with the standard practices and specifications of the Client.

7) Sign the Quality Assurance Report Form.

a. The Project Manager, certifies that the noted submittal for the referenced project has completed and met the requirements of the Project Quality Management Plan, is complete for the level of development and meets the requirements of Hardesty & Hanover.

b) Quality Responsibilities

1) The Project Manager develops a Quality Management Plan to meet the specific project goals and requirements. The QMP is submitted to the Quality Manager for review.

2.2.5 Discipline Chief Engineer

a) Project Responsibilities

1) Does not typically have direct project development responsibilities unless assigned to the project.

b) Quality Responsibilities

1) Upon request of the Project Manager, resolves and documents the resolution of any differences of opinion between the Checker and Back Checker during Quality Control and provides this information to the Project Quality Assurance Lead (PQAL) or the Project Manager if no PQAL has been assigned.

2) Attends both the Project Initiation Technical Meeting and the Project Staff Kick-off Meeting. Based on the scope and discussions at the Project Initiation Technical Meeting, the CTO and Chief Engineers decide the level of HQ Oversight and Chief Engineer (or delegate) involvement appropriate for the project.

2.2.6 Quality Manager

The Quality Manager (QM) has firm wide responsibility for confirming that Project Managers have developed and adhered to Quality Management Plans for individual projects. The QM is responsible for meeting the quality goals and objectives set by the Chief Technical Officer.

The QM provides oversight of the review and audit process through coordination with the Project Managers and Project Quality Assurance Leads.

a) Project Responsibilities:

1) Reviews and approves Quality Management Plans in support of firm goals.

b) Quality Responsibilities:

1) Develops a framework for the H&H Quality Control and Assurance Plans. Manages and implements these policy documents.

2) Evaluates existing plans to determine if plans are effective.

3) Recommends improvements to existing plans.

4) Directs the performance of internal audits of the quality process on a project-by-project basis. Prepares nonconformance reports if required.

5) Has 'halt work' authority for nonconformance.

6) Prepares periodic reports to the Chief Technical Officer identifying:

a. QC activities performed by project as directed by the QM

b. Submissions-prior completed and future planned

c. Projects that may require additional technical oversight

d. Contract nonconformance reports

e. QC Plan nonconformance reports.

2.2.7 Chief Technical Officer

The Chief Technical Officer (CTO) is responsible for the technical quality of the services of the firm. In this capacity, the CTO defines policies and directives that establish the minimum performance criteria for the technical services of the firm.

a) Quality Responsibilities:

1) Establishes quality goals and objectives

2) Monitors the performance of the Quality Manager and supporting quality staff

3) Performs independent review of Key Projects

4) Has 'Halt work' authority for project technical services.

3.0 General Intent

All projects require a Quality Management Plan (QMP) as part of the Project Management Plan. Planning for Quality Assurance is an integral part of the QMP to be developed by the Project Manager prior to project inception. The Quality Management Plan shall follow the H&H Quality Management Plan Template, modified as necessary for project and client requirements, to ensure the quality of our services meets the requirements of the client within the requisite standard of care. All Quality Management Plans are subject to the approval of the Quality Manager.

The intent of this Quality Assurance Plan is to provide procedural controls for maintaining the quality of work delivered to the Client through communication and verification. Quality Assurance is not a substitute for appropriate project quality control activities.

Quality Assurance is validation that our services and products meet the requisite standard of care and communication of those standards. It is a company-wide process that confirms that the proper processes are in place and being followed.

Examples of Quality Assurance activities include:

a) Quality Assurance Review – Review, by the Project Quality Assurance Lead, of documented internal and external comments generated during the internal QC process or external milestone review and confirmation that all comments were addressed, or the reviewer agrees to non-incorporation on the basis of sufficient explanation.

b) Quality Assurance Audit – Audits consist of a review, by HQ or their designee in conjunction with the Project Manager and the Project Quality Assurance Lead, of Quality Control functions and documentation for conformance with applicable procedures. Quality Assurance Audits are covered in Section 6 of this document.

c) Project Initiation Meetings – Project Initiation Meetings consist of two meetings held prior to the initiation of services and are discussed further in Section 5.

d) Project Submission Reports – Optional report, prepared prior to phase or final submission of design plans and calculations and provided with the submission. Further discussion provided in Section 5.

3.1 Schedule & Frequency of QA Activities

QC processes are performed as work products are developed and/or at various stages of project development and need to be accounted for in the project development schedule. Quality Assurance must consider that the work may proceed through several major stages and that at completion of each milestone in the development of a project, major interdisciplinary coordination, or Internal Technical Review, the Quality Control documentation will be developed.

The key to assurance of quality is verification that the quality control procedures and supplementary activities have been implemented and, if not, the Project Manager is informed of the discrepancies. The PM is responsible to plan and execute corrective actions. These actions require documentation by the Quality Manager and review of this documentation by the firm's Chief Technical Officer.

4.0 Documentation Requirements

4.1 Control of Documents

The Project Manager is directly or through delegation responsible for the handling and storage of all project documents. The Project Manager should identify and communicate to all project staff the location of all project documentation. Access to project documentation - including but not limited to filing, letters, memos, records, reports, calculations, computer output, drawings, specifications, and QA/QC documentation - shall be in accordance with the Hardesty & Hanover "Document Control and Retention Guidelines" and the requirements of the Project Information Control System (PICS). Files may be accessed by authorized personnel only.

The Project Quality Assurance Lead is responsible for the proper use, distribution, and approval of quality related documents. The Project Quality Assurance Lead, in implementing these duties, will prepare and distribute a written procedure for use on the project, as well as any checklists of quality related documents considered to be necessary.

Documentation must be kept in order to provide a record that the development and review process was performed as required. This documentation must include records of the important steps which led to the development of final planning documents as well as the final design, such as preliminary concepts, model validation, design calculations, computer code input and any communications, instructions and directives which have a direct bearing on the project.

4.2 Change Control of Design Documents

4.2.1 Change Control of Design Documents during Design

Once a Quality Assurance review has been initiated on a milestone submittal, work shall not continue to be progressed until after the submission has been made. Revisions to Project Design Documents shall not be permitted prior to a milestone submittal after the Verifier has signed off on the Check Print.

4.2.2 Change Control of Documents during Construction

The Project Manager is responsible to provide the interface with the client during the pre-bid, bid, and award stages of the Construction Contract. Supplements or addenda developed during this period shall receive the same level of review as the original document and be reviewed by the Discipline or Task Lead Engineer prior to issue.

As-Built Drawings and Specifications shall be developed per Contract/Agreement requirements. As-Builts shall be independently reviewed to assure field marked prints and other sources of as-built information have been correctly translated onto the original document.

Revisions to Project Design Documents shall be controlled. Methods are established with the project Construction Management Team on a project-specific basis to assure revisions are reviewed to the same level as the original documents for the area of change and previous versions of the documents undergoing change have been appropriately controlled to prevent inadvertent use. Prior to submission, the Project Manager and Discipline or Task Lead Engineer shall review the Project Design Documents. Records of these activities shall be maintained by the Discipline or Task Lead Engineer.

4.3 Control of Records

Sufficient documentation and records will be accumulated to provide objective evidence that the design development and review process has been performed in accordance with accepted engineering practice, as well as in

conformance to contractual requirements and client directions, including pertinent quality records of subconsultants, if any.

The documentation will include not only final design documents, such as drawings and specifications, but records of important steps which led to the final design, such as design calculations, communications, instructions and directives which have a direct bearing on the project.

Control of records shall be in accordance with the Hardesty & Hanover "Document Control and Retention Guidelines" and the requirements of the Project Information Control System (PICS). Records will be filed by subject, date, file category, etc. Quality Assurance reviews and audits and corrective action will be stored electronically and filed in the 200-PM\QA folder in the electronic project files along with the approved Project Quality Management Plan.

An Index of Project Records will be part of the File. Responsibility for the accuracy and completeness of the records is assigned to the Project Manager or their designee.

Access to records will be under control of the Project Manager or their designee.

Removal of records to a location other than the immediate area where the file is located will be restricted to authorized persons (Principal and Project Manager). Measures to identify removed files and their current location shall be maintained. Security measures as determined by the Project Manager will be applied to those records dealing with Construction Cost Estimates.

The Project Manager, in accordance with the provisions of the contract, will identify those records to be transmitted to the Client upon completion of the Project and transmit the appropriate records.

5.0 Communication Protocols

Quality should be advocated from the top down and the bottom up through communication between all levels of the project. Quality is achieved through adequate planning, scoping, communications and coordination, supervision, and technical direction; by providing adequate time in the schedule for thorough reviews; by proper definition of job requirements and procedures; by the use of appropriately skilled personnel; and by individuals performing their work functions carefully.

The Project Manager is responsible to ensure the project team understands the necessary steps and has the proper time to execute the necessary activities.

This section sets the minimum requirements for communication during project development.

5.1 Pre-Project

During the period before the initiation of the project, the Project Manager is responsible to develop the QMP as required by Operating Policy OP-06. During this phase, the Project Manager must communicate with the Client, HQ, the Quality Manager, and the Staffing Managers for the various disciplines required by the scope of services to identify resources for delivery and quality activities. Information from the QMP shall be entered into the Vision database, including but not limited to, designation of project category as Key or Fundamental per Operating Policy OP-06, project stage and proposed submission schedule.

In some circumstances the Quality Management Plan may be part of the project pursuit process and proposal. This is particularly true with Design-Build pursuits. For all projects, the QMP is subject to approval of the Quality Manager and/or Chief Technical Officer for use during project execution.

5.2 Project Start-up

Assuring the quality of our services requires each project to begin with the ultimate goals in mind. To this end, the quality process will have several specific and required steps as part of the project start-up procedure. The following identifies the minimum recommended steps to be taken and documented prior to the initiation of any project.

5.2.1 Project Initiation Technical Meeting

Subsequent to review of the Project Technical Plan, the CTO will determine if the project requires a Project Initiation Technical Meeting. If required, a Project Initiation Technical Meeting will be scheduled with the firm technical managers. The purpose of this meeting is to discuss the following:

a) Scope of services

b) Client expectations

c) Project schedule

d) Anticipated work plan and staffing needs

e) Specific technical requirements or complexities

f) Risks associated with the project and the intended mitigation measures

g) Quality Management Plan

The following individuals, or their appointed representative, should participate in the Project Initiation Technical Meeting:

a) Chief Technical Officer

b) Chief Operating Officer/Director of Project Management

c) Quality Manager

d) Principal-in-Charge (At their discretion)

e) Project Manager

f) Project Engineer

The Project Manager shall be responsible for taking minutes of the meeting and distributing the minutes to all attendees. Approved minutes shall be filed in the Project folder.

Subsequent to the Project Initiation Technical Meeting, the Staffing Manager will assign specific resources for the project based on the needs identified at the meeting. These specific resources should be utilized by the project management team to fulfill the key roles in the project work plan.

The Project Initiation Technical Meeting may serve as the formal initiation of the project.

5.2.2 Project Staff Kick-off Meeting

Once the specific resources are assigned and their roles identified, the Project Management team should schedule a Project Staff Kick-off meeting. The Project Staff Kick-off meeting serves to inform the assigned staff of the following:

a) Scope of services

b) Project schedule including document submittals, number, and degree of completion

c) Key staff roles and associated responsibilities

d) Quality Management Plan including key staff assigned for Quality Control and Assurance activities

e) Quality activities shall occur and be documented throughout the project development process.

The following individuals, or their appointed representative, should participate in the Staff Kick-off Meeting:

a) Project Manager

b) Project Engineer

c) Project Quality Assurance Lead

d) Project Discipline or Task Leads

The Project Manager shall prepare and submit the minutes of the meeting to the attendees of the Project Staff Kick-off meeting and the Project Initiation Technical Meeting.

5.3 Project Development

Phase submissions to the client, and other preliminary document reviews, such as technical policy or constructability, should be identified in the Quality Management Plan. At project inception, the Project Manager will assign dates to each phase submission and provide the schedule in Vision for incorporation into a companywide schedule for quality management activities. The Project Manager shall inform the Quality Manager or a member of the quality management support staff, as appropriate, of changes to the project schedule that impact the milestone dates.

Communication processes during project development at a minimum should include the following:

a) Providing all information covered during the Project Staff Kick-off Meeting and the minutes from that meeting to any new staff joining the project.

b) Coordination with the Project Quality Assurance Lead, Discipline or Task Leads, and the Project Engineer to ensure that all documentation is being filed according to the QMP.

c) Coordination with the Project Quality Assurance Lead, Discipline or Task Leads, and the Project Engineer in advance of phase and/or final submittals for Quality Assurance Verification Processes.

Progress beyond set milestones shall not be permitted without the authority of the Project Manager and communication to the Project Quality Assurance Lead. The PM is responsible for confirming that Quality Control processes have been completed and documented, that the Reviewer has verified that all comments have been correctly incorporated, and that the document review is complete, with any outstanding issues resolved in accordance with the procedures in the Quality Control Plan. The PM shall sign and seal the Quality Assurance Review & Certification Form (Form QAR) for all external submittals or as directed by the QM.

5.3.1 Project Submission Report

To facilitate the Quality Assurance process, Project Managers are strongly encouraged to include a Project Submission Report (PSR) with phase and final submissions where the submission deliverable is not a report. A PSR covers one distinct discipline or task associated with the project, but several disciplines or tasks may be combined into one report at the discretion of the Project Manager. The PSR is developed in coordination with the Discipline or Task Leads and the Project Engineer.

A PSR typically consists of the following sections:

a) Introduction – This section contains a brief summary of the project, a description of the design elements covered in the PSR, a statement of purpose for the submission, and a list of any reference documents.
b) Design and Performance Criteria
c) Design Approach
d) Design Changes from Prior Submission (if appropriate)
e) Detailed Discussion of the PSR Design Elements
f) Responses to Comments on Prior Submission (if appropriate)
g) Summary of Design Variations.

5.4 Post Design

5.4.1 Post Design Kickoff Meeting

At the start of the Post Design Phase, the Project Management team should schedule a Project Post Design Kick-off meeting. The Post Design Kick-off meeting serves to inform the assigned staff of the following:

- Approved stamps to be used
- Appropriate use of stamps for Shop Drawings vs Construction procedures, calculations, catalog cuts, etc.
- Correct review and mark -up procedure as per the firm QC Plan
- Logging requirements and maintenance of logs

6.0 Quality Assurance Verification

Documentation is to be kept which provides a record that the design development and review process was performed as required. This documentation is to include records of the important steps which led to the development of final planning documents as well as the final design, such as preliminary concepts, model validation, design calculations, computer code input and any communications, instructions, and directives which have a direct bearing on the project.

Types of documentation to be reviewed for compliance with the procedures set out in the Quality Control Plan:

a) Design Criteria

b) Reports – All reports prepared for the project irrespective of type.

c) Interdisciplinary Coordination – Minutes of meetings and signed attendance lists.

d) Calculations/Computer Solutions

e) Drawings

f) Specifications

g) External Comment Responses

h) Prior Audit Documents – All documentation provided by the Quality Auditor including recommendations for improvement, nonconformance reports, and any other check lists.

6.1 Quality Assurance Reviews

Quality Assurance reviews should be implemented in advance of all external submittals for a project. A Quality Assurance Review documents compliance with the QC Plan and identifies areas of nonconformance.

A Quality Assurance Review consists of review, by the Project Quality Assurance Lead, of documented internal and external comments generated during the internal QC process or external milestone review and confirmation that all comments were addressed, or the reviewer agrees to non-incorporation on the basis of sufficient explanation.

The goal of the Quality Assurance Review is to identify areas of weakness in the Quality Control process and develop preventive actions that focus on areas of potential nonconformance to reduce the risk associated with these areas.

The QA Review should identify potential nonconformities, their probable cause, determination of preventive action needed, implementation of preventive action and determining if preventive action was implemented and effective in preventing nonconformity.

The Project Manager is responsible for developing and implementing preventive actions that address the potential areas of nonconformance identified in the Quality Assurance Review and works to reduce or eliminate the risk in

these areas. The Project Quality Assurance Lead shall document the preventive action procedures and lead the discussion with the Project Manager, Project Engineer, and HQ.

Any preventive action procedure shall identify the necessary steps required to reduce the risk of nonconformance. The steps should include, but not be limited to, quality review of the proposed work prior to submission and "lessons learned" from previous or similar types of projects.

6.1.1 Phase Submittals

Phase submittals are required to be checked, back checked, corrected, and verified prior to submittal in accordance with the Quality Control Plan. The level of detail of the review may be varied at the discretion of the PM provided that all critical information, either specifically required by the contract or considered fundamental to the development of the design, is verified to have received a full check and back check as detailed in the Quality Control Plan for the classification of document and as appropriate for the level of development.

At a minimum, the following items shall be verified:

a) Presence of a completed Quality Control Stamp on a check print of all submittal documents.

b) Completion of any Internal Technical Reviews

c) Incorporation and/or response to all comments from both internal reviewers and external milestone reviewers (if applicable). All comments should be responded to on a Comment Response Form (CRF). CRF format to be determined by the PM in consideration of any Client requirements

6.1.2 Design Build Submittals

In general, specific requirements for design build submittals will be addressed in the contract and/or the Project Management Plan. Design Build submittals shall be subject to the same Quality Assurance process as defined herein for design projects. All final design build submittals (i.e., 90% submittals or those marked for construction such as "Issued For Construction" (IFC) or "Released For Construction" (RFC)), whether submitted as a phase submittal or as part of a complete set of final documents, will be subject to a Quality Assurance Review.

6.2 Quality Assurance Audits

Quality Assurance Audits will be performed to confirm conformance with the Quality Management Plan of a given project. The focus of the audit is to verify that each project has sufficiently accomplished all quality goals set forth in the Quality Management Plan, to identify any areas of nonconformance, and determine any corrective actions. Quality Assurance Audits will be scheduled by the Quality Manager and Chief Technical Officer.

The minimum number of Quality Audits shall be once during the life of the Contract/Agreement or a minimum of once a year on multi-year Contracts/Agreements and once per year during post design (CSS) activities. Additional Quality Assurance Audits may be scheduled by HQ during extended periods of project development, after a period of interruption in work, during post design services (construction support services), or during or immediately after inspection operations.

6.2.1 Quality Assurance Audit Process

Audits will be administered and documented by a Quality Auditor assigned by HQ. The Principal-in-Charge, Project Manager, and Project Quality Assurance Lead shall participate in the QA Audit if requested by the Quality Auditor. The Project Quality Assurance Lead is responsible to provide all necessary information for the audit.

Personnel conducting audits are required to be objective and impartial in conducting the audit. Self-audits shall not be allowed.

The evaluation will consist of review of documents, site visits (if applicable), discussions with staff, and nonconformance evaluations. The purpose of the evaluation is to confirm adherence to the QMP.

Results of Quality Audits shall be documented in the Quality Audit Log. If issues of nonconformance are identified, recommended corrective and preventative actions shall be generated as a portion of the Nonconformance Report. Where applicable, systemic corrective and preventative actions are communicated companywide to affect a companywide change.

Follow-up Quality Audits are performed as necessary, to ensure implementation of corrective action with the results reported to the Project Engineer, Project Manager, Quality Manager, and Chief Technical Officer.

6.3 Control of Nonconforming Product

A nonconformance in work output occurs when non-trivial errors are discovered in output documents issued as final documents. Final documents are signed and dated documents ready to be issued for construction, bid, or procurement.

Reports of nonconformances discovered by outside sources shall be processed by the Project Manager and Quality Manager.

6.3.1 Corrective Action

If required, any Corrective Action is monitored to ensure closure.

Corrective action will be appropriate to the severity of the nonconformance identified. The Project Manager shall develop and implement any corrective action procedure taken. The corrective action procedure shall be approved by the Chief Technical Officer. The procedure shall identify the nonconformance root cause and the necessary actions required to resolve the nonconformance to the satisfaction of the client. The procedure addresses nonconformity identification (including client complaints), cause determination, action to prevent recurrence, identifying and implementing the corrective action, recording results, and determining if the corrective action was implemented and effective in resolving the nonconformance.

7.0 Sub-Consultants

Subconsultants are responsible for performing their own Quality Control. H&H Project Managers shall require QA/QC Plans from all sub-consultants. Subconsultants that choose not to provide their own QA/QC plans must adopt the H&H QA/QC plans. H&H Project Managers are responsible for the following:

a) Review of sub-consultant's internal QA/QC Plan for adequacy in meeting client and project requirements. If inadequate, H&H will require further provisions be incorporated into the sub-consultant's QA /QC Plan as necessary to meet project requirements.

b) If the subconsultant has adopted the H&H QA/QC plan, H&H Project Managers shall provide copies of the plans and review the requirements with the subconsultant's Project Manager at project initiation.

c) Meet with sub-consultant's Project Manager periodically to ensure that the sub-consultant is adhering to their QA/QC Plan. The H&H Project Manager is responsible for auditing subconsultants in accordance with the subconsultant audit schedule provided in the Project Management Plan.

Appendix B

H&H Quality Control Plan

Hardesty & Hanover, LLC
Quality Control Plan

Table of Contents

1.0 Introduction 3
2.0 Key Definitions and Roles 3
3.0 General Intent 5
4.1 Process by Document Type / Class 5
4.2 Design Plans 5
4.2.1 Preparing a Check Print of a Drawing 7
4.2.2 Checking Drawings 7
4.2.3 Back Checking Drawings 8
4.2.4 Correcting Drawings 8
4.2.5 Verification of Original Check Print 9
4.2.6 Verification of New Check Print 9
4.2.7 Checking Process for Additional Changes to Drawings 9
4.2.8 Checking Process for Multiple Phase Reviews 9
4.3 Calculations 10
4.3.1 Preparing Check Copies of Calculations 10
4.3.2 Checking Calculations 11
4.3.3 Back Checking Calculations 12
4.3.4 Correcting Calculations 12
4.3.5 Verification of Original Check Copy of a Calculation 12
4.3.6 Checking Process for Additional Changes to Calculations 13
4.3.7 Independent Check in Lieu of Detailed Checking 13
4.4 Reports & Specifications 13
4.4.1 Preparing Check Copies of Reports & Specifications 14
4.4.2 Checking Reports & Specifications 14
4.4.3 Back Checking Reports & Specifications 15
4.4.4 Correcting Reports or Specifications 15
4.4.5 Verification of Corrections to Reports & Specifications 15
4.4.6 Checking Process for Additional Changes to Reports or Specifications 16
4.4.7 Checking Reports or Specifications Electronically 16
4.5 Internal Technical Reviews 16
4.5.1 Preparing Work Product for ITR 16
4.5.2 Performing Internal Technical Reviews 17
4.5.3 Reconciliation of Internal Technical Review Comments 17
5.0 Checklists 17
6.1 Submittals 17

6.2 Phase Submittals 17
6.3 Final Submittals 18
6.4 Design Build Submittals 18
6.5 Miscellaneous Submittals 18
7.1 Post Design Submittal Reviews 18
7.2 Shop drawings 19
7.3 Review of Construction Methods and/or Procedures 19
8.0 Owner's Engineer or Peer Review Role 20

1.0 Introduction

Quality Control is a series of activities, actions and procedures routinely undertaken to ensure that our services and their representative work products are produced to the requisite standard of care and in accordance with the defined technical philosophy of the firm. This manual defines specific procedures for executing quality control functions in the preparation of engineering studies and designs, including reports, plans, specifications, and other similar documents. This Quality Control Plan (QCP) shall be implemented as an element of the overall project Quality Management Plan (QMP) where either specifically called for in the Contract, Project Management Plan (PMP), or where implied by project or industry standards.

2.1 Key Definitions and Roles

The following definitions are used throughout this manual:

a) **Back Checker**: The individual who reviews the Checker's comments. The Originator/Producer functions as the Back Checker unless another qualified individual is assigned by the Project Manager (PM).

b) **Checker**: The individual who through education and/or experience is knowledgeable within an area of technical subject matter, who has been assigned by project leadership to perform an accuracy and correctness check of technical content.

c) **Check Print**: The copy of the work product to be used in the quality control (QC) process. The Check Print may be a hard (paper) copy or a digital file such as a Portable Document File (PDF) that is capable of recording review markups. A Check Print is required at each Hold Point and may be requested by the Client, PM, or Headquarters Engineering (HQ) at a Witness Point. Refer to the appropriate process by document type/class in Section 4 for Check Print contents.

d) **Hold Point**: A level of design where specific aspects of the project such as design objectives, design criteria, and principal geometry are typically locked in. Hold Points require completion of all Quality Control procedures and Quality Assurance Review and Certification before a submittal can be made. Once the QC process is initiated, the work product cannot continue to be progressed. The project Hold Points shall be established by the PM in compliance with Client and HQ requirements at the beginning of the project. All external milestone submittals are Hold points.

e) **HQ**: Also referred to as Headquarters Engineering. This specifically refers to the authority of the technical directors such as but not limited to the Chief Technical Officer, Director of Engineering, Risk Management Officer, Quality Manager, or respective Practice Leaders and Chief Engineers.

f) **Independent Check**: Verification of a calculation by performing a separate standalone calculation to confirm results in lieu of performing a detailed check.

g) **Internal Technical Reviewer**: Reviewer, assigned by HQ, for a project or portion thereof that has not been a principal participant in the development of a work product.

h) **Originator/Producer**: The individual, qualified by experience in the applicable discipline, who is assigned to prepare documents and/or generate work product.

i) **Phase Submittal**: A milestone submittal of a preliminary work product to a client (i.e., Concept plans, 60% plans, or similar prior to final.)

j) **Plans**: Drawings and/or CADD files created by Hardesty & Hanover (H&H) for use by the Client as part of the contract or bid documents or, in the case of alternative delivery such as Design/Build, to construct the project.

k) **PE**: Project Engineer.

l) **PM**: Project Manager.

m) **Preliminary**: A document, including reports, plans, specifications, or similar documents, prepared by H&H and submitted to the client prior to the anticipated final submittal of such document. Preliminary documents are 100% complete and validated by QC but represent a lesser level of development than the final work product.

n) **Quality Management Plan (QMP)**: The plan developed by the Project Manager to describe specific quality requirements for a given project. The QMP typically includes project-specific amendments to the current edition of the H&H Quality Management Plan.

o) **QC Stamp**: A physical or digital stamp applied to work product to signify that it is the Check Copy (aka Check Print) and for recording the initials and dates of the individuals who performed the quality control process.

p) **Quality Assurance**: The systematic review of design and development processes, specifically Quality Control activities, to confirm that processes are implemented per policy and the desired level of quality has been attained and will continue to be obtained. Quality Assurance identifies procedural shortfalls and recommends changes to improve our processes.

q) **Report**: Any document (letter, report, inspection report, etc.) prepared under the terms of a Contract and intended for distribution outside of H&H, which includes statements of professional opinion, condition assessment, calculation, evaluation, design, engineering judgment, cost estimates, etc.

r) **Specifications**: Custom technical specifications or special provisions prepared by H&H to amend, supplement, or modify the project's standard construction or material specifications.

s) **Stet**: Let it stand (used as an instruction on a printed proof to indicate that a correction or alteration should be ignored).

t) **Verifier**: The individual assigned to verify that the Checker's and Originator/Producer's comments have been implemented. The Verifier may be any individual assigned by the PM but will preferably be the Checker.

u) **Witness Point**: A level of design that has not been identified as a Hold Point by the Client, the PM, or HQ but for which QA activities may be required. Witness Points may include items such as the Quality Management Plan, project schedule, interim phase submittals (30%,60%,90%), field inspection MOT plans, field inspection verification plans, and internal progress sets. All external milestone submittals, whether Witness or Hold Points require Quality Assurance Review and Certification prior to submittal.

v) **Work Product**: A document or other product produced by H&H for a client under the terms of a contract. Work products may be hard copies, electronic deliverables, or electronic files (e.g., CADD files, spreadsheets or similar.)

3.0 General Intent

It is the general intent of this plan to define procedures for quality control which minimize errors, discrepancies, and omissions in H&H's work products. Furthermore, such procedures are intended to produce concise, delineated records of the in-house quality control process.

Although the physical process may vary for detailed checking of the various types of work products prepared under the requirements of this plan, the intent is for each work product to be thoroughly reviewed in detail by someone in addition to the review by the Originator/Producer who prepared that work product for conformity with generally accepted standards of design and engineering practice. Items transmitted purely for informational purposes and coordination of the design development may not need to follow the full QC process but must be reviewed by someone other than the Originator and documented with a QAR form. Frequency and content of required documentation shall be determined by the Quality Manager. Unless otherwise approved by the engineer in responsible charge, at least one of the primary individuals involved in preparing (Originator/Producer) or checking (Checker) a document shall be a Professional Engineer, experienced and qualified in the appropriate engineering discipline. Similar credentials are required in the event the work product is other than an engineering work product.

Comments generated by the quality control process are to be resolved to the satisfaction of both the Originator/Producer and the Checker. The process of Quality Control (QC) is to be documented and recorded in a manner which allows for management of the process and review of the process through Quality Assurance (QA).

Some work products and services may require the use of third-party information and/or materials provided by the client, or the use of data, documents or services provided by subcontractors, subconsultants, and suppliers. As required in their subcontract and approved Quality Management Plan, if one exists, subcontractors, subconsultants, and suppliers are ultimately responsible for the quality of the goods, work products and services they provide. Where H&H has a prime contractual relationship, H&H will review subcontractor, subconsultant, and supplier work products, supplied materials, and services only to verify compliance with contractual requirements and to coordinate the work. This does not preclude project specific reviews of subcontractor, subconsultant, and supplier work product if such reviews are required by contract.

4.0 Process by Document Type / Class

Each type of work product produced will be subjected to a detailed quality control process as defined herein. Prior to initiation of the quality control process the PM/PE shall review and coordinate with the Originator/Producer the appropriate level of detail and information for a given document type or class and level of development. Work products of a type not specifically noted shall be processed by the most appropriate process, as determined by the PM. Except as noted for preliminary documents in Article 6.1, all documents submitted to someone outside the design team (or design build team in the case of a Design/Build project) shall be checked in accordance with the requirements of this section. Specific colors are assigned to each role in the checking process; however, alternate color schemes may be used as long as the role and associated color are clearly identified. The Project Manager or Project Engineer shall modify permissions to the project submittal folders to prevent editing of documents that have completed the QC process.

4.1 Design Plans

All drawings shall be checked for technical content, clarity, style, and conformance with design criteria and Client/H&H standards by someone other than the Originator/Producer. This process shall be executed and documented as noted below and in the flow chart of Figure 1.

Design Plan Development

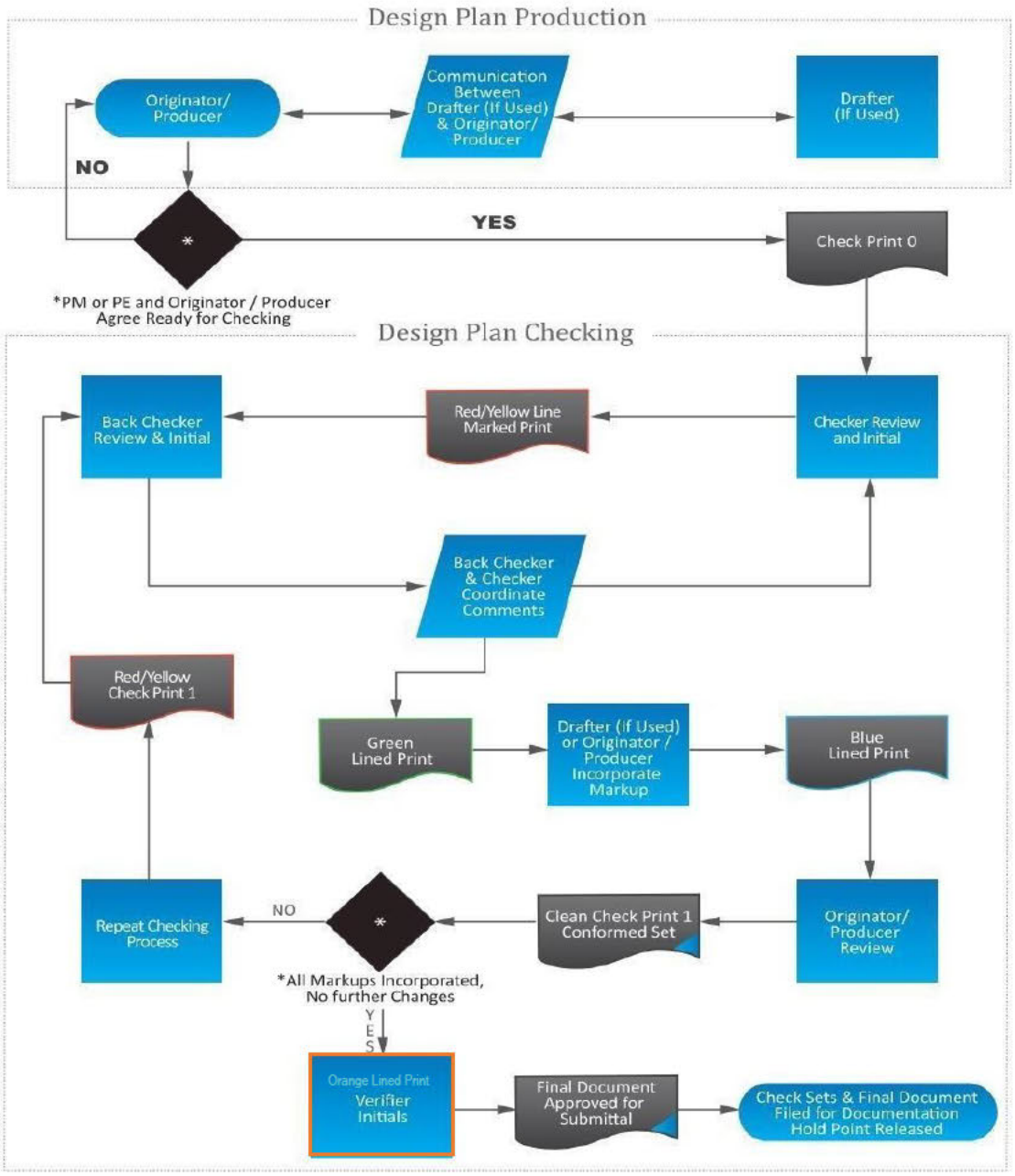


Figure 1

4.1.1 Preparing a Check Print of a Drawing

Once the Originator/Producer and PM have agreed that a drawing contains the appropriate level of detail and information required at the phase submission, or is substantially complete and ready for checking, a Check Print will be prepared, and the PM will assign it to the Checker. Each Check Print shall bear a red Quality Control Stamp as shown in Figure 2 with the Originator/Producer's initials and date in the "Ready for Checking" boxes. The Check Print shall be designated as final or for a specific phase submittal. It is preferred that the QC stamp is applied to each sheet.

However, for electronic files only, if one stamp is applicable to all sheets within a discipline, One stamp may be applied to the first sheet and a note added indicating to which sheets the QC stamp applies.

H&H QC DOCUMENT	PHASE ____ or FINAL ____	
PROCESS	INITIALS	DATE
READY FOR CHECKING		
CHECKED CORRECT (YELLOW) CHANGE (RED)		
BACK CHECKED (GREEN)		
CORRECTED (BLUE HIGHLIGHTER)		
VERIFIED (ORANGE HIGHLIGHTER)		

Figure 2

4.1.2 Checking Drawings

<u>The Checker's colors are YELLOW and RED</u>

The Checker will ascertain that the drawing is consistent with the corresponding checked calculations, design reports, and other related project documents. The Checker is required to perform the following:

a) Ascertain that the document conforms with reliable engineering judgment and practice and is suitable and sufficient to accomplish the required function; the Checker shall review the Check Print in detail for:

- Technical sufficiency appropriate for the level of design development
- Conformance with design calculations
- Conformance to applicable standards and design criteria
- Coordination with specifications and other design documents
- Conformance with established CADD formats and styles. The project CADD Standards and project drawing templates are established by the CADD Manager under direction of the PM. Any questions about conformance with the project CADD Standards should be referred to the CADD Manager.

b) Highlight in YELLOW each element or section checked that is found to be correct, and/or with which the Checker agrees on the Check Print. If no corrections are needed, a yellow slash through a sheet or detail or a large yellow check over a sheet or detail signifies that the Checker has reviewed that sheet or detail.

c) Mark in RED on the Check Print any corrections, additions, and/or deletions, mark any questions directed to the Originator/Producer in RED.

d) The Checker initials and dates the Check Print in the appropriate box ("Checked") of the Quality Control Stamp on the Check Print(s) and forwards the document for back checking, unless no changes are required in which case the QC process is complete.

e) If the check is limited to a particular discipline, or component, of the drawing this shall be noted on the Check Print or first sheet of a set of Check Prints.

4.1.3 Back Checking Drawings

The Back Checker's color is GREEN

After the Checker has completed review of the Check Print, the Back Checker (either the Originator/Producer or their appropriate designee), reviews the Checker's marks and agrees to or resolves the Checker's proposed corrections. The Back Checker is required to perform the following:

a) Verifies that the complete drawing has been checked in accordance with the above requirements (i.e., all applicable contents of the drawing are marked in either yellow or red), checkmarks in GREEN each of the Checker's red marked changes to signify agreement with the Checker that the marked changes are to be made or adds in GREEN any additional changes not identified by the Checker. Answers Checker's questions in GREEN and marks up any changes needed to implement the response, also in GREEN.

b) Returns to Checker if necessary. Every modification, including all comments marked STET, responses, or additional changes made by the Back Checker in GREEN must be highlighted in YELLOW by the Checker to signify agreement.

c) Resolves significant differences of opinion with the Checker. If an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager before continuing with the checking process. Upon agreement of the solution:

    1) The Checker marks their concurrence (YELLOW).

    2) Cross out in GREEN each of the Checker's red marked changes that the Originator/Producer and Checker agree should not be changed. The Back Checker rewrites next to the crossed out red marks the original information that is to remain unchanged or indicates "stet".

d) Confirms that every red marked change made by the Checker now has a GREEN check next to it and that every modification, including all comments marked STET, or additional change made by the Back Checker in GREEN has been highlighted in YELLOW by the Checker to signify agreement.

e) The Back Checker initials and dates the Check Print stamp ("Back Checked") and forwards the reconciled Check Print to the Originator/Producer (if different from the Back Checker) for correction.

f) Note: If the Back Checker is also the person correcting the drawing, the Back Checker should still apply the Green check or highlight to show agreement with the change. Documenting that a change was corrected does not eliminate the need for also documenting agreement with the change. This step should not be omitted.

4.1.4 Correcting Drawings

The Corrector's color is BLUE

a) The Originator/Producer corrects, or supervises the correction of, the original document to implement the changes agreed to by the Checker and Back Checker. As corrections are made the changed item is highlighted in BLUE on the Check Print to document the action.

b) Upon completion of the corrections, the Corrector makes a new print, initials, and dates the Check Print stamp ("Corrected") on the original Check Print and forwards the original Check Print and corrected new print to the Verifier for verification.

c) If the changes are so extensive as to make the first Check Print illegible for use by the Checker, the Originator/Producer makes a new Check Print upon completion of the corrections, labels it Check Print #2,

places a new QC Stamp on the print, and places it on top of Check Print #1, which is then stamped or marked "revised". The Originator/Producer initials and dates Check Print #2 in the appropriate box of the Quality Control Stamp ("Ready for Checking") and forwards the document to the Checker to repeat the process.

4.1.5 Verification of Original Check Print

The Verifier's color is ORANGE

The Verifier compares each of the Back Checker's marked changes on the previous version of the Check Print(s) (Original or Check Print #2), with the revised part of the updated document. If the Verifier concurs that the changes have been properly implemented, the Verifier marks over the changes with ORANGE on the Check Print. The Verifier will also make certain that no inadvertent changes, not noted on the Check Print, have been made.

4.1.6 Verification of New Check Print

When the Verifier is processing a new Check Print (#2, #3, etc.), the Verifier must compare each part of the new Check Print with the corresponding part of the previous Check Print. If the changes have been made accurately on the updated Check Print, the Verifier:

a) Checks that each correction, addition, and/or deletion as well as each new section that has been redrawn, rewritten, retyped, or recalculated has been correctly transferred to the original from the Check Print(s).

b) On the most recent Check Print of the corrected document, marks over all the corrections that were made in ORANGE.

c) Verifies that no inadvertent changes, not noted on the Check Print, have been made to any parts of the drawing and signifies so by striking a YELLOW mark across the drawing.

d) Marks in RED on the new Check Print any corrections, additions, and/or deletions that were overlooked on the backchecked Check Print.

e) Returns the Check Prints to the Back Checker, who checks in GREEN the red marks, if found to be correct, on the new print marked by the Verifier, and sends the Check Prints for correction. When all changes in the most recent Check Print have been marked over in ORANGE, the checking process is complete.

f) The Verifier initials and dates the Check Print stamp on the line designated for the Verifier and signs off in the drawing or calculation sheets as specified and forwards the Check Print to the Originator of the document.

4.1.7 Checking Process for Additional Changes to Drawings

If additional changes or revisions become necessary, following review by the client, for example, they are processed on a new Check Print in the same manner as described previously. Although only the new changes need to be checked, the Originator/Producer and Checker are still responsible for assuring that correct interfacing with the affected changes is checked completely. The Originator/Producer and Checker must verify that any changes or revisions are coordinated throughout the project documents, including calculations, plans, and specifications. They must also ensure changes or revisions are made on CADD files, computer printouts, and contract reports.

4.1.8 Checking Process for Multiple Phase Reviews

Phase Reviews, where required (refer to Section 6.1 Phase Submittals), are processed in the same manner as described previously except as noted herein. Although only the changes, updates and new content not verified on previous Check Prints need to be checked, the Originator/Producer and Checker are still responsible for assuring that the document is checked completely. A yellow slash through a sheet should be used if previously checked and no changes were made since the prior phase submission. If there have been no changes to the entire set or to a discipline specific set, a copy of the prior check set, with a note on the cover sheet indicating no changes from prior check set,

should be placed in the folder for this phase. The Originator/Producer and Checker must verify that any changes or revisions, including changes implemented in prior checking, are coordinated throughout the project documents, including calculations, plans, and specifications. Unless prior Check Prints are affixed to the current Check Print, the Checker shall note the source (e.g., prior phase Check Print) for items that are accepted based on a previously checked set.

42 Calculations

Calculations that support final work product shall be checked for technical content, clarity, style, and conformance with design criteria and standards by someone other than the Originator. This process shall be executed and documented as noted below and in the flow chart of Figure 3.

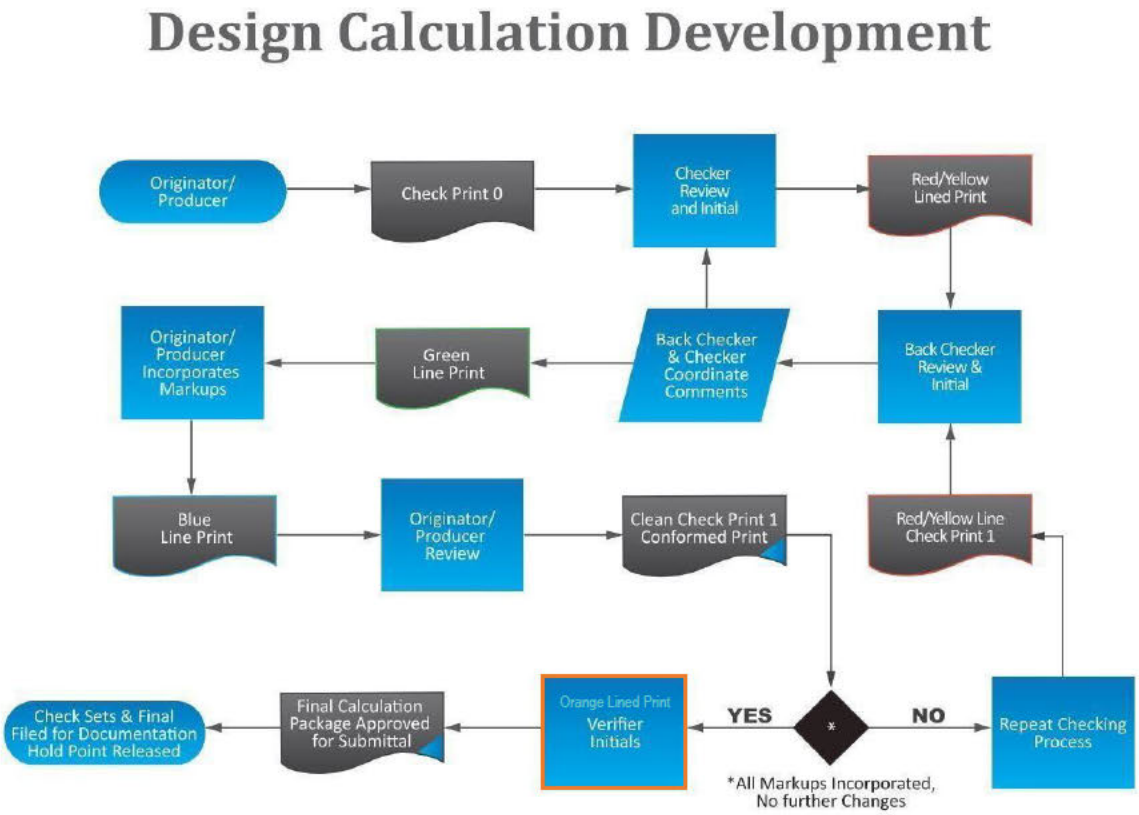


Figure 3

4.2.1 Preparing Check Copies of Calculations

Once the Originator/Producer and PM or PE have agreed that a calculation is substantially complete and ready for checking, a Check Copy will be prepared, and the PM or PE will assign it to the Checker. The Checker will be provided with the design criteria. It is strongly encouraged that a brief narrative for the design element be included as part of the design criteria write up. The first sheet of the calculation must be a Calculation Cover Sheet. Each Check Copy shall

bear a red Quality Control Stamp as shown in Figure 2 on the cover sheet with the Originator/Producer's initials and date in the "Ready for Checking" boxes. In lieu of placing the QC stamp on the cover sheet, a standalone sheet with the QC stamp may follow the cover sheet. The Check Copy shall be designated as final or for a specific phase submittal. Each sheet of the calculation or each cover page of computer analysis output will include the initials of the Originator/Producer and all pages will be numbered.

4.2.2 Checking Calculations[1]

The Checker's colors are YELLOW and RED

The Checker will ascertain that the calculation is consistent with the design reports, design criteria, and other related project documents. The Checker is required to perform the following:

a) Ascertain that the calculation conforms with reliable engineering judgment and practice and is suitable and sufficient to accomplish the required function; the Checker shall review the calculation in detail for:
   - Technical sufficiency appropriate for the level of design development
   - Conformance with related design calculations
   - Mathematical accuracy
   - Conformance to applicable standards and design criteria
   - Coordination with specifications and other design documents.

b) Highlight in YELLOW each element, or section checked, that is found to be correct and/or with which the Checker agrees, on the Check Copy. For software programs which use a color highlighting scheme to designate different types of input, a yellow checkmark or yellow slash down left side of the page may be used in lieu of highlighting each element.

c) Mark in RED on the Check Copy any corrections, additions, and/or deletions.

d) Prepare and attach any independent calculations made by the Checker.

e) Resolve significant differences of opinion with the Originator. If an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager before continuing with the checking process.

f) The Checker initials and dates the cover sheet in the appropriate box of the Quality Control Stamp on the Check Copy and forwards the document for back checking.

[1] The process outlined in this section is intended for calculations that can be checked without generating significant paper waste such as hand calculations, simple Mathcad output, simple Spreadsheets, etc. For computer programs generating voluminous output files the output should not be printed hard copy. The process should be followed electronically on a PDF. Alternately, a summary sheet of the output from the computer program can be prepared and a list of files checked can be appended to the summary sheet with the following information included: file directory / name, timestamp, and list of inputs checked. If the appropriate checked information can be summarized on one screen or input box, screen shots may be appended as appropriate.

4.2.3 Back Checking Calculations

The Back Checker's color is GREEN

After the Checker has completed review of the Check Copy, the Originator/Producer, acting as Back Checker, reviews the Checker's marks and supervises or personally makes the changes required. The Back Checker is required to perform the following:

a) Verifies that the complete calculation has been checked in accordance with the above requirements (i.e., all appropriate contents of the calculation are marked in either yellow or red), checkmarks in GREEN each of the Checker's red marked changes to signify agreement with the Checker that the changes marked are to be made, or adds in GREEN any additional changes not identified by the Checker.

b) Resolves significant differences of opinion with the Checker, if an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager, for resolution.

c) Confirms that every red marked change made by the Checker now has a GREEN check next to it and that every additional change made in GREEN has been highlighted in YELLOW by the Checker to signify agreement. For software programs which use a color highlighting scheme to designate different types of input, a yellow checkmark may be used in lieu of highlighting.

d) Crosses out in GREEN each of the Checker's red marked changes that the Back Checker and the Checker agree should not be changed. The Back Checker rewrites next to the crossed out red marks the original information that is to remain unchanged or indicates "stet". The Checker must mark all such green marks in YELLOW.

e) The Back Checker initials and dates the Check Copy cover sheet in the appropriate box ("Back Checked") of the Quality Control Stamp and forwards the document for correction.

f) Note: If the Back Checker is also the person correcting the calculation, the Back Checker should still apply the Green check or highlight to show agreement with the change. Documenting that a change was corrected does not eliminate the need for also documenting agreement with the change. This step should not be omitted.

4.2.4 Correcting Calculations

The Corrector's color is BLUE

a) The Originator/Producer corrects the original document, or supervises correction of the calculation, to implement the reconciled changes. As corrections are made the changed item is highlighted in BLUE on the Check Print to document the action.

b) The Originator/Producer initials and dates the cover sheet in the appropriate box of the Quality Control Stamp ("Corrected") and forwards the Check Copy and corrected original (or copy) to the Checker for verification.

4.2.5 Verification of Original Check Copy of a Calculation

The Verifier's color is ORANGE

a) The Verifier compares each of the Back Checker's marked changes on the Check Copy, with the revised part of the corrected calculation. If the Verifier concurs that the changes have been properly implemented, the Verifier marks over the changes in ORANGE on the Check Copy. The Verifier will also make certain that no inadvertent changes, not noted on the Check Copy, have been made. For software programs which use a color highlighting scheme to designate different types of input, an orange checkmark may be used in lieu of highlighting.

4.2.6 Checking Process for Additional Changes to Calculations

If additional changes or revisions become necessary, following review by the Client or significant changes during detailing, for example, they are processed on a new Check Copy in the same manner as described previously. Although only the new changes or revisions need to be checked, the Originator/Producer and Checker are still responsible for assuring that correct interfacing with the affected changes is checked completely. The Originator/Producer and Checker must verify that any changes or revisions are coordinated throughout the project documents, including calculations, plans, and specifications.

4.2.7 Independent Check in Lieu of Detailed Checking

With approval of the PM, or if required by the Contract, the Checker may perform an Independent Check in lieu of following the detailed checking procedure outlined above. The Independent Check shall consist of a standalone set of calculations that produce results similar enough to the original calculation to confirm its accuracy and adequacy. An Independent Check is most commonly used to check the results of analysis produced using proprietary software or in-house computer applications. An Independent Check may be done by hand calculations or using a software application other than the original calculation.

To implement an Independent Check, apply the QC Stamp to the cover sheet of the calculations and write "Independent Check" across the Checked box in GREEN pen.

As part of an Independent Check, the Checker is required to perform the following:

a) Ascertain that the calculation conforms with reliable engineering judgment and practice and is suitable and sufficient to accomplish the required function.

b) Review the original calculation for:

- Technical sufficiency
- Conformance to applicable standards and design criteria
- Conformance with related design calculations
- Coordination with specifications and other design documents.

c) Prepare independent check calculations to confirm the results of the original calculation.

d) Mark any review comments regarding the original calculations and/or the independent verification on the cover sheet of the original calculations, initial and date the QC stamp.

e) Provide the original and independent calculations to the Originator/Producer for Back Checking.

As part of an Independent Check, the Back Checker is required to perform the following:

a) Respond to all comments made by the Checker, either agreeing to or resolving the comments.

b) If corrections are necessary, correct the original calculation and provide to the Checker for additional review.

c) Once all review comments are reconciled, or if no corrections are necessary initial and date the QC stamp.

d) Forward to the Checker for verification.

4.3 Reports & Specifications

Similar to drawings and calculations, all reports and specifications will pass through a quality control process prior to submittal. This process will verify that the document's technical contents are accurate, that the spelling and grammar

contained in the document are correct, that the format and style of the document are in conformance with project standards, and that the appropriate disclaimers and assumptions are conspicuously defined.

4.3.1 Preparing Check Copies of Reports & Specifications

Once the Originator/Producer and PM have agreed that a report or specification is substantially complete and ready for checking, a Check Copy will be prepared, and the PM will assign it to the Checker. The first sheet of the Check Copy shall bear a red Quality Control Stamp as shown in Figure 2 with the Originator/Producer's initials and date in the "Ready for Checking" boxes. The Check Copy shall be designated as final or for a specific phase submittal. If not included on the first sheet, the Originator/Producer will write "prepared by" and sign his/her initials on the sheet.

4.3.2 Checking Reports & Specifications

The Checker's colors are YELLOW and RED

The Checker will ascertain that the report or specification is consistent with the supporting calculations, plans, and related project documents. The Checker's colors are RED and YELLOW. The Checker is required to perform the following:

a) Ascertain that the report or specification contents are technically and grammatically correct; the Checker shall review the Check Copy in detail for:
   - Technical sufficiency
   - Conformance to applicable standards and design criteria
   - Correct grammar
   - Correct spelling
   - Appropriate disclaimers and assumptions
   - Conformance with supporting design calculations

b) Coordination with other design documents

c) For specifications, the Checker shall ascertain that the format of the specification is consistent with the format of the remaining project documents and project standards for specifications, including the following:
   - Proper titles, headers, footers, date formats, etc.
   - Correct article, section, and paragraph identification and sequence
   - Proper format and sequence of contents (i.e., materials, construction, submittals, payment, etc.)

d) Each word does not need to be highlighted in YELLOW. One YELLOW slash shall be applied across or down the page to indicate the page was checked. The exception is all numerical values including referenced specification numbers, e.g., ASTM, shall be verified and fully marked in YELLOW if correct.

e) Mark in RED on the Check Copy, any corrections, additions, and/or deletions, mark any questions directed to the Originator/Producer in RED.

f) Resolve significant differences of opinion with the Originator. If an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager before continuing with the checking process.

g) The Checker initials and dates the first sheet of the copy in the appropriate box of the Quality Control Stamp and forwards the document for back checking and correction unless no changes are required in which case the QC process is complete.

h) If a check is limited to a particular discipline, or component of the report or specification, this shall be noted on the first sheet of the Check Copy.

4.3.3 Back Checking Reports & Specifications

The Back Checker's color is GREEN

After the Checker has completed review of the Check Copy, the Originator/Producer, acting as Back Checker, reviews the Checker's marks and supervises or personally makes the changes required. In addition, the Back Checker:

a) Verifies that the complete report or specification has been checked in accordance with the above requirements (i.e., all contents of the report or specification are marked in either yellow or red), checkmarks in GREEN each of the Checker's red marked changes to signify agreement with the Checker that the changes marked are to be made, and adds in GREEN any additional changes not identified by the Checker.

b) Resolves significant differences of opinion with the Checker, if an understanding or agreement cannot be reached, the Checker refers the issue to the Project Engineer, Discipline Chief Engineer, or Project Manager, for resolution.

c) Crosses out in GREEN each of the Checker's red marked changes that the Back Checker and the Checker agree should not be changed. The Back Checker rewrites next to the crossed out red marks the original information that is to remain unchanged or indicates "stet". The Checker must mark all such green marks in YELLOW.

d) The Back Checker supervises or personally corrects the original document. If the Back Checker is also the person correcting the document, the Back Checker should still apply the Green check or highlight to show agreement with the change. Documenting that a change was corrected does not eliminate the need for also documenting agreement with the change. This step should not be omitted.

e) The Originator/Producer initials and dates the cover sheet in the appropriate box of the Quality Control Stamp and forwards the Check Copy (preferably a redlined print) and a new clean copy of the revised document to the Checker for verification.

4.3.4 Correcting Reports or Specifications

The Corrector's color is BLUE

f) The Originator/Producer corrects the original document, or supervises correction of the document, to implement the reconciled changes. As corrections are made the changed item is highlighted in BLUE on the Check Print to document the action.

g) The Originator/Producer initials and dates the cover sheet in the appropriate box of the Quality Control Stamp ("Corrected") and forwards the Check Copy and corrected original (or copy) to the Checker for verification.

4.3.5 Verification of Corrections to Reports & Specifications

The Verifier's color is ORANGE

The Verifier compares each of the Back Checker's marked changes on the Check Copy, with the revised part of the corrected report or specification. If the Verifier concurs that the changes have been properly implemented, the Verifier marks over the changes in ORANGE on the Check Copy. The Verifier will also make certain that no inadvertent changes, not noted on the Check Copy, have been made.

4.3.6 Checking Process for Additional Changes to Reports or Specifications

If additional changes or revisions become necessary, following review by the client or significant changes to content, for example, they are processed on a new Check Copy in the same manner as described previously. Although only the new changes need to be checked, the Originator/Producer and Checker are still responsible for assuring that correct interfacing with the affected changes is checked completely. The Originator/Producer and Checker must verify that any changes or revisions are coordinated throughout the project documents, including calculations, plans, and specifications.

4.3.7 Checking Reports or Specifications Electronically

Checking / Back Checking / Verifying reports or specifications electronically can be accomplished using the Track Changes feature within Microsoft Word (unique colors will be assigned by Word). Each reviewer should have their name set in the program options so that they are shown as the reviewer. The Originator shall also function as Back Checker and Corrector. Electronic checking using Track Changes shall follow this procedure:

a) Checker uses Track Changes to make corrections and saves file as both a Word Doc and as a PDF file which becomes the QC check set

b) The QC Stamp is applied to the PDF QC check set which contains the tracked changes as red markups. The QC stamp is initialed and dated by Originator as Ready for Checking and by the Checker as checked.

c) Originator/Back Checker first agrees with the changes in the QC PDF check set and applies a green check or highlight mark to the QC PDF check set to show agreement

d) Originator/Corrector accepts agreed upon changes with Track Changes in the original Word document and applies blue check or highlight mark to the QC PDF check set to confirm changes were made

e) Checker compares revised Word document, in which tracked changes were accepted, to the QC PDF check set and applies orange check or highlight to the QC PDF check set to verify that all corrections were made

f) QC PDF check set shall be locked to restrict editing and saved in the 400-Delivery\QC folder for that submittal

g) One copy of the Final Word doc shall be saved to the 400-Delivery\Deliverables folder for that submission

4.4 Internal Technical Reviews

Internal Technical Reviews (ITR) are specific purpose reviews of work product performed by an individual that was not involved in the production of the work product. Unlike quality control reviews, ITRs are not a detailed check, but rather a general review of work product for applicability of criteria, assumptions, methodology, concept, compliance with project requirements, constructability, biddability or other specific objectives. ITRs are performed by staff with technical experience related to the specific purpose.

ITRs may be performed at any stage or phase of a project, from design criteria to final biddability. However, ITRs are not a substitute for the quality control review process. Instead, ITRs are intended to supplement the quality control process through additional review of project elements deemed by HQ (or in some cases contractual requirements) worthy of supplementary scrutiny.

4.4.1 Preparing Work Product for ITR

Once the Originator/Producer and PM have agreed that a work product is ready for ITR, a review copy will be prepared. The PM will prepare an ITR Form and submit the request to HQ. The ITR Form will designate the work product to be reviewed and the detailed scope of the ITR. Upon receiving notification from HQ that a reviewer has been assigned, the PM will attach the ITR form to the review copy and pass it to the Internal Technical Reviewer assigned by HQ.

4.4.2 Performing Internal Technical Reviews

The Internal Technical Reviewer's color is RED

The Internal Technical Reviewer is required to perform the following:

a) Review the work product for the specific objective requested.

b) Indicate on the ITR Form if review comments are noted on the ITR Form, marked on the work product, or a combination.

c) Mark in RED any comments that are to be indicated on the work product; and/or type onto the ITR Form any comments.

d) Sign and date the ITR Form and provide it to the PM and PE for review and distribution to the Back Checker.

4.4.3 Reconciliation of Internal Technical Review Comments

The Back Checker is required to perform the following:

a) Respond to all comments made by the Internal Technical Reviewer on the ITR Form, either agreeing to or resolving the comments.

b) If corrections are necessary, correct the work product and provide to the Internal Technical Reviewer for additional review.

c) Once all review comments are reconciled, or if no corrections are necessary, the PM shall sign and date the ITR Form.

d) Return the ITR Form to the Internal Technical Reviewer to sign and date acknowledging that all responses are accepted.

5.0 Checklists

Use of checklists is encouraged in the quality control process. Checklists, containing typical items expected to be included in designs, reports, drawings, specifications, or other documents, may be standard in-house checklists, checklists prepared by the client, checklists included in standard plans preparation manuals, or checklists developed specifically for a project.

Checklists which are used in the quality control process shall be completed and initialed by the Checker and attached to the Check Print or copy. The Checker is responsible for verifying that the checklist used is appropriate for the application.

6.0 Submittals

Document submittals, number, degree of development, and schedule, will be defined for each project either by the client or within the client's standards. In addition to these defined submittals, any work product transmitted to a non H&H entity shall be considered a submittal for purposes of QC and QA and documented with a QAR form. The following procedures for checking of various submittals will be implemented for ALL submittals irrespective of their quantity, degree of completion, and schedule.

6.1 Phase Submittals

Phase submittals are required to be checked, back checked, corrected, and verified prior to submittal. The level of detail of the process may be varied at the discretion of the PM for Witness Points provided that all critical information, either specifically required by the contract or considered fundamental to the development of the design, receives the

full check and back check detailed above for the classification of document and as appropriate for the level of development. Information presented in preliminary documents which is clearly under development, not completed, or subject to change must be reviewed by the Checker but need not be checked as required for final documents or at Hold Points, provided that the document is clearly marked as preliminary and subject to change. For example, in checking of concrete detail drawings to be submitted at the 60% level and required to define the general dimensions of the concrete, the concrete outlines and dimensions must be completely checked, but any rebar details need only be reviewed at this Witness Point.

6.2 Final Submittals

Final submittals are required to be completely checked, back checked, corrected, and verified in accordance with the appropriate procedure defined herein for the type of document. Final submittals are mandatory Hold Points.

6.3 Design Build Submittals

In general, specific requirements for design build submittals will be addressed in the contract and/or the Project Management Plan. Design Build submittals shall be subject the same quality control process as defined herein for design projects. All Issued For Construction (IFC) or Released For Construction (RFC) submittals are mandatory Hold Points and subject to Quality Assurance Review and Certification prior to submittal.

6.4 Miscellaneous Submittals

Any work product transmitted to a non-H&H entity shall be considered a submittal for purposes of QC and QA and documented with a QAR form. This includes but is not limited to work products categorized as progress sets, draft, preliminary or Over- the-Shoulder. The full QC process may not be required but every work product must be reviewed by someone other than the Originator/Producer prior to leaving H&H.

7.0 Post Design Submittal Reviews[2]

Post design submittals include documents prepared by or for the contractor and submitted to the Engineer for review. Typical documents included in the classification are shop drawings, working drawings, falsework drawings, falsework calculations, erection, etc.

In many cases the processing of submittals is defined in the contract or prescribed in the owner's standard procedures. In such cases those procedures will be followed. If procedures are not so prescribed, the procedures below shall be followed or used as a guide in implementing the owner's procedures.

All submittals from the contractor must be numbered and logged prior to review. The numbering and logging process will be established and coordinated by the PM or their designee. All logs shall be maintained throughout the Post Design Phase. Separate logs should be kept for RFIs, Shop Drawings and Submittals.

[2] Electronic review of submissions is encouraged and may be required by the Client. Electronic review shall conform to the appropriate document controls specified in the proceeding sections. All comments shall be made in RED, all checked details shall either be highlighted or boxed over with YELLOW (use transparency so that the details are not obscured). All comments shall be tabulated as required by the appropriate document controls.

Prior to return of the Contractor Submittal, the PM or PE should review the comments and disposition of the submission with the reviewer(s). Upon concurrence between reviewers and the PM or PE, the PM or PE shall return the submittal in accordance with the owner's standard procedures.

7.1 Shop drawings

All shop drawing submittals from the contractor, including drawings and catalog cut sheets, must bear the contractor's stamp of approval. This is necessary to assure that the contractor has noted his or her responsibility to coordinate the submittal with the project requirements and other submittals. Any submittals containing details of construction methods and/or procedures will not be processed as a shop drawing. Such submittals will be reviewed as noted in Article 7.2 below. Once the shop drawings are logged, one copy shall be designated as the "Office Copy" and forwarded to a designated Reviewer.

The Reviewer shall apply a shop drawing review stamp to each drawing, catalog cut, or table of contents of packaged submittals. The stamp will indicate that the Reviewer has "reviewed the contents of the submittal in accordance with appropriate industry standards for general conformance with the design concept of the project and general compliance with the information given in the contract documents." On the Office Copy, the Reviewer will mark in YELLOW information which is acceptable and in RED information which is not acceptable. Once the review is complete the Reviewer will determine a disposition and mark the appropriate box on the shop drawing review stamp. Dispositions will be selected from the following unless Client specific dispositions are required:

Approved This signifies that the Reviewer has determined that the submittal meets the stated requirements as is and that revision and resubmission is not required

Approved as Noted This signifies that the Reviewer has determined that the submittal meets the stated requirements if minor corrections are made as noted on the submittal in red and that revision and resubmission is not required

Revise and Resubmit This signifies that the Reviewer has determined that the submittal is lacking on one or more areas and must be revised and resubmitted for further review

Not Approved This signifies that the Reviewer has determined that the submittal is not in general conformance with the design concept and that a different concept must be prepared and submitted for review

The Reviewer's comments will be checked for conformance to design criteria and standards by the PM or their designee. Approved comments shall be transcribed in RED onto the copy to be returned to the contractor by the Reviewer or their designee. The Reviewer will verify the transcribing, mark the disposition, initial, and date the copy prior to return of the submittal to the contractor.

7.2 Review of Construction Methods and/or Procedures

Submittals containing details of construction methods and/or procedures will be reviewed as noted herein. Any submittals requiring design calculations performed by the Contractor's engineer shall be rejected if they do not contain the signature and seal of such registered professional engineer in the appropriate jurisdiction.

The Reviewer will review the construction methods and/or procedures submittal and note in RED any exceptions taken to the information provided. The Reviewer's comments will be checked for conformance to design criteria and standards by the PM or their designee. The Reviewer will apply a "Reviewed" stamp containing the following notation to each:

> "This submittal contains information regarding construction methods and/or procedures which are solely the responsibility of the Contractor. Review is only for the general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor retains

sole responsibility for dimensions which shall be confirmed and corrected at the job site; fabrication means, methods, techniques, processes, procedures, and sequences of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

If the exceptions taken require extensive description, a letter containing the comments shall be prepared by the Reviewer, and the submittal shall be marked with a note to see the transmittal letter for additional comments.

8.0 Owner's Engineer or Peer Review Role

Hardesty & Hanover is not responsible for Quality Control of work produced by others. Review of design documents prepared by a firm other than Hardesty & Hanover, when acting in the role of Owner's Engineer or providing Peer Review, shall be in accordance with the contract requirements.

Check Prints shall be initialed and dated by the reviewer. The reviewer shall verify incorporation of all prior comments for each submittal. For digital files, each reviewer shall save an independent copy of the file in the project working directory with their initials and the date in the file name. All comments shall be recorded on a Comment Response Form which shall be submitted to the PM or PE for quality assurance review prior to submittal. The PM or PE must review all comments to confirm technical appropriateness and adherence to standards prior to submittal. Copies of comments and responses should be saved in the project files. Reviews done within a Bluebeam session shall have comments and responses exported to an Excel form. Calculations performed as part of the review shall be checked in accordance with the standard H&H QC plan and a QC check copy shall be saved in the project files.

All Peer Review submittals shall be documented with a Quality Assurance Review (QAR) Form.

Owner's Engineer submittals shall be documented with QAR forms at a schedule or frequency agreed upon by the Project Manager and Quality Manager for the specific project.

Appendix C

H&H QA/QC Forms

QUALITY ASSURANCE REVIEW & CERTIFICATION FORM

Form QAR

Project Name		**Project Manager**	
Project Location		**Client Name**	
H&H Project Number		**Client Project Number**	

1 - DOCUMENT INFORMATION

(TO BE FILLED OUT BY THE PROJECT MANAGER)

Level of Development (Check all that apply)

☐ Concept ☐ Preliminary ☐ Phase: _____ ☐ Final

☐ Release For Construction ☐ Other: _____

Documentation reviewed (attach complete list of all items / files reviewed):

☐ Design Criteria ☐ Design Plans ☐ Calculations / Computer Solutions ☐ Reports ☐ Specifications

☐ Interdisciplinary Coordination Documentation ☐ Prior Audit Documentation ☐ External Comment Responses

☐ Other, Specify: _____

2 – SUMMARY OF FINDINGS

I have reviewed the above documentation for conformance with Hardesty & Hanover Quality Control Standards. My Conclusions are as follows (if more space required attach additional sheet, indicate format and location of any additional comments):

3-RECOMMENDED ACTIONS

In consideration of the findings above I recommend the following actions be taken for the continued conformance of future work with the Hardesty & Hanover Standards (if more space required attach additional sheet, indicate format and location of any additional comments):

Developed by: _____ _____

Project Quality Assurance Lead **Date**

4 APPROVED FOR SUBMISSION

The recommended actions as noted above are in conformance with Hardesty & Hanover Standards and have been completed. The undersigned, as Project Manager, certifies that the noted submittal for the referenced project meets the requirements of the project Quality Management Plan, is complete for the level of development, meets the requirements of Hardesty & Hanover and is ready for submittal

_____ _____

Project Manager **Date**

INTERNAL TECHNICAL REVIEW FORM

Form ITR

Project Name		**Project Manager**	
H&H Project Number		**Client Name**	

1 - DOCUMENT INFORMATION

(TO BE FILLED OUT BY THE PROJECT MANAGER)

Level of Development (Check all that apply)

- ☐ Concept
- ☐ Preliminary
- ☐ Phase:_____
- ☐ Other:_____
- ☐ Final
- ☐ Release For Construction

Discipline Reviewed (Check all that apply)

- ☐ Overall / Policy
- ☐ Structural
- ☐ Geotechnical
- ☐ Mechanical
- ☐ Electrical
- ☐ Highway/Civil
- ☐ Constructability
- ☐ Other, Specify: _____

Document type reviewed: ☐ Design Plans ☐ Calculations ☐ Report ☐ Specification ☐ Other, Specify:

Prepared by: _____ Document Date / Version: _____

QC STAMP

- ☐ Document contains Incomplete QC stamp, specify completed steps: _____
- ☐ Document contains Completed QC stamp

2 – DETAILED ITR SCOPE

Submitted by: _____ _____

Project Manager **Date**

3 – REVIEWER COMMENTS

(TO BE FILLED OUT BY THE INDEPENDENT REVIEWER)

I have reviewed the above referenced document in accordance with Hardesty & Hanover and Industry Standards. My Conclusions are as follows (if more space required attach additional sheet, indicate format and location of any comments):

Reviewed by: _____ _____

Internal Reviewer **Date**

4 – VERIFIED

All Reviewer comments have been addressed, either satisfactorily resolved or incorporated into the document. This document is complete.

Submitted by: _____ _____

Project Manager **Date**

5 - APPROVAL

This review is complete.

Submitted by: _____ _____

Internal Reviewer **Date**

Hardesty & Hanover

[Project]

[Type of Review]

Comment / Response Form (CRF)

DOCUMENT NAME				
REVIEWER			RECEIVED DATE	
REVIEW DATE			REVIEW STATUS	

RESPONSE CODES: A - Team Member agrees and will take action; **D** - Team Member does not agree and will pursue resolution, comment has not been resolved; **F** - Follow up required

No	Page	Section	Comment	Comment By	Response	Response By	Response Code	Comment	Comment By	Change Incorporated
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										

Distribution:

Appendix D

LADOTD QA/QC Forms & Checklists

LADOTD

BDEM Chapter 3, Part I, Appendix D

QC/QA Certification

Project No.:

Project Name:

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

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

LADOTD

BDEM Chapter 3, Part I, Appendix I

Consultant Submittal QC/QA Certification

Project No.:

Project Name:

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

_____

Submittal Description

_____	_____	_____
Supervisor or Team Leader Name	Signature	Date

LADOTD

BDEM Chapter 3, Part I, Appendix A

Design Criteria Checklist

Design criteria for each project shall include, but not limited to, the following sections:

___ **Cover sheet**

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- Revision date
- The Supervisor or Team Leader's signature and date

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

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

___ **Design Assumptions and Design Exceptions**

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

___ **General Information**

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

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

___ **Hydraulic Design Criteria**

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

___ **Design Factors**

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

___ **Design Loads**

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

- **Limit States**

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

- **Bridge Barrier Railing**

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

- **Guardrail**

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

- **Approach Slab**

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

- **Deck and Deck Drainage**

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

- **Bearing**

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

- **Joint**

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

- **Superstructure**

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

- **Substructure**

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

- **Piles and Drilled Shafts**

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

- **Geotechnical Design**

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

Mechanical Design

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

Electrical/Lighting Design

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

As-Designed Bridge Rating Criteria

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

Software

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

LADOTD

BDEM Chapter 3, Part I, Appendix B

Final Calculation Book Checklist

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

___ **Cover Sheet**

The following information must be included on the cover sheet:

- LADOTD project number
- Project name
- The title of "Final Calculation Book"
- The EOR's seal with signature and date

___ **Final Calculation Book Check List**

___ **QC/QA Certifications**

___ **Peer Review Resolution Agreement (if peer review is performed)**

___ **Design Criteria**

___ **Final Hydraulic Analysis Report from Hydraulic Engineer**

___ **Final Geotechnical Analysis Report from Geotechnical Engineer**

___ **Superstructure Design Calculations**

___ **Substructure Design Calculations**

___ **Quantity Calculations**

___ **Special Provisions/NS-Items**

___ **Construction Cost Estimate**

___ **As-Designed Rating Report**

___ **List of All Final Electronic Design Files and File Locations (ProjectWise directory name)**

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

___ **A PDF File of the Calculation Book**

___ **All Electronic Design Files**

___ **A PDF File of the As-Designed Rating Report Only**

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

LADOTD

BDEM Chapter 3, Part I, Appendix C

QA Information Package Checklist

Project No.:

Project Description:

_____ Calculation Book

_____ Plans

_____ Special Provisions

_____ Cost Estimate

_____ Other Documents _____

LADOTD

BDEM Chapter 3, Part I, Appendix K

CONSULTANT SUBMITTAL REVIEW CHECKLIST

Items	Submittals												
	Design Criteria	TS&L	30% PP	60% PP	90% PP	100% PP	30% FP	60% FP	90% FP	100% FP	Final Calculation Book	Plan Revisions	Change Orders
Consultant Submittal QC/QA Certification			R	R	R	R	R	R	R	R	R	R	R
Design Criteria	C												
TS&L		C											
Bridge Index			D	D	D	D	D	D	C	S			
General Notes			D	D	D	D	D	D	C	S			
Summary of Estimated Quantities			D	D	C	C	D	D	C	S			
General Plans			D	D	C	C	C	C	C	S			
Typical Sections			D	D	C	C							
Superelevation Diagram				D	D	C	C	C	C	S			
Construction Phasing Details				D	D	C	C	C	C	S			
Traffic Controls Details				D	D	C	C	C	C	S			
Foundation/Pile Layout				D	D	C	C	C	C	S			
Pile Loads/Details					D	D	D	C	C	S			
Pile Data Tables							D	D	C	S			
Bent Details							D	D	C	S			
Fender Details							D	D	C	S			
Girder Details							D	D	C	S			
Span Details							D	D	C	S			
Joint Details								D	C	S			
Bearing Details								D	C	S			
Approach Slab								D	C	S			
Guardrail Details								D	C	S			

Bridge Barrier/Mailing Details								D	C	S			
Bridge Drainage Details								D	C	S			
Detour Bridge Details								D	C	S			
Revetment Details								D	C	S			
Signing/Lighting Details								D	C	S			
Year Plate								D	C	S			
Rebar Support								D	C	S			
Mise. Details								D	C	S			
Project Specific Standard Plans and Special Details								D	C	S			
Electrical/Lighting Details								D	C	S			
Mechanical Details								D	C	S			
As-Built Plans								D	C	C			
Special Provisions/NS-Items							D	D	C	C			
Cost Estimate					D	D	D	D	C	C			
Final Calculations											S		
Revised Plans/Calculations												S	S

Legends:

"R" = The item is required and shall be included in the submittal.

"C" = The item shall be complete and shall be included in the submittal.

"D" = The item shall be in development and shall be included in the submittal.

"S" = The item is stamped by the EOR and shall be included in the submittal.

22. Sub-consultant information:

Firm Name (Name must match as registered with Louisiana's Secretary of State)	Address	Point of Contact and email address	Phone Number
APS Engineering and Testing	**APS Engineering and Testing, LLC** 1645 Nicholson Drive, BR, LA 70802	**Sergio Aviles, P.E.** sergio@aps-testing.com	(225) 456 - 5714
H&H Designed to Amaze, Engineered to Last®	**Hardesty & Hanover, LLC** 3850 N. Causeway Blvd, Suite 1625 Metairie, LA 70002	**Babak Naghavi, PE, PhD** bnaghavi@hardestyhanover.com	(504) 605-7940
URBAN SYSTEMS inc.	**Urban Systems, Inc.** 2000 Tulane Ave, Suite 200 New Orleans, LA 70112	**Alison C. Michel, P.E., PTOE, PTP, RSP** amichel@urbansystems.com	(504) 569 - 3958

23. Location:

Location

From: Jared Monceaux
To: DOTD ConsultantAds80; "Amanda Moreau"
Cc: Damian Wolfhart
Subject: RE: Contract No. 4400028434 Hartman Engineering Submittal for LA 44: Pelican Point Roundabout and Widen
Date: Thursday, February 29, 2024 1:44:05 PM
Attachments: image001.png
image002.png

Hey Kristen,
Rao's P.E. expiration is Sept 2025, however, he voluntarily requested through LAPELS a "retired" status. Per LAPELS we are required to put "retired" after his name….I agree, it is somewhat confusing…..
Hope this clarifies!

Jared Monceaux, P.E.

From: DOTD ConsultantAds80 <DOTDConsultantAds80@la.gov>
Sent: Thursday, February 29, 2024 1:07 PM
To: Amanda Moreau <amoreau@harteng.com>
Cc: Damian Wolfhart <Damian.Wolfhart@la.gov>; jmonceaux@harteng.com
Subject: RE: Contract No. 4400028434 Hartman Engineering Submittal for LA 44: Pelican Point Roundabout and Widen

Good afternoon,

Sundararaja C. Rao LAPELS reflects "retired", but it expires in 2025. Does retired mean something else? Please clarify.

Thank you,

Kristen Ferran
Contracts/Grants Reviewer
Contract Services - Section 80
1201 Capitol Access Road, 405M
Baton Rouge, LA 70802
P: 225-379-1178/F: 225-379-1857
Kristen.Ferran@la.gov

From: Amanda Moreau <amoreau@harteng.com>
Sent: Thursday, February 29, 2024 9:26 AM
To: DOTD ConsultantAds80 <DOTDConsultantAds80@la.gov>
Cc: Damian Wolfhart <Damian.Wolfhart@la.gov>; Paulette Territo (DOTD) <Paulette.Territo@LA.GOV>; jmonceaux@harteng.com
Subject: RE: Contract No. 4400028434 Hartman Engineering Submittal for LA 44: Pelican Point Roundabout and Widen

Good morning,

Thank you for the opportunity to correct these items. Please see attached for the clarifications that were listed in the previous email.

1. Section 4 - HEI removed and updated to Hartman Engineering, Inc.

2. Section 15 - Rao updated resume; removed environmental

3. Section 22 - added LLC to Hardest & Hanover

4. Section 20 - Letter to verify updated certificates
Please let me know if you have any questions.

Thank you,
Amanda Moreau
Administration / Marketing Coordinator

Hartman Engineering, Inc.
16563 Airline Hwy, Suite A & B
Prairieville, LA 70769
☎: (225) 313-4617 | 🖷: (225) 313-6127 | ✉: amoreau@harteng.com

---

From: DOTD ConsultantAds80 <DOTDConsultantAds80@la.gov>

Sent: Tuesday, February 27, 2024 9:39 AM
To: amoreau@harteng.com
Cc: jmonceaux@harteng.com; Paulette Territo (DOTD) <Paulette.Territo@LA.GOV>; Damian Wolfhart <Damian.Wolfhart@la.gov>
Subject: RE: Contract No. 4400028434 Hartman Engineering Submittal for LA 44: Pelican Point Roundabout and Widen

Dear Consultant,

In response to your proposal, we have reviewed and request the following clarifications.

In Section 4, the firm's name **must match as registered** with the Louisiana Secretary of State, per the instructions on the DOTD Form 24-102 Form. Re-submit Section 4 with the firm's name exactly as it appears on the Louisiana Secretary of State's website. CCS will prepare contracts based on the name as registered with the Louisiana Secretary of State.

Presented in DOTD Form 24-102: HEI Hartman Engineering, Inc. Consulting Engineers (Incorrect)
LA SOS: Hartman Engineering, Inc. (Correct)

In Section 15, there are multiple individuals who are listed as "retired", whereas Sundararaja C. Rao LAPELS reflects both "retired" and "Civil and Environmental Engineer". Please clarify.

In Section 20, there are Traffic Control Technician and Traffic Control Supervisor certifications that are expired Jared Monceaux. See page 6 and 7 for guidelines for the Work Zone Training Requirements, it states that Flagger, Traffic Control Technician and Traffic Control Supervisor certifications must be updated every 4 years. Presenting certifications beyond the 4 years is considered expired. If any licenses or certifications are represented in Section 20, they should be not have an expired date or in the case of Work Zone certifications be more than 4 years old and all certifications must be legible. The expired dates would be any dates prior to the closing date of the advertisement date of **February 6, 2024**. Please re-submit Section 20.

In Section 22, the firm's name **must match as registered** with the Louisiana Secretary of State, per the instructions on the DOTD Form 24-102 Form. Re-submit Section 22 with the firm's name exactly as it appears on the Louisiana Secretary of State's website. CCS will prepare contracts based on the name as registered with the Louisiana Secretary of State.

Presented in DOTD Form 24-102, Hardesty & Hanover
LA SOS: Hardesty & Hanover, LLC

Thank you,

Kristen Ferran
Contracts/Grants Reviewer
Contract Services - Section 80
1201 Capitol Access Road, 405M
Baton Rouge, LA 70802
P: 225-379-1178/F: 225-379-1857
Kristen.Ferran@la.gov

From: amoreau@harteng.com <amoreau@harteng.com>
Sent: Tuesday, February 6, 2024 2:17 PM
To: DOTD ConsultantAds80 <DOTDConsultantAds80@la.gov>
Cc: jmonceaux@harteng.com
Subject: Contract No. 4400028434 Hartman Engineering Submittal for LA 44: Pelican Point Roundabout and Widen

Good afternoon,

Please see attached for Hartman Engineering's submittal for Contract No. 4400028434: LA 44: Pelican Point Roundabout and Widen. Should you require any additional information, please let me know.

Thank you,

Amanda Moreau
Administration / Marketing Coordinator

Hartman Engineering, Inc.
16563 Airline Hwy, Suite A & B
Prairieville, LA 70769
☎: (225) 313-4617 | 🖷: (225) 313-6127 | ✉: amoreau@harteng.com