Jefferson Parish Professional Services Questionnaire
Resolution No. 138812
Routine Engineering Services for Sewer Projects
March 25, 2022

MSMM
ENGINEERING, LLC

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Routine Engineering Services for Sewer Projects, Resolution No. 138812

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

MSMM ENGINEERING, LLC

4508 Clearview Parkway, Suite C
Metairie, Louisiana 70006

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

Manish Mardia, P.E., President
mmardia@msmmeng.com
(504) 559-1897

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

Manish Mardia, P.E., President
mmardia@msmmeng.com
(504) 559-1897

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

1	Administrative	3	Estimators		Specification Writers
1	Architects (Licensed)		Geologists	2	Structural Engineers
	Chemical Engineers		Geotechnical Engineers		Graduate Engineers
5	Civil Engineers		Interior Designers	5	Project Managers
7	Construction Inspectors	1	Landscape Architects		Clerical
	Ecologists		Land Surveyor		Grant/Funding Specialist
1	Electrical Engineers		Mechanical Engineers		Sanitary Engineers
2	Engineer Intern	2	Environmental Engineers	1	Administrative/Accounting
	Professional Land Surveyors	3	CAD Draftsman	30	**TOTAL**
	Environmental Scientist		Transportation Engineer		

F. Is this submittal by a JOINT-VENTURE? Please check:

YES ☐ NO [X]

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

General Professional Services Questionnaire

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

1. Not Applicable

2.

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

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

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

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

15

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Manish Mardia, P.E.
President

Project Assignment:

Quality Control Manager

Name of Firm with which associated:

MSMM
ENGINEERING, LLC

Years' experience with this Firm:

11 (2011)

Education: Degree(s)/Year/Specialization:

M.S. in Civil Engineering, 1994, Louisiana State University
B.S. in Civil Engineering, 1990, University of Jodhpur

Active registration: Year first registered/discipline:

Year First Registered: 1999
Discipline: Environmental State: Louisiana License No.: 28482
Also registered in Mississippi (18522)

Other experiences and qualifications relevant to the proposed Project:

Mr. Mardia is a registered professional civil and environmental engineer with 28 years of experience working on public works projects within Jefferson Parish. His experience includes wastewater, streets, roads and bridges, environmental assessments, NEPA documentation, planning, design, and construction management for water, and solid waste systems for industry and government, design, construction and management of industrial and municipal wastewater treatment facilities, landfill gas collection and control systems, and study and management of infiltration and inflow of stormwater into public wastewater collection systems. Mr. Mardia's sewerage experience also extends to associated hydraulic modeling of sanitary sewer systems, and pump stations, using software such as InfoWorks, and SewerCAD, all done within GIS environment on projects in Jefferson Parish and across Southern Louisiana. Mr. Mardia is intimately familiar with GPS surveys, GIS databases and GIS mapping associated with public sector infrastructure projects inclusive of wastewater, streets, roads, bridges, drainage, environmental, planning and construction.

Mr. Mardia has successfully completed 200 plus public works projects for disaster mitigation, disaster recovery, roadways, drainage, sewerage, airports, flood control, permitting, environmental assessments and HTRW studies. He has worked *on more than **200 projects for various departments of Jefferson Parish.*** These projects were successfully completed on time and schedule. Projects ranges from Environmental Permitting; Hydraulic Modeling; Infiltration and Inflow; Water Treatment and Collection; Wastewater Collection, Distribution, and Treatment; Street and Roadways design; and Landfill Design and Permitting. Mr. Mardia has coauthored several journal articles and presented in various conferences. His memberships include ASCE, SAME, ALBL, WEF and LES.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Manish Mardia, P.E.

President

Specific project experience of Mr. Mardia is detailed below:

39th Street and Power Boulevard Lift Station Upgrades, City of Kenner, LA.

Similarly, to the proposed solicitation, MSMM was tasked by the City of Kenner to provide full engineering design for sewer lift station rehabilitation to the 39th Street and Power Boulevard Lift Station, located in Kenner, LA. This station is a duplex self-priming pump station with buried concrete wet well and above ground CMU block/brick exterior. The 8" discharge forcemain exiting the building on the north side and then travels west to the Granada and Martinque lift station. The lift station required rebuilding of pumps, replacement of the motor, and replacement of the existing control panel. MSMM was tasked with full engineering for the rehabilitation for increased capacity and improved functionality. Mr. Mardia acted as the Principal in Charge while handling QA/QC and Client Interface/Interaction.

Hillaryville Sewer Liftstation and Force Main Design, Ascension Parish, LA.

MSMM recently completed full engineering and design of a sewer lift station and force main in the community of Hillaryville in Ascension Parish, LA. This project was designed under a partnership between the USACE New Orleans Parish and cost sharing partner Ascension Parish. Public infrastructure needs in Ascension Parish were due to a wastewater sewer system that was antiquated and could not support future population growth. The project involved full engineering, design, construction administration and engineering during construction of a new effluent pump station and effluent discharge line. The discharge lines and effluent pump station were designed to be a 562 gpm effluent sewer pump station to serve the existing Hillaryville Wastewater Treatment Plant which was approximately 3,500 linear feet of 10"effluent forcemain, crossing the Mississippi River levee, and dolphin support structure in the river for the pipe outlet, electrical and control panel, generator and fuel tank. Mr. Mardia acted as the Principal in Charge while handling QA/QC and Client Interface/Interaction.

City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations, Baton Rouge, LA

The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations.

MSMM is performing the evaluation, construction recommendation, design and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 30% design packages for each of the identified pump stations.

Role: Principal; Project Manager; QA/QC

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Manish Mardia, P.E.
President

Data Collection of Existing Sanitary Sewer System for the Chitimacha Tribe, Charenton, LA.
The purpose of the project was to advance the ongoing Foundational GIS initiative in cooperation with the Chitimacha Tribe of Charenton, LA to advance sewer infrastructure goals the Tribe is currently planning. MSMM was provided existing sewerage infrastructure data for the Chitimacha Tribe and converted all existing CADD work into GIS files while updating all CADD drawings for future expansion. MSMM planned future infrastructure tie-ins/upgrades to coexist with the current Tribe layout. This involved flying aerial photography and identifying topographic issues that may prevent challenges to the Tribe's master planning efforts. At project completion, MSMM has created an infrastructure system that consisted of new images/tools for the USACE to use in future work plan activities.
Role: Principal; QA/QC.

Statewide Flood Control Program Grant Drainage Improvements Kenner, LA. LDOTD's Statewide Flood Control Program grant funding was utilized to undertake stormwater drainage system improvements to two neighborhoods (University City and Audubon Place Subdivisions) in the city. The estimated project cost was $4.57 million, with a grant amount of $2.7 million. The project was conducted from beginning to conclusion, which included preparing the grant pre-application package, coordinating with the City and LDOTD staff, conducting hydraulic and hydrologic analyses (HYDRWIN and SWMM), communicating with LDOTD experts on the project's feasibility and technical merit, conducting multiple site visits with LDOTD experts and project staff to clarify project features and existing drainage infrastructure, and facilitating continuous communication with the City's elected representatives about the status of grant process. On course of this project, excellent working relationship was forged with LDOTD's SWFCP staff and experts. Significant coordination was required with LDOTD staff due to the unique drainage conditions in the New Orleans area and due to the SWMM models of the city's previous drainage master plan work required to be re-analyzed with LDOTD's HYDRWIN software. The project involved (i) installation of new subsurface drainage pipes and inlets along three city streets, and (ii) upgrading of existing drainage features with larger subsurface pipes, inlets, and outfall pipe along three other city streets. The subsurface pipes ranged in size from small 18-inch diameter circular pipes to large 54"x88" arch pipes. Adjustment of sanitary sewer house connections, and numerous pavement restoration tasks were included in this project as well. This project required continuous coordination with the DPW staff during the course of this project. Most of the drainage improvements under this project were derived from previously completed Master Drainage Plan, while the new improvements were compared with the Master Drainage Plan as well to ensure that no conflicts arise.
Role: Principal; Project Manager.

Infiltration/Inflow Hydraulic Modeling, Jefferson Parish, LA Delineate and model the Parish's wastewater collection system, commencing with securing several grant funding from US EPA Region VI to undertake system delineation, flow monitoring, GPS survey, GIS/ArcView mapping and database creation, analysis of hydrologic, hydraulic, population and land use data, hydraulic modeling via Info Works software, identification of SSO areas and recommendation of SSO improvement alternative options and cost estimates. Various phases of the project modeled close to 300 sewer pump stations and more than 8,000 sewer manholes on the east and west banks of the Parish. The output data were analyzed for identification of system weaknesses and were utilized by the Parish as well as local planning authorities for long term planning and funding applications.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Manish Mardia, P.E.
President

Role: Principal; Project Manager; QA/QC.

Sludge Line to the River from Carrollton Water Purification Plant, New Orleans, LA. This project involved design and permitting to install one new 36" sludge line from the Sewerage and Water Board of New Orleans Carrollton Water Purification Plant to discharge into the Mississippi River. The roughly 4,300 ft distance of the sludge line travelled along three densely populated neighborhood streets, crossed multiple railroad tracks, crossed an existing flood protection levee on the Mississippi River, and crossed over the existing bike path on the levee crown. Due to site constraints, various alternate installation methods were evaluated, including open cut, horizontal direction drill, jack and bore, microtunnelling, and above grade. The pipe materials that were considered included fusible PVC and/or restrained PVC for below grade applications, and ductile iron for above grade application (levee crossing). The following tasks were conducted for this project:

- Coordinated with regulatory agencies to obtain input on acceptable design concepts since the sludge line crossed multiple agency jurisdictions. Some of the major agencies included Corps of Engineers (river levee and bike path), and New Orleans Public Belt Railroad.
- Developed the permit applications (environmental permits and railroad permit) and conducted permitting for the entire project. This involved meeting with agencies such as the US Army Corps of Engineers and LA Office of Coastal Management, presenting the project details to the agencies, submitting permit applications, and securing the permits.
- Coordinated with the US Coast Guard regarding discharge of the pipe being in the river and specific requirements of the USCG regarding marine safety lights, warning signs, and marine warning signals.
- Conducted utility research to determine the presence of electrical, gas, telephone, fiber optic, cable, water, sewer, and drainage infrastructure within the project corridor.
- Conducted engineering design for the levee crossing and discharge portion of the sludge line.
- Conducted structural design of the dolphin protection structure in the river for the new sludge line.
- Conducted Preliminary Design (30%), Final Design (60%, 90% and 100%), bidding phase services, and construction management.
- Prepared record drawings.

Role: Principal; Project Manager; QA/QC

TEC Professional Services Questionnaire

SPECIALIST:
Name & Title:
Scott Chehardy, P.E.
Project Assignment:
Civil Engineer
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
7 (2015)
Education: Degree(s)/Year/Specialization:
B.S. in Civil Engineering, 1994, University of Southwestern LA
Active registration: Year first registered/discipline:
Year First Registered: 1998 Discipline: Civil State: Louisiana License No.: 28532
Other experiences and qualifications relevant to the proposed Project:

Mr. Chehardy has over two decades of civil design and hydraulic evaluation experience in Louisiana's coastal Parishes. He has successfully designed levees and floodwalls, pump stations and force mains, and canals and box culverts. His design and assessment experience spans levee and floodwall, roadway, water, sewer and drainage infrastructure elements. He has been an integral part of the study and design of the new 600 cfs drainage pump station in New Orleans International Airport, drainage study of Canal No. 17, Canal No. 7, and Parish Line Pump Station in Jefferson Parish, East Bank Subsurface Drainage Improvement Program in Jefferson Parish, Sewerage & Water Board of New Orleans' SELA Urban Flood Control Projects (Claiborne Avenue Manifold Canal and South Claiborne Avenue Canal II), Hurricane Katrina Related Water Restoration Projects for S&WBNO, etc. Mr. Chehardy's levee design work included West Bank & Vicinity, Lake Cataouatche Pumping Station to Segnette State Park, Phase 2, First Lift. of a 20,250 linear foot segment of the hurricane protection system ($41.3 M), West Bank & Vicinity, Algiers Canal Levee West, Algiers Lock to Hwy. 23, Orleans & Plaquemines Parish (EAR $230M to $425M), and West Bank & Vicinity, Phase 2 Hurricane Protection, Algiers Canal (East), Hero Levee to Highway 23, WBV-49.2, Plaquemines Parish, LA (EAR $474M to $558M). Mr. Chehardy's responsibilities have included project management, design, permitting, and quality control.

Causeway and Scott Street Sewer Lift Station, Metairie, LA.

MSMM was tasked by the Jefferson Parish Department of Sewerage to provide full engineering design for the sewer lift station rehabilitation to the Causeway and Scott Sewer Lift Station, located in Metairie, LA. The existing Scott Street lift station is a submersible pump station with a buried fiberglass wetwell containing three pumps and a buried fiberglass valve pit. The 10" pipes on each pump combine to discharge into a 16-inch diameter pipe that goes to the Shresbury & Railroad lift station. The lift station required replacement of pumps, piping, valves, controls, and other rehabilitation items including elevating the top slab to mitigate floodwaters

SPECIALIST:
Name & Title:
Scott Chehardy, P.E.

entering the wetwell. MSMM was tasked with full engineering and design for the rehabilitation of this station. Mr. Chehardy is the designer of record for this project.

Kennedy Heights Sewer Pumpstation Improvements, Jefferson Parish, LA
MSMM is assisting Jefferson Parish in developing pump station improvements to the Kennedy Heights station on the West Bank. MSMM is evaluating the current state of the station, reviewing the as-built documentation and determining the best/most cost-efficient method to rehabilitate the station. Mr. Chehardy is leading the MSMM design efforts and is currently working on finalizing the preliminary design documentation.
Role: Civil Design, Engineer of Record

39th Street and Power Boulevard Lift Station Upgrades, City of Kenner, LA.
Similarly to the proposed solicitation, MSMM was tasked by the City of Kenner to provide full engineering design for sewer lift station rehabilitation to the 39th Street and Power Boulevard Lift Station, located in Kenner, LA. This station is a duplex self-priming pump station with buried concrete wet well and above ground CMU block/brick exterior. The 8" discharge forcemain exiting the building on the north side and then travels west to the Granada and Martinque lift station. The lift station required rebuilding of pumps, replacement of the motor, and replacement of the existing control panel. MSMM was tasked with full engineering for the rehabilitation for increased capacity and improved functionality. Mr. Chehardy is the designer of record for this project.

City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations, Baton Rouge, LA
The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations.

MSMM is performing the evaluation, construction recommendation, design and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 65% design packages for each of the identified pump stations.
Role: Engineer of Record, Engineering Manager

Jefferson Parish, West Napoleon Force Main, David Drive to Transcontinental Drive
Design of 7,300 feet of 30" HDPE force main installed by directional drill method beneath West Napoleon Ave. Project included several air releases valves, roadway restoration and tie-ins to existing D6-5 pump station near David Drive and existing force main near Transcontinental.
Role: Engineer of Record, Engineering Manager

Jefferson Parish, D6-5 and D5-3 Sewer Lift Station Upgrade
Design for the replacement of seven submersible pumps at two pump stations including replacement of piping, valves and the re-routing of a 16" sewer force main from D5-3 pump station to manifold with the D6-5 pump

SPECIALIST:
Name & Title:
Scott Chehardy, P.E.

station (West Napoleon) new 30" sewer force main.
Role: Engineer of Record, Engineering Manager

Jefferson Parish, Rehabilitate Existing Trickling Filters at Marrero Wastewater Treatment Plant
This project was to repair two existing trickling filters, replace under drains, clean media, replace four sluice gates, replace rotary distribution system, replace four existing 6,100 gpm re-circulation pumps and provide a new pile supported electrical control building.
Role: Engineer of Record, Engineering Manager

City of Kenner, Chateau Sewer Force Main
Project included design of approximately 6,000 feet of 36" HDPE force main to be installed by directional drill method beginning at the Kenner WWTP No 2 to replace a portion of the existing older force main. Other project features include a pile supported aerial canal crossing of 30" diameter ductile iron pipe, subsurface survey to pinpoint locate an existing 24" waterline paralleling the route and a transfer of the existing pump station from the old force main to the new.
Role: Engineer of Record, Engineering Manager

City of Kenner, Wastewater Treatment Plant (WWTP) No 2 Transfer Pump Station
Design of a 15.84 million gallon per day pump station at the treatment plant to receive all incoming flows and divert to the Kenner WWTP No 3. Project included rerouting of 14 incoming force mains, concrete junction box, wet well with vertical pumps, generator, fuel tank and electrical control building.
Role: Design Engineer

City of Kenner, Wastewater Treatment Plant (WWTP) No 3 Effluent Pump Station Capacity Upgrade
Modifications to the existing pump station to increase capacity by 1 million gallons per day. Project included several hundred feet of 36" ductile iron pipe, pile supported concrete meter vault, valves and associated electrical work.
Role: Design Engineer

City of Kenner, Wastewater Treatment Plant (WWTP) No 3 Expansion
Design for the expansion of the expansion of the treatment plant to add two new aeration basins with new influent and effluent splitter boxes, two new above ground concrete clarifiers (95 ft diameter), new scum pump station, new belt filter press and solids conveyor, rerouting of WWTP No. 2 force main to the headworks and associated piping and electrical work.
Role: Design Engineer

TEC Professional Services Questionnaire

KEY PERSON:
Name & Title:
Jim Wilson, P.E., LEED® AP Vice-President
Project Assignment:
Civil Engineer/Engineering Manager
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
8 (2014)
Education: Degree(s)/Year/Specialization:
B.S. in Civil Engineering, 1988, Michigan Technological University
Active registration: Year first registered/discipline:
Year First Registered: 1992 Discipline: Civil State: Louisiana License No.: 35456 *Also registered in Michigan (38800)*
Other experiences and qualifications relevant to the proposed Project:

Mr. Wilson is a senior civil/drainage engineer with over 26 years of experience in the public sector, successfully designing and managing drainage, sewerage, roadway, waterlines, and site development projects in multiple jurisdictions of Louisiana and Michigan. Mr. Wilson is currently designing two sewerage projects in Louisiana that require project features to traverse the Mississippi River levee and discharge into the Mississippi River (NO S&WB Sludgeline to the River and Ascension Parish Infrastructure). Mr. Wilson is intimately familiar with the characteristics, existing infrastructure, and design practices in Jefferson Parish. As a result of designing multiple projects in this area within a short period of time, Mr. Wilson has developed excellent working relationship with many of the local authorities having jurisdiction (AHJ) over the features, utilities, properties and regulatory requirements in Jefferson Parish, Kenner, Slidell and Ascension Parish, such as U.S. Army Corps of Engineers, Coastal Protection & Restoration Authority of Louisiana (CPRA), LDEQ, LDNR Office of Coastal Management, U.S. Coast Guard, and the East Jefferson Levee District (EJLD).

City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations, Baton Rouge, LA

The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations.

MSMM is performing the evaluation, construction recommendation, design, and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common

consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 30% design packages for each of the identified pump stations.

Role: Design Engineer

Sludge Line to the River from Carrollton Water Purification Plant, New Orleans, LA. This project involved design and permitting to install one new 36" sludge line from the Sewerage and Water Board of New Orleans Carrollton Water Purification Plant to discharge into the Mississippi River. The roughly 4,300 ft distance of the sludge line travelled along three densely populated neighborhood streets, crossed multiple railroad tracks, crossed an existing flood protection levee on the Mississippi River, and crossed over the existing bike path on the levee crown. Due to site constraints, various alternate installation methods were evaluated, including open cut, horizontal direction drill, jack and bore, microtunnelling, and above grade. The pipe materials that were considered included fusible PVC and/or restrained PVC for below grade applications, and ductile iron for above grade application (levee crossing). The following tasks were conducted for this project:

- Coordinated with regulatory agencies to obtain input on acceptable design concepts since the sludge line crossed multiple agency jurisdictions. Some of the major agencies included Corps of Engineers (river levee and bike path), and New Orleans Public Belt Railroad.
- Developed the permit applications (environmental permits and railroad permit) and conducted permitting for the entire project. This involved meeting with agencies such as the US Army Corps of Engineers and LA Office of Coastal Management, presenting the project details to the agencies, submitting permit applications, and securing the permits.
- Coordinated with the US Coast Guard regarding discharge of the pipe being in the river and specific requirements of the USCG regarding marine safety lights, warning signs, and marine warning signals.
- Conducted utility research to determine the presence of electrical, gas, telephone, fiber optic, cable, water, sewer, and drainage infrastructure within the project corridor.
- Conducted engineering design for the levee crossing and discharge portion of the sludge line.
- Conducted structural design of the dolphin protection structure in the river for the new sludge line.
- Conducted Preliminary Design (30%), Final Design (60%, 90% and 100%), bidding phase services, and construction management.
- Prepared record drawings.

Role: Design Engineer

Ascension Parish Infrastructure, Ascension Parish, LA.
MSMM Engineering, LLC successfully completed full engineering design services on multiple public infrastructure projects in 2015. These projects were designed under a partnership between the USACE New Orleans Parish and cost sharing partner Ascension Parish. Public infrastructure needs in Ascension Parish due to a wastewater sewer system that was antiquated and could not support future population growth.

The process started in 2010 when though an Environmental Infrastructure project, MSMM staff prepared GIS mapping of the Parish's existing and proposed sanitary sewer system and prepared an Environmental

KEY PERSON:
Name & Title:
Jim Wilson, P.E., LEED® AP Vice-President
Information Document (EID) for its long-term wastewater infrastructure plan. The Environmental Infrastructure project led to a decision that Ascension Parish needed to make significant upgrades to their public infrastructure system, specifically water lines and sanitary sewer systems. MSMM has recently completed full engineering design of new effluent discharge lines, and effluent pump station, and the extension of a watermain to meet these infrastructure needs. The Watermain was designed through a combination of Modeling, Planning, permitting, right-of-way, and assessment of 10,340 linear feet of 12" watermain to extend the existing line in Assumption Parish to an existing water tower in Ascension Parish. The discharge lines and effluent pump station were designed to be a 562-gpm effluent sewer pump station to serve the existing Hillaryville Wastewater Treatment Plant, approximately 3,500 linear feet of 10" and 20" effluent force mains, crossing the Mississippi River levee and dolphin support structure in the river for the pipe outlet, electrical and control panel, generator, and fuel tank. All engineering design work was performed by MSMM, and all plans and specifications were delivered to the New Orleans District via the MicroStationTM CAD Version 8.5 interface. ITR was performed on all engineering products provided, and comment responses were accepted. **Role:** Design Engineer

TEC Professional Services Questionnaire

KEY PERSON:
Name & Title:
Thomas M. Willis, P.E., MBA H&H Engineer
Project Assignment:
Hydraulic and Hydrologic Engineer
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
10 (2012)
Education: Degree(s)/Year/Specialization:
M.B.A., 1989, Louisiana State University B.S., 1981, Civil Engineering, Louisiana State University
Active registration: Year first registered/discipline:
Year First Registered: 1991 Discipline: Civil and Environmental State: Louisiana License No.: 24205
Other experiences and qualifications relevant to the proposed Project:

Mr. Willis has been a Senior Project Manager at MSMM Engineering, LLC since September 2012, where he is conducting civil engineering design and hydrologic and hydraulic analyses of the stormwater drainage systems associated with roadways, bridges, highways, and airports in Kenner, New Orleans, Jefferson Parish, and St. Tammany Parish areas. Mr. Willis is a registered civil and environmental engineer with over 33 years of experience in the public works engineering field. Prior to joining MSMM, Mr. Willis conducted numerous design, analysis, and inspection activities at airports, conducted master planning, feasibility studies, environmental studies, highway drainage design and permitting.

Sludge Line to the River from Carrollton Water Purification Plant, New Orleans, LA

This project involved design and permitting to install one new 36" sludge line from the Sewerage and Water Board of New Orleans Carrollton Water Purification Plant to discharge into the Mississippi River. The roughly 4,300 ft distance of the sludge line travelled along three densely populated neighborhood streets, crossed multiple railroad tracks, crossed an existing flood protection levee on the Mississippi River, and crossed over the existing bike path on the levee crown. Due to site constraints, various alternate installation methods were evaluated, including open cut, horizontal direction drill, jack and bore, microtunnelling, and above grade. The pipe materials that were considered included fusible PVC and/or restrained PVC for below grade applications, and ductile iron for above grade application (levee crossing). The following tasks were conducted for this project:

- Coordinated with regulatory agencies to obtain input on acceptable design conceps since the sluge line crossed multiple agency jurisdictions. Some of the major agencies included Corps of Engineers (river levee and bike path), and New Orleans Public Belt Railroad.
- Developed the permit applications (environmental permits and railroad permit) and conducted permitting

KEY PERSON:
Name & Title:
Thomas M. Willis, P.E., MBA H&H Engineer
for the entire project. This involved meeting with agencies suce as the US Army Corps of Engineers and LA Office of Coastal Management, presenting the project details to the agencies, submitting permit applications, and securing the permits. ▪ Coordinated with the US Coast Guard regarding discharge of the pipe being in the river and specific requirements of the USCG regarding marine safety lights, warning signs, and marine warning signals. ▪ Conducted utility research to determine the presence of electrical, gas, telephone, fiber optic, cable, water, sewer, and drainage infrastructure within the project corridor. ▪ Conducted engineering design for the levee crossing and discharge portion of the sludge line. ▪ Conducted structural design of the dolphin protection structure in the river for the new sludge line. ▪ Conducted Preliminary Design (30%), Final Design (60%, 90% and 100%), bidding phase services, and construction mangement. **Role:** Hydraulic Modeling

TEC Professional Services Questionnaire

PROFESSIONAL IN CHARGE OF PROJECT:
Name & Title:
Harry Hawney, P.E., MBA
Project Assignment:
Electrical Engineer
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
8 (2014)
Education: Degree(s)/Year/Specialization:
B.Eng. (Electronics Engineering), National University of Ireland, 1970 MBA, Trinity College, Dublin, Ireland, 1971
Active registration: Year first registered/discipline:
Year First Registered: 1981 Discipline: Electrical State: Louisiana License No.: 19229
Other experiences and qualifications relevant to the proposed Project:

Mr. Hawney has over 40 years of power and electrical engineering experience, inclusive of electrical system inspection, planning, design and reporting. His electrical engineering experience has been utilized in projects as varied as roadways, airports, airfield lighting, upgrade and controls for drainage pump stations, power plants, water treatment plants, wastewater treatment plants, sewer pump stations, power distribution, instrumentation, control systems, and auxiliary power provision at public and private infrastructure facilities throughout southeast Louisiana. He has worked for local area engineering firms on public works projects, and for private clients such as industrial plants and oil refineries. He has also performed design of electrical substations for industrial projects, inclusive of initial system conceptualization, design, start-up, and operation. Mr. Hawney has special and unique capabilities with regards to system rehabilitation, system upgrading, system reliability performance, and interrelation of power and control schemes.

Clearview Drainage Pump Station, St. Peter's Ditch Improvements – Phase 4, Jefferson Parish, LA.

MSMM engineering staff provided complete design services for a 220 cfs drainage pump station located within the DOTD Right-of-Way of the Clearview Parkway/Earhart Expressway interchange. The goal of this pump station was to pump stormwater runoff from the existing detention pond network, over Cross Canal, and discharge directly into the improved St. Peter's Ditch (box culvert). The project required multiple disciplines including civil, structural, electrical, and mechanical engineering, as well as cost estimating and drafting (CAD). The pump station structure contained three 75 cfs vertical lift pumps with 250 HP motors and several hundred feet of 36" discharge piping. Additional features of the project included a pile supported reinforced concrete structure, sheetpile intake area, trash rake with conveyor, conditioned control building, generator, traffic detour plan, discharge pipe aerial canal crossing, utility relocations, and other related improvements. Mr. Hawney provided all electrical design for the pump station, provided shop drawing review of the electrical

PROFESSIONAL IN CHARGE OF PROJECT:
Name & Title:
Harry Hawney, P.E., MBA

components, and engineering during construction.

Hillaryville Sewer Liftstation and Forcemain Design, Ascension Parish, LA.
MSMM recently completed full engineering and design of a sewer lift station and force main in the community of Hillaryville in Ascension Parish, LA. This project was designed under a partnership between the USACE New Orleans Parish and cost sharing partner Ascension Parish. Public infrastructure needs I Ascension Parish were due to a wastewater sewer system that was antiquated and could not support future population growth. The project involved full engineering, design, construction administration and engineering during construction of a new effluent pump station and effluent discharge line. The discharge lines and effluent pump station were designed to be a 562-gpm effluent sewer pump station to serve the existing Hillaryville Wastewater Treatment Plant which was approximately 3,500 linear feet of 10" effluent forcemain, crossing the Mississippi River levee, and dolphin support structure in the river for the pipe outlet, electrical and control panel, generator and fuel tank. Mr. Hawney provided electrical panel design, electrical controls, and tie-ins.

City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations, Baton Rouge, LA
The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations. C-P intends to rehabilitate or replace these ailing but non-SSO program stations via a combination of the following actions:

i) Flow reroute
ii) Complete station replacement (pumps, motors, controls, valves, wet well, applicable equipment pads, fencing, gates, etc.)
ii) Pump only replacement
iii) Convert to submersible pump-above ground valve/valve-pit configuration
iv) Rehabilitation of the station

MSMM is performing the evaluation, construction recommendation and design, and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 30% design packages for each of the identified pump stations.

Role: Electrical Engineer Evaluating/Designing Electrical Components of the Pump Stations

***Jefferson Parish, LA: East Jefferson Water Works, Jefferson, LA*.** Project includes a 13.8 kV substation with 3 incoming Utility sources and automatic 13.8 kv switchover between sources; a 4.5 MW diesel standby power

PROFESSIONAL IN CHARGE OF PROJECT:
Name & Title:
Harry Hawney, P.E., MBA

plant with 4 generators and paralleling switchgear. An alternate emergency power distribution network within the plant to insure the highest level of power delivery reliability. Construction schemes were developed to allow all plant equipment to stay in service during construction. For plant Operator interface, all power system components communicate on a fiber optic network, to a server-based Power Management and Control System (PMCS). This allows monitoring and control of the entire plant normal and emergency power systems. Project cost - $5 million. Role in project - Electrical Design Engineer & Construction Management.

Jefferson Parish, LA: West Jefferson Water Works, Jefferson, LA. Project is part of a major plant expansion. Work includes 13.8 kV distribution, 480 V switchgear and distribution for the major plant operating components, a 3.5 MW diesel standby power plant with 4 generators and paralleling switchgear; Automatic transfer between Normal and Emergency power systems. Remote Control Room monitoring of the Normal and Emergency power systems; all instrumentation for the plant expansion and integrating the expanded plant systems into the existing RTU/HMI systems. Project cost - $20M overall project (E&I $3M). Role in project – Electrical design, Project Construction Management.

TEC Professional Services Questionnaire

SPECIALIST:
Name & Title:
Bob Yokum, P.E. Structural Engineer
Project Assignment:
Structural Engineer
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
9 (2013)
Education: Degree(s)/Year/Specialization:
B.S., 1975, Civil Engineering M.S., 1980, Civil Engineering
Active registration: Year first registered/discipline:
Year First Registered: 1984 Discipline: Structural State: Louisiana License No.: 21422
Other experiences and qualifications relevant to the proposed Project:

Mr. Yokum has over three decades of experience in professional engineering, working on USACE water resources projects. Mr. Yokum has 12 years of experience at USACE New Orleans District serving as a senior structural engineer for locks, dams, levee, floodwalls, floodgates, flood control structures, sewer pump stations and drainage pump stations. Mr. Yokum has extensive experience designing USACE levees and floodwalls, performing stability analysis and executing borrow pit analysis for Mississippi River levee and Hurricane Risk Reduction projects in the Greater New Orleans area. Mr. Yokum also has extensive experience working with geotechnical engineers on bearing capacity and settlement data for levee features including pipelines, anchor systems and concrete slabs.

City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations, Baton Rouge, LA

The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations. C-P intends to rehabilitate or replace these ailing but non-SSO program stations via a combination of the following actions:

i) Flow reroutes
ii) Complete station replacement (pumps, motors, controls, valves, wet well, applicable equipment pads, fencing, gates, etc.)
ii) Pump only replacement
iii) Convert to submersible pump-above ground valve/valve-pit configuration
iv) Rehabilitation of the station

SPECIALIST:
Name & Title:
Bob Yokum, P.E. Structural Engineer

MSMM is performing the evaluation, construction recommendation and design, and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 30% design packages for each of the identified pump stations.
Role: Structural Engineer for Assessment of Current Pump Stations and Rehabilitation Design Packages

New Orleans International Airport Drainage Pump Station, Kenner, LA.
MSMM recently completed design services for a new 600 cfs stormwater drainage pump station and for all landside drainage as part of constructing a new airport terminal in the New Orleans International airport. The pump station will add 600 cfs of capacity to Jefferson Parish east bank's current capacity of 19,935 cfs, and project accomplishments included envisioning, assessing, and designing this important addition to the region's flood protection abilities. The $45 million of drainage mitigation design is a part of the highly anticipated $826 million of airport improvements to be completed in time for the city's tricentennial anniversary in 2018. The project involved working under extremely compressed schedule, while successfully delivering on a true multi-disciplinary effort spanning civil, structural, electrical, mechanical, and environmental engineering, hydraulic modeling (HEC-HMS and HEC-RAS), architectural services, cost estimating, environmental permitting, drafting (CAD, Civil 3D, REVIT, GIS), and agency coordination (COE, CPRA, EJLD, SLFPA-E, LDNR, Entergy, City of New Orleans, City of Kenner, and Jefferson Parish). The station was designed to contain four 150 cfs pumps with 900 HP motors.

As part of designing this pump station, MSMM was tasked with negotiating the challenge of discharging stormwater through a newly built hurricane protection flood wall that is a part of the $14.5 billion HSDRRS work conducted by the COE subsequent to Hurricane Katrina. As is understandable, the new floodwalls were viewed as an extremely crucial part of the storm protection infrastructure of the area, and penetration of that monolith was a very sensitive issue among the various agencies in charge of tending to the structural integrity of the system. Therefore, project tasks included making the initial contact with COE to obtain preliminary approval on the concept of floodwall penetration by 54" (eventually 60") steel discharge pipes (more than 4,000 ft. combined run), following through with detailed structural design calculations, design and drafting, further coordination with levee authorities and coastal authorities, and eventually securing the crucial clearances. After these clearances were received from USACE for discharging through the monolith, a collaborative decision was made to discharge the water over the floodwall instead of through it and Mr. Yokum changed his structural design to reflect all of the requested changes. After receiving minimal comments from his design change, the project moved forward under this direction. The overall design involved slab and piles for the pump station, generator, fuel tanks and control building, sheet pile cutoff walls, temporary steel sheet pile TRS system, scour protection, buttress, pipe bents, cofferdam and walers, intake channel and reinforced concrete box culvert, discharge pipe supports, and discharge basin in West Return Canal.

Another key part of the pump station design involved power, automation, and control/SCADA. Electrical design included 3750 kva transformer, 5 kv Paralleling Switchgear (PSG-1), 2000 kw generators with 500-

SPECIALIST:
Name & Title:
Bob Yokum, P.E. Structural Engineer

gallon base tank, 5 kv Motor Control Center (MCC) VFD start with FVNR x 800 HP starters, interior, exterior and emergency lighting, pump Control Panel with level control, 5 kv Load Bank, wiring, conduit, 20,000 gallon above grade diesel fuel tank, and piping for generators.

The landside drainage design effort required continuous close coordination with the roadway drainage designers, the terminal designers, and the apron designers. This required extreme flexibility and adaptability to incorporate numerous changes to other designs into drainage design via multiple hydraulic modeling exercises, and multiple pipe networking and sizing. More than 5 miles of drainage piping (size range of 15" to 72" diameter), open channels and box culverts were designed to route stormwater flow from the terminal to its discharge points.

Finally, project tasks required handling the sensitive issue of operation and control of the pump station. This sensitivity of this subject becomes apparent due to the separate and unique demands of multiple entities – Jefferson Parish, City of Kenner, and the airport. Vast experience with local drainage work, decades of relationship with local administrations and public works directors, and intimate knowledge of the forced drainage system of Jefferson Parish was utilized to bring consensus among the disparate parties. While allowing the real design work to thus proceed under a common philosophy, this consensus building was extremely important in keeping the project within the comprehensive program wide schedule.
Role: Structural Engineer for Pump Station Design

U.S. Army Corps of Engineers, New Orleans District, West Return Floodwall, Kenner, Louisiana; Lead Structural Engineer. Mr. Yokum provided detailed foundation and structural designs for all the floodwall monoliths for the West Return Floodwall project which is approximately 19,300 feet long. Numerous detailed foundation designs were required for this project to fit the new alignment between the existing floodwall and a parallel canal. The wall is being built approximately 30-35 feet away from the existing wall but all of the required batter piles for the foundation must be driven between the existing foundation piling. The project also requires the use of the latest T-wall design procedures, several small gate structures, and special features to accommodate an existing pump station. Estimated cost of the project was $140 million.

TEC Professional Services Questionnaire

INDIVIDUAL CONSULTANT:
Name & Title:
Chris Mills, EIT Engineer Intern
Project Assignment:
Engineer Intern
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
3 (2019)
Education: Degree(s)/Year/Specialization:
BS in Civil Engineering, 2019, Louisiana State University
Active registration: Year first registered/discipline:
Year First Registered: 2019 Discipline: Civil (EIT) State: Louisiana License No.: 34186
Other experiences and qualifications relevant to the proposed Project:
Mr. Mills is an EIT with MSMM, responsible for the development of schematic design, survey, roadway pavement condition assessments and the establishment of final grades for City of New Orleans Roadway projects. In his two years at MSMM, Mr. Mills has completed various engineering tasks associated for the five (5) design projects MSMM has been assigned by the City of New Orleans Department of Public Works, over the last two years. ***Baton City of Baton Rouge/Parish of East Baton Rouge North Landfill Leachate Pond Pump Station, Baton Rouge, LA.*** The scope of this project was to upgrade an existing on site pump station with new pumps, piping, valves and controls to discharge the leachate into an existing 48" transmission forcemain located adjacent to the landfill property that discharges at the North Wastewater Treatment Plant. Mr. Mills worked with the designer of record to develop the project bid drawings. ***Hillaryville Sewer Liftstation and Force Main Design, Ascension Parish, LA.*** MSMM recently completed full engineering and design of a sewer lift station and force main in the community of Hillaryville in Ascension Parish, LA. This project was designed under a partnership between the USACE New Orleans Parish and cost sharing partner Ascension Parish. Public infrastructure needs in Ascension Parish were due to a wastewater sewer system that was antiquated and could not support future population growth. The project involved full engineering, design, construction administration and engineering during construction of a new effluent pump station and effluent discharge line. The discharge lines and effluent pump station were designed to be a 562 gpm effluent sewer pump station to serve the existing Hillaryville Wastewater Treatment Plant which was approximately 3,500 linear feet of 10"effluent forcemain,

INDIVIDUAL CONSULTANT:
Name & Title:
Chris Mills, EIT Engineer Intern

crossing the Mississippi River levee, and dolphin support structure in the river for the pipe outlet, electrical and control panel, generator and fuel tank. Mr. Mills worked with the Designer of Record to develop the bid documents.

West End Group A (RR193) Neighborhood Roadway Design, New Orleans, LA

MSMM Engineering was tasked by the City of New Orleans Department of Public Works to finalize the design and perform construction management of the West End Group A project. The project includes full depth reconstruction, patch, mill and overlay and incidental pavement repair inclusive of driveways, sidewalks, curbs, and manhole adjustments. Fee: $ 933,250.

Role: Mr. Mills worked in conjunction with the lead civil engineer to revise the preliminary construction plans, update the project specifications and revise the cost estimate. He was also responsible for providing regular updates to the City concerning the progress of the requested design services.

Lower 9th Ward NW Group D (RR111) Neighborhood Design Project, New Orleans, LA

MSMM has been tasked with providing roadway design for approximately 16 blocks of this Lower 9th ward project. The project included mostly full depth replacement and waterline design. Other services included the development of drainage calculations and drainage features, the re-establishment of base course and new roadway on blocks fully covered with vegetative growth, and curb, gutter, roadway, sidewalk, and street surface improvements on a few blocks not requiring full reconstruction. Fee: $531,000.

Role: Mr. Mills worked in conjunction with the lead engineer to develop line and grade analysis, plan and profile drawings, participation in field reviews and virtual plan-in-hand meetings, and coordination with the CNO DPW Project Manager.

G***entilly Terrace North Group B (RR052) Neighborhood Roadway Design, New Orleans, LA***

MSMM has been tasked with providing roadway design for 8 streets of this Gentilly Terrace project as a subconsultant to PEC. The project included mostly full depth replacement and waterline design. Other services included the development of drainage calculations and drainage features, the re-establishment of base course and new roadway, and curb, gutter, roadway, sidewalk, and street surface improvements on a few blocks not requiring full reconstruction. Fee: $238,000.

Role: Mr. Mills worked in conjunction with the lead civil engineer from PEC to help establish an acceptable full depth replacement of the roadway, establishment of utilities appropriate grade adjustments to street intersections, driveways, and sidewalks.

TEC Professional Services Questionnaire

INDIVIDUAL CONSULTANT:
Name & Title:
Arthur Ian Growden, EIT Engineer Intern
Project Assignment:
Engineer Intern
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
3 (2019)
Education: Degree(s)/Year/Specialization:
BS in Civil Engineering, 2020, University of New Orleans
Active registration: Year first registered/discipline:
Year First Registered: 2021 Discipline: Civil State: Louisiana License No.: 35468
Other experiences and qualifications relevant to the proposed Project:

Mr. Growden is an EIT with MSMM, responsible for the development of utility design, field survey assessment, establishment of driveway aprons and curb inlets, and the establishment of final grades for City of New Orleans Roadway projects. In his two years at MSMM, Mr. Mills has completed various engineering tasks associated with civil and structural design components for multiple projects, inclusive of projects for the City of New Orleans department of public works. He is proficient in developing the City's cost estimating spreadsheet and has provided the AutoCad drafting for several of MSMM's completed FEMA Roadway projects to the City of New Orleans DPW.

39th Street and Power Boulevard Lift Station Upgrades, City of Kenner, LA.

MSMM was tasked by the City of Kenner to provide full engineering design for sewer lift station rehabilitation to the 39th Street and Power Boulevard Lift Station, located in Kenner, LA. This station is a duplex self-priming pump station with buried concrete wet well and above ground CMU block/brick exterior. The 8" discharge forcemain exiting the building on the north side and then travels west to the Granada and Martinque lift station. The lift station required rebuilding of pumps, replacement of the motor, and replacement of the existing control panel. MSMM was tasked with full engineering for the rehabilitation for increased capacity and improved functionality. Mr. Growden worked with the designer of record to develop the bid drawings and also provided construction administration servies.

Causeway and Scott Street Sewer Lift Station, Metairie, LA.

MSMM was tasked by the Jefferson Parish Department of Sewerage to provide full engineering design for the sewer lift station rehabilitation to the Causeway and Scott Sewer Lift Station, located in Metairie, LA. The

INDIVIDUAL CONSULTANT:
Name & Title:
Arthur Ian Growden, EIT Engineer Intern

existing Scott Street lift station is a submersible pump station with a buried fiberglass wetwell containing three pumps and a buried fiberglass valve pit. The 10" pipes on each pump combine to discharge into a 16-inch diameter pipe that goes to the Shresbury & Railroad lift station. The lift station required replacement of pumps, piping, valves, controls, and other rehabilitation items including elevating the top slab to mitigate floodwaters entering the wetwell. MSMM was tasked with full engineering and design for the rehabilitation of this station.

Mr. Growden worked with the designer of record to develop the bid documents and has provided construction administration and resident inspection services.

West End Group A (RR193) Neighborhood Roadway Design, New Orleans, LA

MSMM Engineering was tasked by the City of New Orleans Department of Public Works to finalize the design and perform construction management of the West End Group A project. The project includes full depth reconstruction, patch, mill and overlay and incidental pavement repair inclusive of driveways, sidewalks, curbs, and manhole adjustments.

Role: Mr. Growden, working in unison with the lead project engineer, has been responsible for the review and approval of contractor payment applications, the development of change order packages, review and approval of inspection staff reports, participation in field meetings, and response to contractor and inspection staff regarding questions on the plans and specs.

Little Woods Group A (RR100) Neighborhood Design, New Orleans, LA

MSMM Engineering was tasked by the City of New Orleans Department of Public Works to provide roadway design for the Little Woods neighborhood. Design included patch, mill, overlay, full depth reconstruction inclusive of new drainage infrastructure, establishment handicap ramps, curbs, and driveway and manhole adjustments. The design for the project was completed in July 2019, and construction is anticipated for completion in September 2021.

Role: Mr. Growden, working in unison with the lead project engineer, has been responsible for the review and approval of contractor payment applications, the development of change order packages, review and approval of inspection staff reports, participation in field meetings, and response to contractor and inspection staff regarding questions on the plans and specs.

TEC Professional Services Questionnaire

INDIVIDUAL CONSULTANT:
Name & Title:
Joshua Carson Project Manager
Project Assignment:
Project Manager
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
8 (2014)
Education: Degree(s)/Year/Specialization:
B.S. in Biology, 2007, Baldwin-Wallace University M.S. in Environmental Policy, 2011, Johns Hopkins University
Active registration: Year first registered/discipline:
N/A
Other experiences and qualifications relevant to the proposed Project:
City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations, Baton Rouge, LA The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations. MSMM is performing the evaluation, construction recommendation, design, and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 30% design packages for each of the identified pump stations. **Role:** Project Manager ***New Orleans International Airport Drainage Pump Station, Kenner, LA.*** Complete design services for a new 600 cfs stormwater drainage pump station and for all landside drainage as part of constructing a new airport terminal in the New Orleans International airport. The pump station will add 600 cfs of capacity to Jefferson Parish east bank's current capacity of 19,935 cfs, and project accomplishments included envisioning, assessing, and designing this important addition to the region's flood protection abilities. The $45 million of drainage mitigation design is a part of the highly anticipated $826 million of airport improvements to be completed in time for the city's tricentennial anniversary in 2018. The project involved

INDIVIDUAL CONSULTANT:

Name & Title:

Joshua Carson
Project Manager

working under extremely compressed schedule, while successfully delivering on a true multi-disciplinary effort spanning civil, structural, electrical, mechanical, and environmental engineering, hydraulic modeling (HEC-HMS and HEC-RAS), architectural services, cost estimating, environmental permitting, drafting (CAD, Civil 3D, REVIT, GIS), and agency coordination (COE, CPRA, EJLD, SLFPA-E, LDNR, Entergy, City of New Orleans, City of Kenner, and Jefferson Parish). The station was designed to contain four 150 cfs pumps with 900 HP motors.

As part of designing this pump station, project tasks required successfully negotiating the challenge of discharging stormwater through a newly built hurricane protection flood wall that is a part of the $14.5 billion HSDRRS work conducted by the COE subsequent to Hurricane Katrina. As is understandable, the new floodwalls are an extremely crucial part of the storm protection infrastructure of the area, and penetration of that monolith is a very sensitive issue among the various agencies in charge of tending to the structural integrity of the system. Therefore, project tasks included making the initial contact with COE to obtain preliminary approval on the concept of floodwall penetration by 54" (eventually 60") steel discharge pipes (more than 4,000 ft combined run), following through with detailed structural design calculations, design and drafting, further coordination with levee authorities and coastal authorities, and eventually securing the crucial clearances. The structural design involved slab and piles for station, generator, fuel tanks and control building, sheet pile cutoff walls, temporary steel sheet pile TRS system, removal and replacement of floodwall monolith and scour protection, buttress, pipe bents, cofferdam and walers, intake channel and reinforced concrete box culvert, discharge pipe supports, pipe sleeves in floodwall, and discharge basin in West Return Canal.

Another key part of the pump station design involved power, automation, and control/SCADA. Electrical design included 3750 kva transformer, 5 kv Paralleling Switchgear (PSG-1), 2000 kw generators with 500-gallon base tank, 5 kv Motor Control Center (MCC) VFD start with FVNR x 800 HP starters, interior, exterior and emergency lighting, pump Control Panel with level control, 5 kv Load Bank, wiring, conduit, 20,000 gallon above grade diesel fuel tank, and piping for generators.

The landside drainage design effort required continuous close coordination with the roadway drainage designers, the terminal designers, and the apron designers. This required extreme flexibility and adaptability to incorporate numerous changes to other designs into drainage design via multiple hydraulic modeling exercises, and multiple pipe networking and sizing. More than 5 miles of drainage piping (size range of 15" to 72" diameter), open channels and box culverts were designed to route stormwater flow from the terminal to its discharge points.

Finally, project tasks required handling the sensitive issue of operation and control of the pump station. This sensitivity of this subject becomes apparent due to the separate and unique demands of multiple entities – Jefferson Parish, City of Kenner, and the airport. Vast experience with local drainage work, decades of relationship with local administrations and public works directors, and intimate knowledge of the forced drainage system of Jefferson Parish was utilized to bring consensus among the disparate parties. While allowing the real design work to thus proceed under a common philosophy, this consensus building was extremely important in keeping the project within the comprehensive program wide schedule.
Role: Environmental Permitting

INDIVIDUAL CONSULTANT:

Name & Title:

Joshua Carson
Project Manager

Sludge Line to the River from Carrollton Water Purification Plant, New Orleans, LA

This project involved design and permitting to install one new 36" sludge line from the Sewerage and Water Board of New Orleans Carrollton Water Purification Plant to discharge into the Mississippi River. The roughly 4,300 ft distance of the sludge line travelled along three densely populated neighborhood streets, crossed multiple railroad tracks, crossed an existing flood protection levee on the Mississippi River, and crossed over the existing bike path on the levee crown. Due to site constraints, various alternate installation methods were evaluated, including open cut, horizontal direction drill, jack and bore, microtunnelling, and above grade. The pipe materials that were considered included fusible PVC and/or restrained PVC for below grade applications, and ductile iron for above grade application (levee crossing). The following tasks were conducted for this project:

- Coordinated with regulatory agencies to obtain input on acceptable design conceps since the sluge line crossed multiple agency jurisdictions. Some of the major agencies included Corps of Engineers (river levee and bike path), and New Orleans Public Belt Railroad.
- Developed the permit applications (environmental permits and railroad permit) and conducted permitting for the entire project. This involved meeting with agencies suce as the US Army Corps of Engineers and LA Office of Coastal Management, presenting the project details to the agencies, submitting permit applications, and securing the permits.
- Coordinated with the US Coast Guard regarding discharge of the pipe being in the river and specific requirements of the USCG regarding marine safety lights, warning signs, and marine warning signals.
- Conducted utility research to determine the presence of electrical, gas, telephone, fiber optic, cable, water, sewer, and drainage infrastructure within the project corridor.
- Conducted engineering design for the levee crossing and discharge portion of the sludge line.
- Conducted structural design of the dolphin protection structure in the river for the new sludge line.
- Conducted Preliminary Design (30%), Final Design (60%, 90% and 100%), bidding phase services, and construction mangement.
- Prepared record drawings.

Role: Environmental Permitting

TEC Professional Services Questionnaire

INDIVIDUAL CONSULTANT:
Name & Title:
Eric M. Curson Design Manager
Project Assignment:
GIS Specialist GIS/CADD
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
7 (2015)
Education: Degree(s)/Year/Specialization:
Some classes: Purdue University Southeast College of Technology
Active registration: Year first registered/discipline:
N/A
Other experiences and qualifications relevant to the proposed Project:
Eric Curson is a GIS Specialist and geospatial and CAD manager at MSMM, where his project experience encompasses a variety of geospatial and software initiatives within the Federal and local market in southeast Louisiana. Mr. Curson has worked extensively on projects that require the use of ESRI ArcGIS and Microsoft SQL Server for Federal clients including the USACE New Orleans District. He has been instrumental in leading the GIS database creation and management for several MSMM projects including the Jefferson Parish I&I project, and the Chitimacha and Ascension Parish GIS planning tool initiatives. With a background in both CAD and GIS, Mr. Curson understands the similarities and differences between the two systems and has played an important role in working through any conversion issues that have arisen through the digitization and database creation process. He continues to showcase his skill and talent as the USACE New Orleans District has sent additional requests for database management and specifically requested the services of Mr. Curson. ***Jefferson Parish Inflow & Infiltration System Modeling, Jefferson, LA*** MSMM modeled wastewater collection network piping involving 225 sewer pump stations, more than 8,000 sewer manholes, 200 miles of gravity piping, and 200 miles of force mains. Field inspection of all modeled stations was performed to conduct pump tests and determine current station capacities. GPS surveys were conducted to determine exact coordinates of manholes and wet wells. Flow monitoring, rainfall measurements and groundwater piezometer data gathering were also performed. Analysis of hydrologic, hydraulic, population and land use data were then performed for modeling purposes. The data was updated in the GIS database, which was then utilized in the InfoWorks modeling software to determine the network's reaction to various design storms, and to quantify inflow and infiltration (I&I) problems. The model results identified SSO areas that matched closely with known customer complaints, sewer overflow records and knowledge of O&M staff. The model was subsequently utilized to test and optimize system improvements, which were utilized by local

INDIVIDUAL CONSULTANT:
Name & Title:
Eric M. Curson Design Manager

planning authorities for long term master planning. Mr. Curson has been tasked with running the technical side of the program and routinely meets with GIS and Engineering personnel from Jefferson Parish to provide updates on data gaps/needs, priority projects and the potential for database improvements. He has been involved in the creating of this data set and database since before he was employed by MSMM and continues to refine the data and database for planning use by Jefferson Parish.

Mississippi River Levee (MRL) Program Database Creation, New Orleans, LA.

In 2016, following the successful blueprint of the CWPPRA library creation, MSMM was tasked with assisting the MRL program management team with creating a database product that could serve two primary purposes: to act as a central database for historical document control and to serve as a visual GIS mapping tool that could be used to explain project features and project status to clients and the public. Mr. Carson serves as the lead project manager for this database/GIS mapping project and has worked in constant coordination with the New Orleans District to develop a template that is not only user friendly but can be used on a tablet and can quickly be accessed as public meetings. MSMM has completed the base framework for this software and is currently uploading before and after photographs of the project footprints, survey, geotechnical and other field information relevant to the design and construction of upcoming projects and as-built drawings of recent projects that have been completed. As a feature of this program, MSMM has worked with the New Orleans District PM staff to create tabs within the database to highlight funding sources used for each levee lift or modification so that the program can be expanded to show future funding needs and data gaps. This program has been widely viewed as successful and Mr. Curson was specifically requested to lead the development of the latest database and GIS application. He has worked with the GIS personnel at the district to understand the available data for the projects that have been constructed, collect any new data points that have been required and gather as-built documentation and survey and geotechnical data for inclusion into the program. Mr. Curson has recently completed the first set of data for the project and has received approval from USACE to move into some of the special MRL programs that are currently in construction.

TEC Professional Services Questionnaire

INDIVIDUAL CONSULTANT:
Name & Title:
John M. Domingue Construction Inspector
Project Assignment:
Field Data Collection
Name of Firm with which associated:
MSMM ENGINEERING, LLC
Years' experience with this Firm:
7 (2015)
Education: Degree(s)/Year/Specialization:
N/A
Active registration: Year first registered/discipline:
N/A
Other experiences and qualifications relevant to the proposed Project:

Mr. John Domingue has more than 20 years of experience in construction management, resident inspection, administration, resident project representation, site assessment, inspection, and quality control representation of projects in the Greater New Orleans area. He has worked on infrastructure projects in flood control, water resources, roads, bridges, water, sanitary sewer, gas and electrical, as well as environmental projects including marsh restoration. Mr. Domingue has worked closely with local government officials from the City of New Orleans, City of Westwego, City of Gretna and St. Tammany Parish during construction of these projects.

Hurricane Isaac CDBG Disaster Recovery Funding Program Management. Construction of roadways and utilities for a planned academic campus, stormwater detention pond, and a Cultural Arts District, all funded by HUD/CDBG Disaster Recovery program. Specific project tasks included HUD/Davis Bacon labor compliance, resident inspection and reporting of construction activities, development, update and review of project schedule, NEPA documentation (ERR), and coordination with HUD and local municipality. Total amount of funding was $10,915,000.

Role: Construction management, resident inspection, monitoring daily construction activities, review project plans and specs, writing daily field reports, coordinating with project manager and project engineer on any problems encountered during construction, HUD labor compliance interviews.

North Galvez Road Improvements New Orleans, LA
Complete street and utility replacement on North Galvez Street between Elysian Fields and Almonaster (9 city blocks). Associated project elements included street restoration, water and sewer relocation, and gas and fiber optic line relocation.

Role: Construction management, conducting on-site observations of work in progress, reviewing contract plans and specs, writing daily reports, monitoring daily activities, coordinating with project manager and project engineer on any problems encountered during construction.

INDIVIDUAL CONSULTANT:
Name & Title:
John M. Domingue Construction Inspector
Western Closure Complex Pumping Station Jefferson, LA Project was construction of concrete T-walls for flood protection on Peter's Road (Sector gate). **Role:** Construction management, responsible for knowledge of construction concepts, principles, and practices applicable to a full range of duties concerned. Observed and investigated construction as all stages to identify problems, report potential problems and act on potential issues in a timely fashion. In charge of enforcement of contractor inspections on multiple sites, and responsible for making sure all personnel in compliance with the plans and specs. At the end of the project, performed a final inspection to make sure the final product met the expectation of both the client and contractor.

TEC Professional Services Questionnaire

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

PROJECT NO. 1

Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**
Sludge Line to the River From the Carrollton Water Purification Plant New Orleans, LA **Sewerage and Water Board of New Orleans** **Ron Spooner** **Chief of Engineering** **504-865-0410**	The Sewerage and Water Board of New Orleans intends to install one new 36" sludge line from its Carrollton Water Purification Plant to discharge into the Mississippi River. The roughly 4,300 ft. distance will be along three densely populated neighborhood streets, will cross one set of railroad tracks, will cross an existing flood protection levee on the Mississippi River, and will cross over the existing bike path on the levee crown. MSMM coordinated with regulatory agencies to obtain input on acceptable design concepts since the sludge line crosses multiple agency jurisdictions. Some of the major agencies included Corps of Engineers (river levee and bike path), and New Orleans Public Belt Railroad. MSMM also developed the permit applications (environmental permits, 408 permit and railroad permit) and conducted permitting for the entire project. MSMM also coordinated with the US Coast Guard regarding discharge of the pipe being in the river and specific requirements of the USGC regarding marine safety lights, warning signs, and marine warning signals MSMM also conducted utility research to determine the presence of electrical, gas, telephone, fiber optic, cable, water, sewer, and drainage infrastructure within the project corridor. MSMM conducted engineering design for the levee crossing and discharge portion of the sludge line which included the design of a dolphin structure for the discharge pipe, re-design of the levee to ensure the theoretical section was not disturbed and re-design of the bike path to avoid the pipe crossing.  

Completion Date (actual or estimated):	**Estimated Cost (in thousands):**	
	Entire Project	**Work for which Firm was Responsible:**
2018	$7,000	$350

TEC Professional Services Questionnaire

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

PROJECT NO. 02

Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**
Kennedy Heights Liftstation C9-2 Rehabilitation New Orleans, LA **Jefferson Parish Department of Sewerage** **Brett Todd Director, Department of Sewerage 504-736-6661**	MSMM has been tasked by the Jefferson Parish Department of Sewerage to provide full engineering design of sewer lift station rehabilitation to the Kennedy Heights Lift Station located in Westwego, LA. The Kennedy Heights station is a pre-constructed building located on a slab foundation that consists of four total pumps, of which only one is currently operational. The discharge force main is a 24-inch diameter Price Brothers pipe those discharges to the Avondale North lift station. The Wet Well is currently lined with t-lock but will require inspection and potential rehabilitation during construction. The lift station requires replacement of pumps, piping, valves, controls, and other rehabilitation items. MSMM tasks on this project consist of full engineering and design of rehabilitation features to make this station completely operational again. This will include replacing the existing pumps, replacing the existing control panel, replacing discharge piping and valves, replacing the sluice gates, rehabilitation to the junction box, replacing the surge relief valve, replace the building door, replacing the two round wet well manholes, installing restrooms, installing oxygen injection boxes, and replacing the valve pit grating. MSMM has made the 65% submittal and will make the 95% submittal in November of 2017. 

Completion Date (actual or estimated):	**Estimated Cost (in thousands):**	
	Entire Project	**Work for which Firm was Responsible:**
2017 (estimated)	$1,100	$150

TEC Professional Services Questionnaire

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

PROJECT NO. 03

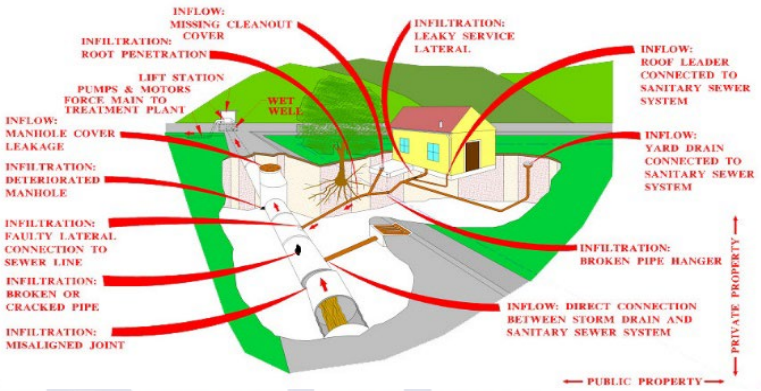
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**
Ruby & Wright Avenue Forcemain Design Terrytown, LA **Jefferson Parish Department of Sewerage** **Brett Todd Director, Department of Sewerage 504-736-6661**	MSMM as a sub consultant to BCG has been tasked by the Jefferson Parish Department of Sewerage to provide full engineering design of a new force main from the intersection of Wright Avenue and Ruby Street to the intersection of Wright Avenue and Carol Sue Avenue in Terrytown, LA. The existing force main is 4,700 linear feet of 10-inch Asbestos line that breaks repeatedly. Design of the new force main will require Horizontal Directional Drilling. The new line will be a 12-inch HDPE for the directional drill portion and 10-inch PVC for the open-cut portion. MSMM is responsible for preliminary, 65% and final design of the force main from Wright Avenue to south of Carol Sue Avenue. MSMM is also tasked with bidding phase services and shop drawing review for the project. BCG is responsible for the force main design from Wright Avenue to Ruby Street and South of Carol Sue. BCG is also responsible for construction phase services and resident inspection services.  

Completion Date (actual or estimated):	**Estimated Cost (in thousands):**	
	Entire Project	**Work for which Firm was Responsible:**
2017	$3,054	$130

TEC Professional Services Questionnaire

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

PROJECT NO. 04

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:
Jefferson Parish Department of Sewerage (DOS) – Sewer Infiltration and Inflow Management Jefferson Parish, LA **Regional Planning Commission Rebecca Otte, Environmental Programs Coordinator 10 Veterans Memorial Blvd., New Orleans, LA 70124 504-483-8513 rotte@norpc.org**	 MSMM principals conducted field survey of sewer manholes and pump stations utilizing GPS equipment (GPS System 500) and SKI-Pro software (both from Leica Geosystems), data entry into database and management of database (MS Access) to create and maintain Jefferson Parish's intricate wastewater collection system network in ArcGIS software, mapping of the system's features, followed by hydraulic modeling (InfoWorks) to identify problem areas under various storm conditions graphically within a GIS mapping environment, and recommend capacity and rehabilitation improvements to minimize rainfall derived infiltration and inflow (I&I) and related sanitary sewer overflows (SSOs). Detailed field investigation of nearly 6,000 manholes and 250 plus pump stations were conducted. Many rehabilitation projects have been identified costing upwards of $500 million, along with identifying many areas that will require sewer system evaluation surveys (SSES) to further pinpoint problem locations and causes. A total of twenty SSO areas were chosen for evaluation as part of this project. The total estimated cost of all recommended improvements because of model evaluation of 20 SSO areas located on the East Bank of Jefferson Parish was $21,858,424. Currently the hydraulic model is being updated to reflect recent construction projects and identify/rank the remaining areas in terms of need for action to resolve current issues.

Completion Date (actual or estimated):	Estimated Cost (in thousands):	
	Entire Project	**Work for which Firm was Responsible:**
2016	$21,000	$200

TEC Professional Services Questionnaire

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

PROJECT NO. 05

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:
Hillaryville Effluent Discharge Lines & Effluent Pump Station, Ascension Parish, LA **United States Army Corps of Engineers, New Orleans District** **Mr. Durund Elzey, Program Manager 504-862-1674**	MSMM successfully completed full engineering design services on multiple public infrastructure projects in 2015 and 2016 in Ascension Parish, LA. These projects were designed under a partnership between the United States Army Corps of Engineers (USACE) New Orleans District and cost sharing partner Ascension Parish. Public infrastructure needs in Ascension Parish were previously identified due to water supply and wastewater sewer systems that were antiquated and could not support future population growth. In 2016, MSMM designed the Hillaryville Effluent Discharge Lines and Pump Station project, which was identified as a need because the current infrastructure in the Hillaryville community is designed to allow effluent wastewater to discharge into a nearby drainage ditch. The design goal was to improve wastewater capacity of the Hillaryville community by designing a new sewer pump station and forcemain to direct the effluent into the Mississippi River. MSMM designed, permitted and determined the right-of-way of approximately 3,500 feet of 10" and 14" effluent forcemain and one 562 gpm effluent pump station to accommodate the upgrades to the Hillaryville Wastewater Treatment Plant. The pump station was designed to be constructed modularly, to accommodate for initial and future growth in the area. In addition, the effluent piping crosses under two major highways and across the Mississippi River Levee, thus MSMM was also responsible for acquiring the necessary DOTD and USACE and Levee Board permits, along with the levee crossing and bike path design. The project was constructed in 2017. 

Completion Date (actual or estimated):	Estimated Cost (in thousands):	
	Entire Project	**Work for which Firm was Responsible:**
2017	$4,000	$600

TEC Professional Services Questionnaire

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

PROJECT NO. 06

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:
East Baton Rouge Parish North Landfill Leachate Pond Pump Station and Forcemain, East Baton Rouge, LA **USACE New Orleans District** **Durund Elzey, Program Manager (504) 862-1674**	 Through a federal program to fund Environmental Infrastructure programs within local municipalities, MSMM representing the USACE New Orleans District, worked with the East Baton Rouge Parish Government (non-federal sponsor) on a program to eliminate the onsite lagoon treatment and discharge in favor of a new forcemain and pump station modifications that ties into the city-parish sanitary sewer treatment facilities. This program is due to anticipated increases in stringency of discharge limitations into Baton Rouge Bayou; it will eliminate a discharge permit through the LDEQ; and takes advantage of the newly constructed Zachary Area Transmission Network Improvements Project. MSMM was responsible for providing 100% bid ready plans and specifications (in USACE format). The project design re-used the existing pump station structure, demolished all existing pumps, piping, valves, controls, electrical work, and constructed a new timber walkway extending from the pump station to the inlet structure in the holding pond. The modified pump station included two new self-priming pumps, suction/discharge piping, valves, electrical/controls, lighting, and an Owner furnished generator. The forcemain was approximately 3,500-feet of 6" HDPE pipe designed for installation by a combination of open cut and directional drill. Other features of the project included design of a timber walkway, pipe support design, air release valves in manholes, painting of existing handrails, a concrete valve pit and tie-in to the existing 48" transmission forcemain. Additional services performed by MSMM included survey, geotech, MCACES cost estimate, coordination with East Baton Rouge Parish and the landfill operators, preparation of the Letter Report for Project Partnership Agreement between USACE and East Baton Rouge Parish and assisting the USACE with bidding and construction services.

Completion Date (actual or estimated):	Estimated Cost (in thousands):	
	Entire Project	**Work for which Firm was Responsible:**
2022	$900	$425

TEC Professional Services Questionnaire

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

PROJECT NO. 07

Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**
Hillaryville Regional Wastewater Treatment Plant, Ascension Parish United States Army Corps of Engineers (USACE) Durund Elzey 504-862-1674 	MSMM Engineering, LLC Through a federal program to fund Environmental Infrastructure programs within local municipalities, MSMM representing the USACE New Orleans District, worked with the Ascension Parish Government, LA (non-Federal sponsor) to design a regional wastewater treatment plant (WWTP) adjacent to the recent MSMM designed sewer effluent pump station (separate task order). This area of Ascension Parish utilizes a fragmented system of treatment options with subpar results that vary by subdivision based on each developer at the time. It includes septic tanks, package treatment plants, and an oxidation pond all of which discharge into local ditches and streams. High growth in this area of Ascension Parish including a large new subdivision being added and expansion of existing subdivisions will continue to contribute to a poor environmental situation. The WWTP was one step of a regionalization plan MSMM was involved in developing to bring all wastewater in the area to a single advanced treatment facility that would eventually discharge the treated effluent into the Mississippi River in lieu of local ditches. For this project our team was responsible for providing 100% bid ready plans and specifications (in USACE format) for a new 1.8 million gallon per day (mgd) average daily flow WWTP to increase treatment capacity and facilitate the regionalization of the Parish. The treatment plant design includes a new treatment plant on an eight (8) acre parcel of land owned by Ascension Parish. The design consisted of a dual set of treatment processes for redundancy and included an influent pump station, headworks with screens and grit removal, extended aeration basin, circular clarifier, chlorine contact chamber, aerobic digesters, belt filter press with new building, maintenance/administration building, and emergency generator as well as site drainage and internal asphalt roadways. The facility is designed so that a future aeration basin and clarifier can be constructed to easily upgrade the treatment plant to 2.7 mgd as additional capacity is needed. In addition to the bid ready design documents, our team is also responsible for project permitting through USACE, LADEQ, LADHH, LADOTD and CPRA of Louisiana. Additionally, our team was responsible for detailed MCACES cost estimating, presentations at public meetings, survey and detailed geotechnical investigations. Under construction phase services our responsibilities shall include shop drawing review and approval, RFI's, site visits and project meetings. The project construction is currently not scheduled and MSMM has completed 100% design for this project pending final review.

Completion Date (actual or estimated):	**Estimated Cost (in thousands):**	
	Entire Project	**Work for which Firm was Responsible:**
2023	$1.8M	$1.2M

TEC Professional Services Questionnaire

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

PROJECT NO. 08

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:
Causeway Boulevard and Scott Street Sewer Lift Station Improvements (G-4-2B) **Jefferson Parish Sewerage Department** **Mike Lockwood** **Sewerage Director** **504-736-6661**	MSMM was tasked by the Jefferson Parish Department of Sewerage to provide full engineering design for sewer lift station rehabilitation to the Causeway and Scott Sewer Lift Station located in Metairie, LA. The existing Scott Street lift station is a submersible pump station with a buried fiberglass wetwell containing three pumps and a buried fiberglass valve pit. The 10" pipes on each pump combine to discharge into a 16-inch diameter pipe that goes to the Shresbury & Railroad lift station. The lift station required replacement of pumps, piping, valves, controls and other rehabilitation items including elevating the top slab to mitigate floodwaters entering the wetwell. MSMM tasks on this project consisted of full engineering and design for rehabilitation of this this station. This included: replacing the pumps, replacing the control panel, replacing discharge piping and valves, designing a method to elevate the access hatch into the wetwell and valve pit, repaving the area surrounding the lift station to assist with drainage, adding an emergency pump out (EPO) manhole and adding odor control. MSMM completed full engineering and design in mid-2019. Advertisement for bids and construction was completed in late 2021 and the project is currently in construction where MSMM is providing construction administration and resident inspection services.  

Completion Date (actual or estimated):	Estimated Cost (in thousands):	
	Entire Project	Work for which Firm was Responsible:
2022	$370	$120

TEC Professional Services Questionnaire

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

PROJECT NO. 9

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:
Statewide Flood Control Program Grant Drainage Improvements Phase 1, 2 & 3 Kenner, LA **City of Kenner Department of Public Works, Jefferson Parish, LA** **Mr. Brian Jones 504-468-7515**	  MSMM personnel led the design, construction management and resident inspection of multiple phases of the Statewide Flood Control Program (SWFCP) grant drainage improvements in Kenner. LDOTD's Statewide Flood Control Program grant funding was utilized to undertake stormwater drainage system improvements to two neighborhoods (University City and Audubon Place Subdivisions) in the city. The estimated project cost was $4.57 million, with a grant amount of $2.7 million. MSMM personnel conducted the project from beginning to conclusion, which included preparing the grant pre-application package, coordinating with the City and LDOTD staff, conducting hydraulic and hydrologic analyses (HYDRWIN and SWMM), preliminary and final design, construction management and resident inspection. Significant coordination was required with LDOTD staff due to the unique drainage conditions and due to the SWMM models of the city's previous drainage master plan work, which required re-analyzation with LDOTD's HYDRWIN software. The project involved (i) installation of new subsurface drainage pipes and inlets along three city streets, and (ii) upgrading existing drainage features with larger subsurface pipes, inlets, and outfall pipe along three other city streets. The subsurface pipes ranged in size from small 18-inch diameter circular pipes to large 54" x 88" arch pipes. Adjustment of sanitary sewer house connections, and concrete pavement restoration of the roadways, sidewalks and driveways was also required.

Completion Date (actual or estimated):	Estimated Cost (in thousands):	
	Entire Project	**Work for which Firm was Responsible:**
2015	$4,570	$330

TEC Professional Services Questionnaire

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

PROJECT NO. 10

Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**
City of Baton Rouge/Parish of East Baton Rouge System Analysis, Current Condition Evaluation and Rehabilitation Recommendation for Non-SSO Program Sewer Pump Stations Baton Rouge, LA United States Army Corps of Engineers (USACE) Durund Elzey 504-862-1674	 The City of Baton Rouge/Parish of East Baton Rouge (C-P) has undertaken a comprehensive rehabilitation program for the portions of its sanitary sewer infrastructure that are plagued with chronic Sewer Sanitary Overflow (SSO) problems. In addition, the C-P is also suffering from severe reduction in functionality and associated increase in Operation & Maintenance costs in several sewer pump stations. C-P intends to rehabilitate or replace these ailing but non-SSO program stations via a combination of the following actions: i) Flow reroutes ii) Complete station replacement (pumps, motors, controls, valves, wet well, applicable equipment pads, fencing, gates, etc.) ii) Pump only replacement iii) Convert to submersible pump-above ground valve/valve-pit configuration iv) Rehabilitation of the station MSMM is performing the evaluation, construction recommendation, design and construction administration on 15 pump stations that fall within the SSO program. MSMM is currently evaluating pump curves, spreadsheets of pump station characteristics, pump station data from survey and GIS. We are comparing this data with previously available data on subject pump stations, identified conflicting data, and working toward a common consensus with the project sponsors about the main issues for each pump station. MSMM has recently submitted 65% design packages for each of the identified pump stations.

Completion Date (actual or estimated):	**Estimated Cost (in thousands):**	
	Entire Project	**Work for which Firm was Responsible:**
2018	$1,000	$225

TEC Professional Services Questionnaire

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

Parties:		Status/Result of Case:
Plaintiff:	**Defendant:**	
Not Applicable	**Not Applicable**	**Not Applicable**

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

MSMM Engineering, LLC (MSMM) is one of the fastest growing small businesses in the greater New Orleans area. In our short 10- year company history, we have a total portfolio at over $57M through our experience consisting of public works projects such as lift station, design, stormwater drainage design, wastewater system design and assessments, sewer treatment plant, pump station and forcemain design, drainage pump station, and discharge piping design, levee crossing and floodwall crossing of forcemains, discharge basins in rivers and canals, sewer collection system infiltration and inflow assessment via field investigation, pump station capacity verification, manhole GPS surveys, ArcGIS mapping and hydraulic modeling (SewerCAD and InfoWorks), environmental assessments, NEPA documentation, agency coordination, environmental permitting, drainage structures, canals, culverts, bulkheads, levees and floodwalls, resident inspection, and construction management/administration.

Firm Capability: Our proposed team provides coverage for all the project types and supplementary services defined in the RFQ. Our team, led by Mr. Manish, will be comprised of a small but tightly resourced group of firms with a plan for dividing our respective roles and responsibilities. MSMM is proud to add sub-consultant BFM Corporation, LLC to our team for this pursuit. Together, we have an extensive history of providing services to Jefferson Parish.

✓ **MSMM** will serve as the prime firm. MSMM staff make-up consists of civil, environmental, electrical, & structural engineers, architects, CADD drafters, project managers, environmental scientists, cost estimators, construction managers and resident inspectors. We offer a balanced blend of experience performing civil and structural design, environmental design, mechanical and electrical design, feasibility/planning studies and assessments, construction management and resident inspection services. Additionally, we possess the staff and ability to perform any required environmental compliance, permitting, cost estimating, and project and program management oversight.

Company Experience

Specializing in multi-disciplinary design and assessment, MSMM offers experienced personnel with an extremely diverse skill set. MSMM engineers total over 150 years of design experience and combined have designed over 250 projects for Jefferson Parish. The principals of MSMM alone have designed over 200 Jefferson Parish projects. We are extremely proficient in providing feasibility phase, design phase, and construction phase services for all engineering projects.

1. Professional Training and Experience in Relation to the Type of Work Required for the Engineering Services:

Key Personnel: MSMM staff have extensive experience working with municipal, State and Federal clients throughout the Gulf Coast region, particularly in southeast Louisiana. These clients include municipal organizations such as Jefferson Parish (Department of Public Works) and the New Orleans Sewerage & Water Board (NOSWB), regional entities like the Southeast Louisiana Flood Protection Authority - East (SLFPA-E), State clients such as the Coastal Protection and Restoration Authority (CPRA) and the Department of Transportation and Development (DOTD), and Federal clients like the U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA). MSMM's Principal, Mr. Manish Mardia, P.E., has over twenty-five years of experience in the region with these clients as well as the City of Kenner, the Regional Planning Commission, the Louisiana Department of Environmental Quality (DEQ) and the Louisiana Armstrong International Airport. MSMM staff are also active in a variety of national and local professional organizations, including the American Society of Civil Engineers (ASCE), the Society of American Military Engineers (SAME), and the American Council of Engineering Companies (ACEC).

- **Civil Engineering:** The MSMM civil engineering team led by Mr. Jim Wilson and Mr. Scott Chehardy has an extensive portfolio of sewer lift station, sewer treatment plant and forcemain design. Our sewer design experience rivals all firms in the Greater New Orleans area and over the 10-year history of our firm, we have designed sewer infrastructure for Jefferson Parish, the City of Kenner, the New Orleans International Airport and the multiple levee boards. We have also been actively involved with mapping the entire sewer system for Jefferson Parish and have developed interim program dashboards for sewer infrastructure projects to meet Consent decree mandates from EPA. In the last three years, our civil engineering staff has led the design for rehabilitation or replacement of over 20 sewer lift stations in Louisiana.
- **Structural Engineering:** The MSMM structural engineering team is led by Mr. Bob Yokum. Mr. Yokum has over 40 years of experience in the design and construction of both large and small civil works projects. Mr. Yokum has provided detailed foundation and structural design, construction plans and inspections for all types of gated and non-gated dam and auxiliary monoliths including spillways, outlet structures, concrete retaining walls, stilling basins, training works, and various structures associated with waterways.
- **Electrical Engineering:** MSMM employs an Electrical Engineer with over 30 years of experience and is an expert in the field of electrical engineering. His recent experience includes establishing the controls and redundancy for drainage pump stations and providing assessment and re-design of controls and generators for other facilities. Our electrical engineering staff is proficient with replacing the electrical instrumentation for rehab projects where most of the infrastructure will remain and has provided this service frequently. Each of our electrical engineers is well versed in the electrical specifications required within the City of Kenner and has extensive past performance designing these features.
- **Cost Estimating:** MSMM personnel are very familiar with the creation of cost estimates for new construction, renovation, and environmental remediation projects. Our estimators are skilled in preparing estimates of contractor performance times and schedules, usually with development of a progress schedule. Our estimators are extremely versed in the development of cost estimates utilizing the Micro-Computer Aided Cost Estimating System (MCACES), Parametric Cost Engineering System Software (PACES) or RSMeans. Depending on the client preference, we have experience producing estimates in

all three systems. MSMM employs multiple cost estimating experts. Our Cost Engineers constantly keep updated with changes in the software versions and associated Cost Libraries. Our team of cost estimators keep a library of cost estimates based on historical cost information from manufacturers, previous project bids and market trends.

- **Construction Management, Testing, and Inspection Services:** MSMM has a deep and talented pool of construction managers and resident inspectors Currently, in the City of New Orleans, MSMM is providing construction management and resident inspection for the most high-profile construction job - Bourbon Street Reconstruction.

- **CAD Drafting:** MSMM employs multiple personnel with extensive drafting backgrounds. We have the proven ability to provide project plans in A/E/C standard using AutoCad, Microstation Version V8i, and BIM360. We also have the capability to import and export *.dxf, *dgn, and *.dwg formatted files and convert from *.dwg to *.dgn and vice versa. MSMM Cad personnel are currently providing drafting for multiple USACE Civil Works projects in the required software and format.

2. Capacity for Timely Completion of Newly Assigned Work, considering the Factors of Type of Engineering Task, Current Unfinished Workload, and Person or Firm's Available Professional and Support Personnel:

MSMM prides itself in completing projects on time and under budget. Since the inception of MSMM, our staff engineers have completed over 100 design projects, including multiple drainage pump stations (as detailed above). We have also experience utilizing SWMM, HEC-RAS and HEC-HMS models that will be instrumental in the development of this project. Having prior knowledge of running these models for the Parish and meeting deadlines will be critical for any firm. Waiting to win the contract, acquiring the software and training staff will not be a successful strategy for this project, and our staff currently runs these programs daily, and is seen in the chart below, has ample availability to continue serving the needs of the Parish. Our engineering staff have designed/worked on more than ***200 projects for various Jefferson Parish departments.*** These projects were successfully completed within the identified schedule and met the quality standard Jefferson Parish expects in design performance. The Jefferson Parish references identified in the response to question #7 can attest to the quality standard and timely completion of Parish projects by MSMM and our personnel. Please reach out to them to gain a better understanding of our firm abilities/accomplishments.

MSMM's current project load allows ample flexibility in our staffing arrangements to ensure that completion of the field and modeling work associated with this project will be completed on time and within budget. We recently wrapped up four of our largest design jobs, one being the large drainage pump station at the New Orleans International Airport, and the other three were large design task orders for USACE Ft. Worth where we designed an office building, a roadway and bridge project and a large recreational project. These four jobs

encompassed most of our engineering resources over the last 2 years. With these jobs now finished, we have started to allocate our engineering resources to smaller jobs, and they have ample availability in their current schedules for a new project. In addition, the other large design jobs we currently have ongoing for USACE (Cow Bayou Drainage Complex, Ascension Parish Wastewater Treatment Plant, and design for a new floodwall in Texas City, TX) have moved past the preliminary design phase and final design will be completed before the end of the year. Additionally, the larger Jefferson Parish Watershed report has been finalized and given to the Parish for feedback, so our modeling staff also has ample availability currently. Given the nature of our current workload, our engineering design and support staff availability is forecast in the following table

Name	Role	Availability
Jim Wilson, P.E., LEED AP	Civil Engineer	40%
Scott Chehardy, PE	Civil Engineer	70%
Manish Mardia, P.E.	Environmental Engineer	65%
Robert Yokum, PE	Structural Engineer	40%
Magan Kansagra, PE	Mechanical Engineer	75%
Harry Hawney, PE	Electrical Engineer	60%
Nestor Houghton, PE	Electrical Engineer	80%
Thomas M. Willis, PE, MBA	Hydraulic Engineer	50%
Eric Curson	CADD Tech	40%
Josh Carson	Project Manager	40%
Don Daigle, CVS, CPE	Cost Estimator	70%
John Domingue	Construction Inspector	40%
Chris Mills, EIT	Engineer Intern	50%
Ian Growden, EIT	Engineer Intern	65%

3. Location of Principal Office Where Work Will be Performed:

All work associated with this project will take place out of the MSMM office located at 4508 Clearview Parkway, Metairie, LA 70006.

4. Adversarial Legal Proceedings between the Parish and the Person or Firm Performing Professional Services, in which the Parish prevailed, or any ongoing Proceedings between Parish and the Person or Firm:

MSMM is proud to state that **neither the firm nor our staff have been involved in any litigation activity with Jefferson Parish** or any other client.

5. Prior Successful Completion of Projects of the Type and Nature of the Engineering Services, as Defined, for which firm has Provided Verifiable References:

Relevant Past Performance: We are a professional engineering consulting firm comprised of highly educated staff experienced in numerous public works projects in south Louisiana. MSMM offers clients an optimum route to sustainable infrastructure planning, construction and management in many disciplines such as environmental regulatory compliance, environmental compliance documentation, environmental permitting, environmental monitoring, and sewer infrastructure projects. As evidenced in the following table, MSMM has completed numerous sewer infrastructure projects over the past five years. We have broken those out by project type in the table.

Sewer Projects Completed in the Last 5 Years by MSMM Engineering:	Design / Rehabilitation of Sewer Lift Station	Civil Engineering	Structural Engineering	Electrical Engineering	Cost Estimate	Construction Management and/or Resident Inspection Services
39th St. & Power Blvd. Sewer Lift Station	✓	✓				
Kennedy Heights Liftstation C9-2 Rehabilitation	✓	✓	✓	✓		✓
Causeway and Scott St. Sewer Lift Station	✓	✓	✓	✓		
Hillaryville Sewer Lifstation and Force Main Design	✓	✓	✓	✓		
Ascension Parish EI WWTP		✓	✓	✓	✓	
Statewide Flood Control Program Grant Drainage Improvements, Phases 1-3		✓				✓
Ruby & Wright Avenue Forcemain Design		✓				✓
Baton Rouge System Analysis, Current Condition Evaluation & Rehabilitation Recommendation for Non- SSO Program Sewer PS	✓	✓	✓	✓	✓	
Baton Rouge Leachate Forcemain & PS	✓	✓	✓	✓	✓	✓

For recent Jefferson Parish sewer projects completed by MSMM, inclusive of the Ruby and Wright forcemain project, the Kennedy Heights sewer lift-station, and the Causeway and Scott Street sewer lift-station, please contact the following personnel:

- **Mike Lockwood, P.E., Director of Sewerage • Jefferson Parish** • 1221 Elmwood Park Blvd., Ste. 803, Jefferson, LA. 70123 • 504-736-6661
- **Neil Schneider, Director of Capital Projects • Jefferson Parish** • 1221 Elmwood Park Blvd, Suite 906 Jefferson, LA. 70123 • 504-736-6833.

6. Size of Firm, considering number of Professional and Support Personnel Required to Perform the type of Engineering Tasks:

MSMM has a total of 28 personnel that will be available to work on this project. Though labeled as a small DBE firm, our modeling and engineering qualifications rival those of larger firms in the region. We have been selected by the USACE Ft. Worth and New Orleans Districts for Prime small business contracts to perform A-E Design and Project and Program Management on Federal projects. We have also received a prime engineering

design contract by the RTA of New Orleans. Finally, were ranked the top small business firm for roadway design in the region by the City of New Orleans Department of Public Works. Recently in Jefferson Parish, we have primarily provided hydraulic modeling services for various projects. These modeling reports have been widely successful and have been reviewed by top Parish officials.

When beginning any new job, MSMM launches a QA/QC template that assigns personnel based on experience, location, and availability. This plan is developed by the Project Manager and reviewed by the Program Manager before any tasks are executed on the project. MSMM employs a QA/QC manager who not only reviews the quality of the design but participates in forecasting available resources based on the current workload at the company. The QA/QC manager works in unison with the project manager to guarantee that MSMM is providing quality work products and ample capacity to add resources to the job, should the scope change during design.

For this project, we envision the standard need for the Program Manager, QA/QC manager and Project Manager. We will also assign 1 Hydraulic Engineers, 2 Civil Engineers, a CAD drafters/woman, 1 GIS lead, and two engineers in training who will be responsible for the management, initial design, and construction administration of roadway design projects. The resources available may be too many for the type of work involved, but this is all factored into how MSMM will run the project through our QA/QC plan.

Mr. Scott Chehardy will be the designer of record for MSMM sewer design tasks associated with this RFP. Mr. Chehardy has over 20 years of history designing sewerage projects in Jefferson Parish. He has also been the engineer of record for more than 12 recent sewer infrastructure projects in south Louisiana over the past five years, inclusive of a large sewer treatment plant in Ascension Parish. Mr. Chehardy is an expert in sewerage systems in Jefferson Parish and is widely known within the sewerage department to be a trusted source of expert design and overall sewerage knowledge.

7. Past Performance by Person of Firm on Parish Contracts:

As evidenced in the table included in our response to question #5, MSMM has extensive recent sewerage design experience in Jefferson Parish and across south Louisiana. Our firm is full of sewerage experts in general, and very specifically, sewerage projects in Jefferson Parish. Our past performance in Jefferson Parish is well known, and the sewerage department is very pleased with our past performance.

Since the early 1990s, the President of MSMM Engineering, LLC has worked *on more than **200 projects for various departments of Jefferson Parish*.** Project types designed by MSMM engineering staff include drainage evaluation/pump stations, roads and bridges, stormwater and wastewater system assessment, funding and construction administration, environmental site assessments, permitting and NEPA documentation, and hurricane hazard mitigation design for drainage and sewerage facilities. MSMM's Principals have worked on Jefferson Parish contracts for the past 20 years and have a history of successful project execution starting from grant applications, through environmental permitting and design, to construction administration and grant management. At no point during the 20+ year career of producing project plans and specifications has any member of MSMM been involved in projects involving design inadequacies, cost over-runs or assertions of fault. This statement can be verified by checking with the references listed in the response to Question #5.

A listing of other Jefferson Parish projects designed by MSMM engineering staff:

- Utility (Sewer) Relocations – Huey P. Long Bridge Widening
- 31st Street Bridge Replacement
- Hilltop to Quitman Bridge Replacement
- Manhattan Boulevard Rehabilitation from Lapalco to Harvey
- Lapalco Boulevard Widening
- Hickory Avenue (LA-48 to Mounes)
- Harahan Pump to the River, Jefferson Parish, LA
- Soniat Canal Drainage Improvements (USACE/SELA project)
- Drainage Pump Station Design, New Orleans International Airport, Kenner, LA
- Storm Water Demonstration Project, Force Main & East Bank Wastewater Treatment Plant Expansion, Jefferson Parish, LA.
- Sena Drive Drainage Improvements
- Sauve Road Drainage Improvements
- Canal 7 Drainage Improvements at Chateau Boulevard and Joe Yenni Boulevard
- East Bank Subsurface Drainage Improvement Program Phases I and II
- Drainage Evaluation of Canal Nos. 17 and 7, and Parish Line Pump Station
- Environmental Review for Hurricanes Gustav and Ike CDBG Disaster Recovery grant projects
- East Bank Sewerage Plant Disinfection Feasibility Study, Jefferson Parish, LA.
- Expansion, Jefferson Parish, LA.
- Infiltration/Inflow Hydraulic Modeling, Jefferson Parish, LA
- Sewer Lift Station D6-5 Force Main Improvements, Jefferson Parish, LA
- Chetta Drive Gravity Sewer System, Jefferson Parish, LA
- East Bank Water Treatment Plant Expansion, Jefferson Parish, LA
- Wastewater Treatment Plant Modifications, including Sewer Force Main (Tribune to East Bank WWTP), Jefferson Parish, LA
- Sewerage Improvements to the Crown Point Area, Jefferson Parish, LA
- Drainage Design Services for the Long-Term Airport Development, New Orleans International Airport, Kenner, LA
- Bridge City Chlorination/ Dechlorination System, Jefferson Parish, LA

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

Signature: _____ **Print Name:** **Manish Mardia, PE**

Title: **President** **Date:** **March 25, 2022,**