WBV-14C.2 QUALITY ASSURANCE TIGER TEAM, "SCOPE OF WORK"

1. Per the August 26, 2011 letter from Col Edward R. Fleming, Commander New Orleans District Corp of Engineers to Ms. Susan Maclay, President, Southeast Louisiana Flood Protection Authority – West Bank, the New Orleans District has assembled a Quality Assurance (QA) Tiger Team of technical experts outside of the New Orleans District. Per Col Fleming's letter, this QA Tiger Team will:

> ". . . assess the completed WBV14C.2 levee, review our contract's embankment specifications, assess the contractor's quality control methods and the Corps' quality assurance procedures. This team will participate in the scope development and evaluation of the investigative inspection trenching throughout the full length of the levee and make recommendations on any corrective actions, if required, based on the findings of this investigation. This team will make an independent evaluation of the levee's performance and compliance with Hurricane Storm Damage Risk Reduction System (HSDRRS) criteria."

These original Tiger Team tasks were expanded by Mr. Walter O. Baumy, Chief Engineering Division, New Orleans District Corps of Engineers on October 20, 2011. At that time Mr. Baumy also charged the (QA) Tiger Team to determine if the project was constructed in accordance with the contract plans and specifications

Working with the Mississippi Valley Division; the Southeast Louisiana Flood Protection Authority – West Bank; the State of Louisiana, Coastal Protection and Restoration Authority; the New Orleans District Corps of Engineers invited these individuals to the QA Tiger Team:

Corps of Engineers Vicksburg District (CEMVK)
Mr. Brad Arcement, Mr. Lanny Barfield, and Mr. Tim Shows

Corps of Engineers St. Louis District (CEMVS)
Mr. Patrick Conroy

Corps of Engineers Savannah District (CESAS)
Mr. Michael Wielputz

Southeast Louisiana Flood Protection Authority-West Bank (SLFPA-W)
Mr. Michael Merritt and Mr. David Roark

Coastal Protection and Restoration Authority (CPRA)
Mr. Rickey Brouillette, Mr. David St. Marie (HNTB Contractor), and
Mr. Jaskaran Singh (HNTB Contractor)

Burns-Cooley-Dennis
Mr. Eddie Templeton

The professional biographies of the Tiger Team members are included at the end of this scope of work.

2. This scope of work outlines how the WBV14C.2 (QA) Tiger Team will meet Col Fleming's pledges made in his August 26, 2011 letter as well as the additional task assigned by Mr. Baumy. The (QA) Tiger Team's purpose is to assure the Corps, its sponsors, and all stakeholders that the levee is properly constructed according to the contract plans and specifications, and that the constructed levee will provide the authorized level of flood protection and risk reduction. To this end, the (QA) Tiger Team is charged with the following tasks:

a. The Tiger Team will use all available contractor quality control reports, USACE quality assurance reports, and results of the Investigation Program, to independently assess the WBV14C.2 levee (hereinafter referred to as 'the levee').
b. The Tiger Team will use all available contractor quality control reports, USACE quality assurance reports, and results of the Tiger Team's Investigation Program, to determine if the levee was constructed according to the contract specifications.
c. The Tiger Team will use all contractor quality control reports, USACE quality assurance reports, USACE material source charts, FFEB Geophysical surveys, SLFPA-W inspection reports, and inspector's personal, first-hand observations to develop and finalize the locations and depths of the inspection trenches. These trenches will be excavated to provide the Tiger Team direct observations of the completed fills, and in some cases observations of the existing levee fills and in-situ foundations. These trenches will also provide the necessary soils samples for testing. Trench locations may be field adjusted based on recommendations from the Tiger Team.
d. The Tiger Team will determine the protocols and procedures for excavating the investigation trenches, inspecting the cuttings, collecting wood and/or debris, and testing the collected materials.
e. The Tiger Team will finalize the locations and depths of verification borings to be drilled into the levee fills and develop testing requirements for the samples obtained from the verification borings.
f. The Tiger Team will complete its assigned tasks, make decisions, and develop its recommendations according to the decision process shown in Figure 1 below.
g. The Tiger Team will conduct reviews of all contractor quality control records, all Corps quality assurance records, and all field and laboratory investigations and may recommend corrective measures to the New Orleans District, SLFPA-W, and CPRA.
h. The Tiger Team will conduct reviews of all contractor quality control records, all Corps quality assurance records, and all field and laboratory investigations and may recommend suggested changes to the current USACE earthwork specification for future contracts.
i. The Tiger Team will conduct reviews of all contractor quality control records, all Corps quality assurance records, and may recommend improvements to the QA/QC process.

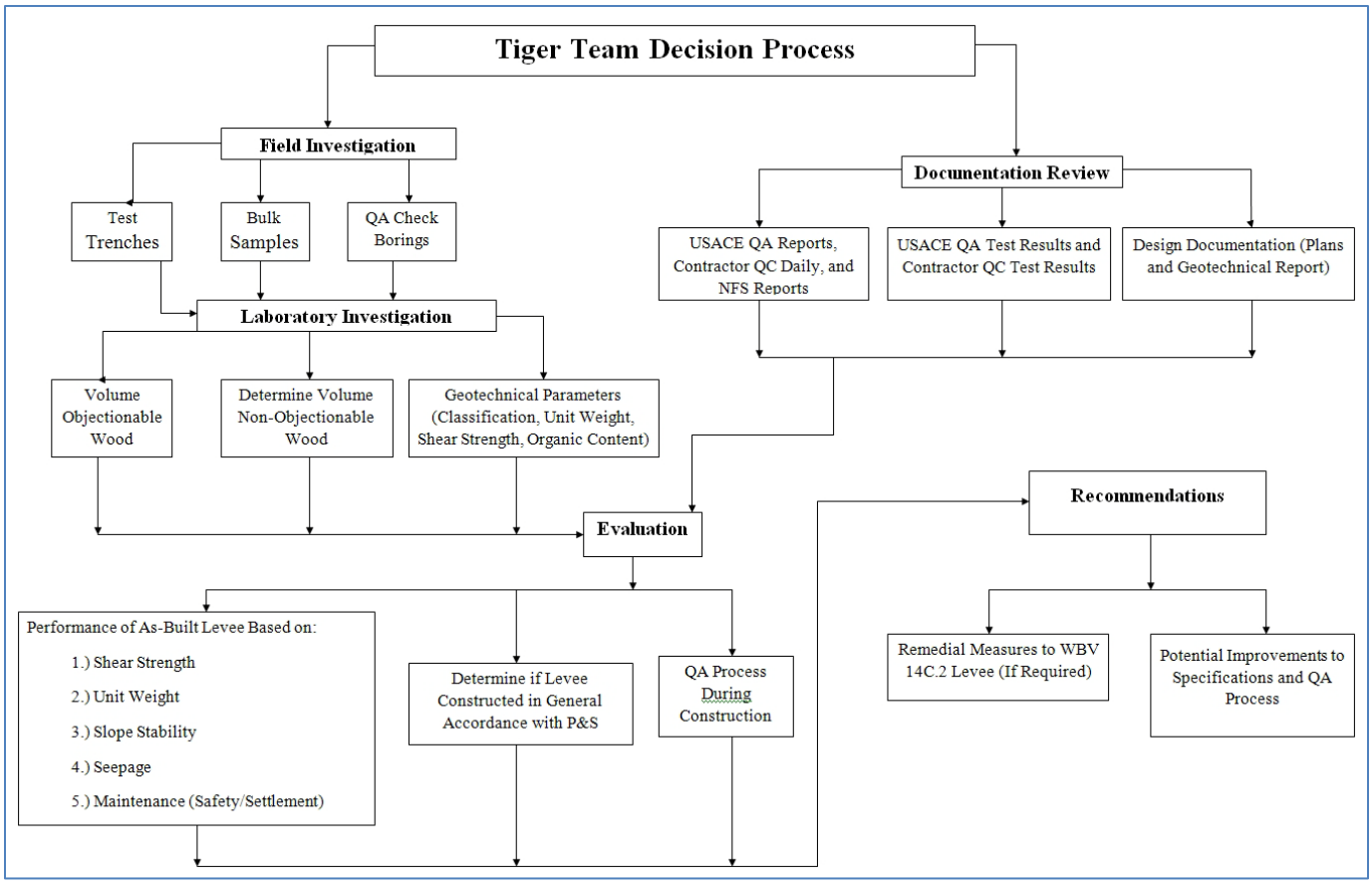

Figure 1 – Tiger Team Decision Process

3. The (QA) Tiger Team shall conduct its business according to the following paradigms:

   a. The Tiger Team shall independently produce and publish its final report.
   b. The Tiger Team shall strive to reach consensus on all issues. All USACE, CPRA and SLFPA-W team members will be expected to contribute to all discussions, and argue for their point of view on any given issue. All arguments and discussions shall be carried out in a professional manner.
   c. If the Tiger Team fails to reach consensus on any issue, the team shall elevate that issue to a leadership team consisting of Mr. Walter Baumy, Chief of Engineering Division and Levee Safety Officer for the New Orleans District, Mr. John Monzon, Flood Protection Chief Engineer, CPRA and Mr. Mark Morgan, Vice President, SLFPA-W for resolution, with Mr. Baumy as arbitrator.
   d. All USACE, CPRA and SLFPA-W Tiger Team members are expected to attend all meetings and participate in the excavation of the investigative trenches and assessment of the cuttings yielded by the excavations.
   e. The Tiger Team shall reference all technical requirements of the WBV14C.2 contract specifications especially paragraph 2.1 in section 31 24 00.00 12 "Embankment" that states:

"The embankment shall be constructed of earth materials naturally occurring or Contractor blended. Materials that are classified in accordance with ASTM D 2487 as CL or CH with less than 35% sand content are suitable for use as embankment fill. Materials classified as ML are suitable if blended to produce a material that classifies as CH or CL according to ASTM D 2487. All fill materials shall be free from masses of organic matter,

sticks, branches, roots, and other debris including hazardous and regulated solid wastes. As earth from the designated excavation areas may contain excessive amounts of wood, isolated pieces of wood will not be considered objectionable in the embankment provided their length does not exceed 1 foot, their cross-sectional area is less than 4 square inches, and they are distributed throughout the fill. Not more than 1 percent (by volume) of objectionable material shall be contained in the earth material placed in each cubic yard of the levee section. Pockets and/or zones of wood shall not be placed in the embankment. The Contractor shall notify the Contracting Officer whenever the in-place Plasticity Index of the material is 15 or less. Materials placed in the section must be at or above the Plasticity Index of 10. Materials placed in the section must be at or below organic content of 9 percent by weight, as determined by ASTM D 2974, Method C. Materials placed in the section must contain less than 35 percent sand content by weight, as determined by ASTM D 1140."

4. The (QA) Tiger Team will independently produce and publish its final report containing all results of its investigations and its recommendations. This report will be furnished simultaneously to the New Orleans District Corps of Engineers, the Southeast Louisiana Flood Protection Authority – West Bank, and the State of Louisiana Office of Coastal Protection and Restoration.

Brad J. Arcement, P.E.
MVD Geotechnical Regional Technical Specialist
CEMVK-EC-GA

EDUCATION:

- Master of Science, Civil Engineering, University of Texas at Austin (2000)
- Bachelor of Science, Civil Engineering, Louisiana Tech University (1998)

LICENSES/CERTIFICATES

- Professional Engineer, State of Mississippi, No. 16145, registered since 2004

WORK EXPERIENCE

Mr. Arcement has over 13 years of experience as a geotechnical engineer and has authored or co-authored over 400 geotechnical reports over a wide range of projects including: earth dams and levees (design/construction, inspection, and remediation), flood control structures (T-walls, weirs, grade control structures), embankments and slopes (earth slide remediation, soft soils, staged construction, reinforced slopes), marsh restoration and shoreline protection (containment dikes, erosion control walls), retaining walls (soldier beam and lagging, cantilever/anchored sheetpiles, concrete blocks, soil nails, and drilled shaft walls), highway/railroad bridges (axial/lateral design of foundations, static/dynamic pile testing), single and multi-story buildings (shallow and deep foundations), landfills (permitting, QA/QC construction certification, groundwater monitoring), communications towers (monopoles, guyed towers, self-supported), and geo-forensic studies (building/structure distress, pavement distress, earth slide remediation). He has completed projects in a variety of geological settings such as soft soils in Louisiana, over-consolidated and highly expansive marine clays, saturated sands in 180-ft cuts for a coal mine, and landfill waste in 150-ft tall landfills. Recent experience and special areas of interest are described below:

- Plaquemines Parish, LA – Serving as the lead geotechnical engineer for MVK to complete the ViPER (Vicksburg Priority Engineering Response) mission for the NOV (New Orleans to Venice) projects. The NOV projects include 36 miles of Mississippi River Levees, 46 miles of federal back-levees, 34 miles of non-federal back-levees, 12 pump stations, and the Empire Lock/Floodgate. Acts as the regional geotechnical point-of-contact for MVD districts and A/E firms in support of these projects.
- GIWW West Closure Complex (404c Floodwall) – The 4,200-ft long floodwall is along the west bank of the GIWW and connects a water control structure across the Old Estelle Canal to the GIWW floodgate. Performed as the geotechnical lead for the project that required close coordination with members from MVK, MVR, MVN, A/E firms and the Contractor to complete the fast-paced ECI project. Complex technical issues during design included: bank stability, high unbalanced loads on T-walls, downdrag-induced bending stresses in battered piles, application of lightweight aggregate to minimize settlement and improve stability, and pile jetting.
- Geo-forensic Studies – Mr. Arcement has been the lead geotechnical investigator and developed remedial designs for a variety of earth slope and foundation failures. Interesting projects have included a slope failure of a 40-ft tall earth dam constructed with highly expansive clay (CH) fill that threatened the integrity of a holding pond in Jackson, MS containing un-treated acidic wastewater; an old geologic slide re-activated by construction activities impacting a 7-acre area in Vicksburg, MS; and buildings subject to structural distress due to expansive clays and improperly compacted fill materials.

PROFESSIONAL MEMBERSHIP

- National Society of Professional Engineers / Mississippi Engineering Society (NSPE/MES)
- American Society of Civil Engineers (ASCE)
- Association of State Dam Safety Officials (ASDSO)
- Deep Foundation Institute (DFI)

LANNY B. BARFIELD, PE, PROFESSIONAL BIOGRAPHY

Mr. Barfield is currently Chief of the Analytical Section of Geotechnical Branch, Vicksburg District, US Army Corps of Engineers. He directly supervises a staff of 9 individuals, including professional and journeyman geotechnical engineers. The Analytical Section is responsible for all geotechnical analysis and design of projects for the Vicksburg District and also provides regional geotechnical assistance throughout the MS Valley Division. Mr. Barfield also serves as the Assistant Geotechnical Branch Chief.

EDUCATION

Mississippi State University; BS Civil Engineering, May 1984

REGISTRATION

Professional Engineer, Mississippi

EXPERIENCE

Mr. Barfield has 27+ years engineering experience, with the majority being in Geotechnical Engineering and Construction Management/Quality Assurance.

Geotechnical design experience consists of approximately 12 years (1989-2001) as a design engineer in Analytical Section of Geotechnical Branch responsible for all phases of soils analysis and design for various types of flood control projects for the Vicksburg District with primary area of responsibility being levee analysis and design. This included layout and analysis of geotechnical investigation plans, borrow area requirements and material suitability, slope stability, foundation settlement, seepage analysis, and engineering during construction. For approximately 3 years (since 2009), Mr. Barfield has been Chief of the Analytical Section.

Construction experience includes approximately 4 years (2002-2006) as a Project Engineer with Contracting Officer's Representative authority responsible for leading and directing 6-8 quality assurance representatives. Major duties were onsite contract administration and construction management on civil works projects including primarily MS River levees and berms, rock dikes and bank paving on MS River, concrete mat casting, and buildings at ERDC. He also worked in the Quality Assurance Brach of Construction Division for approximately 2 ½ years (2006-2009) coordinating field quality assurance visits and providing technical assistance to Area Offices on construction projects in the Vicksburg District. During this time, was selected as a member of a MS Valley Division led Oversight QA team performing construction inspection and reporting on levee embankment projects in the New Orleans area following Hurricane Katrina.

RICKEY P. BROUILLETTE PE, PROFESSIONAL BIOGRAPHY

Mr. Brouillette currently serves as a Supervisory Engineer in the Louisiana Coastal Protection Restoration Authority's Flood Protection Division. He manages engineers and technicians, including coordination with local flood protection authorities and levee districts, responsible for planning, maintaining & operating and managing the state's flood protection assets.

EDUCATION

University of Louisiana at Lafayette (form. U. of SW La), B.S., Civil Engineering, 1980

University of Louisiana at Lafayette, M.S., Civil Engineering, 1984

University of Texas Austin, Ph.D. Graduate Work (i.e. all but dis.), Geotech Engr

REGISTRATION

Professional Engineer in State of Louisiana. PE.0027996. (Registered since 1998)

EXPERIENCE

Mr. Brouillette has 30+ years of experience in civil engineering in the private and public sectors. His involvement included client manager, project management, geotechnical and geoenviromental engineering, geotechnical instrumentation, soil-structural analysis, tunnel engineering, flood protection and coastal engineering on multi-disciplinary projects including geotechnical engineering recommendations (private sector projects valued in billion dollars). His experience includes projects for coastal restoration and flood protection projects, LNG facilities, power plants, railroads, tunnel and trenchless projects, airports, wastewater treatment plants, transportation systems, landfills, waste site remediation.

RELEVANT EXPERIENCE

- Southwest Coastal La. Feasibility study management involving the CPRA & USACE and the South-Central Recon studies including integrated coastal restoration and coastal protection, local stakeholder coordination, regional hydrologic and storm surge modeling, inventory of economic assets, coastal and flood protection/geotechnical engineering and ecosystems alternatives and evaluations for sea level rise scenarios to set projects' priorities.
- CPRA flood protection technical lead on the following Greater New Orleans (GNO) USACE flood protection projects, Safe Water Elevation studies/reports and Permanent Pump Stations RFP specifications and Design-Build Proposals for the three outfall canals, Seabrook Sector Gate, Lake Pontchartrain & Vicinity 144-149 T-Walls and Sector gates, Industrial Canal Relief wells, GNO system armoring alternatives and evaluations (including risks and consequences).
- Manager of CPRA's Intelligent Levee Monitoring program being conducted for GNO area storm surge risk reduction system. The program involves residual risk evaluations for the GNO systems, including implementation of telecommunication and geotechnical instrumentation hardware and software for warnings/display/synthesis/decision making based on the data collected for prototype system test sites under normal & storm scenarios. Full system implementation strategies are being evaluated.
- Flood fighting assistance to levee districts, including coordination of equipment and supplies, flood fight on-the-ground reviews of scour and seepage areas, and soil-structural analyses of the Bayou Chene barge gate closure in St. Mary Parish.
- Management for the geotechnical investigations and foundation recommendations for combustion turbines at multiple U.S. sites. The work involved rotary wash, electric piezocone, inclinometers, cross-hole and down-hole seismic tests, seismic piezocone probings, resistivity testing, axial and lateral pile load tests, liquefaction evaluations and mitigation, and field dynamic pile load test. Other relevant projects include wick drain embankments on soft clays (large strain finite difference, vertical and radial flow consolidation tests), FHWA shallow foundation manual, QA/QC lab and field exploration program for the Super Collider project, finite element analyses, field instrumentation, slope stability and seepage analyses of abutments and slopes for dewatering near settlement sensitive turbines, designs for critical crane lifts, geotechnical evaluations for vibration induced distress, design of deep braced excavations in soft New Orleans clays, and testing/damage modeling for transverse anisotropic stiff clays.

PATRICK J. CONROY, PE, PROFESSIONAL BIOGRAPHY

Mr. Conroy currently serves as a Supervisory Civil Engineer in the Geotechnical Branch of the St. Louis District. There he manages a staff of professional engineers, technicians and students recommending technical methods and procedures to complete assignments that support the St. Louis District's local and regional missions. Mr. Conroy also serves as a Regional Technical Specialist in Geotechnical Engineering for the Mississippi Valley Division, providing technical advice and counsel to geotechnical engineers throughout the Division.

EDUCATION

- University of Missouri - Rolla; BS Civil Engineering, December 1979.
- Oklahoma State University - MS Civil Engineering;
  Special Program in Geotechnical Engineering, July 1987.

REGISTRATION

- Professional Engineer in State of Missouri. E-23323. (Registered since 1986)

EXPERIENCE

Mr. Conroy has 32+ years of experience in many facets of geotechnical engineering including the investigation, design, and construction of large civil works flood control and navigation projects. Completes slope stability analyses of earthen embankments proposed for earth dams and levees, cofferdams, and excavated slopes accounting for geotechnical conditions in the existing foundation and proposed borrow materials. Designs deep-foundations for floodwalls, dams, pumping stations, road way and railroad closure structures. Designs retaining wall systems computing lateral earth pressures accounting for types of backfill and construction techniques. Analyzes bearing capacity and settlement for soil founded and earthen structures. Designs relief wells, landside seepage berms, slurry trench and sheetpile cutoff walls, deep wells, and suction well-points using hand drawn flownets, empirical methods, closed-form and finite-element solution techniques considering aquifer confinement, permeability and boundary conditions. Designs exploration and soils testing programs using mud rotary, continuous flight augers, standard split-spoon and thin walled Shelby tubes, cone-penetrometer, vane-shear or Menard pressure-meters. Provides engineering-during-construction, and flood-fight advice and counsel to Corps quality assurance representatives, contractor's quality control managers, real estate specialists, property owners, local elected officials, and staffers of political office holders.

RELEVANT EXPERIENCE

- Under my supervision, my professional staff has recently completed Soils Reports for 46 miles of federal back-levees in Plaquemines Parish, LA; the Design Deficiency Report for the Prairie DuPont levee in Monroe County, ILL; the Design Deficiency Report for the Melvin Price Locks and Dam Serious Seepage Area in Madison County, ILL; EDC for the Phase I, II, and III construction contracts for the Chesterfield levee in St. Louis, MO; and global stability analyses of the LD-25 Lock; Soils Report for Devils Lake levee construction, St. Paul, MINN;
- Lead Geotechnical Engineer for design/construction of Miss River Levees (post 1993 flood)
- Lead Project Engineer for design/construction of new Valley Park Flood Protection System
- Lead Geotechnical Engineer for design of new Chesterfield Flood Protection System.
- Investigated and wrote initial damage reports for Plaquemines Parish levees post Katrina.
- Served as HPO Lead Engineer for the London Avenue Outfall Canal Load Test;
- Served as HPO Lead Engineer for Pumping Tests in the Pine Island Beach Sand Aquifer.
- Serves as Alternate Member to Corps HQ's Levee Senior Oversight Group;

Hon. Michael Louis Merritt, MS, MBA, CPG #5874

(504) 340-0318 geocommish1@live.com

EXECUTIVE SUMMARY

- Founding Commissioner (2007) of post-Katrina New Orleans flood protection authority
- Founder, President & Principal Geologist, (2004) GEM Consulting LTD
- Entrepreneur, technical: editor, author and project manager
- Certified Petroleum Geologist (C.P.G.) # 5874, American Association of Petroleum Geologists
- Member of New Orleans Geological Society and Baton Rouge Geological Society
- Expert earth scientist skilled at interpreting geology and geophysics data in a drilling and sampling context
- Experience in chemistry, physics, sedimentary petrology and oil well drill site laboratory processes
- Environmental "cold case" investigator evaluating physical characteristics, plume movement and legal or forensic remediation issues or using research or sampling and testing to resolve issues.

RECENT PROFESSIONAL EXPERIENCE

GEM Consulting LTD, Baton Rouge, LA 2004 to Present

Louisiana corporation specializing in geology, environmental energy management service

President and Principal Geologist

Recent GEM Consulting LTD Projects.

- Spill Prevention Control and Countermeasure Plan in an environmentally sensitive area in Port of New Orleans
- Upgraded computer mapping laboratory with (Halliburton) "OPEN WORKS SOFTWARE PROJECT"
- Utilized stereographic analysis of remote sensing imagery in geological research
- *Pro bono* work on geologic issues pertaining to flood prevention and coastal restoration
- Collected and examined samples for clients engaged in exploration projects

Southeastern Louisiana Flood Protection Authority (SLFPA-W) 2007 to Present

Established to reform public administration of flood protection efforts in Coastal Louisiana. New projects are three navigable floodgates and the largest drainage pumping station in the world.

Founding Commissioner

Recent Southeast Louisiana Flood Protection Authority-West Bank Board of Commissioners (SLFPA-W) Projects.

- Responsibility for employing a $7,000,000.00 budget and 38 employees to manage non-federal interests during construction, then operate and maintain "100 year" Hurricane Protection Projects and 105 miles of levees and flood walls.

Halliburton Energy Services, North Africa 2004

Served as a principal geological consultant for a North African Oil Field Production Optimization Team.

Principal Geologist (Computer Mapping)

- Project valued at $5 billion and expected to continue for fourteen years. Established a new control room for the 50 square mile field and equipped it with the latest technical equipment and energy development software available and used the new facility to consult with and mentor the client's staff.

Oklahoma Corporation Commission, Oklahoma State Capitol 1994- 2004

Oil and Gas Division, Technical Department

Oil and Gas Specialist

- First full time environmental investigator for petroleum pollution cases for the State Fuel Storage Manager.
- Regulated the Oil and Gas Industry by researching a proposed well's environmental impact on hydrologically sensitive areas and requiring precautions before approving the drilling permit.

EDUCATION

University of Oklahoma (Norman)	M. S. Geology (1977) & M.B.A. (1987)
Southwestern Oklahoma State University (Weatherford)	B. S. Physics (1974)
Northern Oklahoma College (Tonkawa)	A.S. Business and Pre-Engineering (1972)

William T. Shows

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Vicksburg, MS 39183
(601) 631-5117

Current Position

Chief, Construction Services Branch
Deputy Chief, Construction
Engineering and Construction Division
U. S. Army Corps of Engineers, Vicksburg District

William T. (Tim) Shows is a native of Lexington, MS, and a 1988 graduate of Mississippi State University (MSU) with a B.S. degree in Civil Engineering. His career with the U.S. Army Corps of Engineers began in 1986 when he joined in MSU's Cooperative Education Program. While still attending college, from 1986-1987 he performed work assignments in the Mobile District at the Cape Canaveral Area Office, Florida, and the Fort Rucker Resident Office, Alabama. Upon graduation in 1988, he continued to work at the Fort Rucker Area/Resident Office.

During the next 14 years at Fort Rucker, Mr. Shows served in various positions including Project Engineer, Office Engineer, Chief of Contract Administration, and Resident Engineer with authority as a Contracting Officer Representative and Administrative Contracting Officer. Work experiences included Military Program and Installation O&M construction projects as well as Civil Works construction in the local area. Projects covered a wide scope of work, but primarily included vertical/building construction projects as well as heavy site work construction including roads, airfields and dam construction.

In 2002, Mr. Shows returned with his family to Mississippi to serve as Team Leader for the Budget and Support Team in Vicksburg District's Construction Division, and was soon selected as Chief of the Office Engineering Section. In 2007, he was selected for his current position as Chief of Construction Services Branch and Deputy Chief of Construction for Vicksburg District. He serves as a Contracting Officer Representative on all construction contracts in Vicksburg District. Work experiences in Vicksburg District have been predominantly heavy civil works construction, including numerous levee enlargements, channel improvements, dikes, revetments, drainage structures, pumping plants, repairs/renovations at numerous flood control facilities and reservoirs, construction of visitor centers and new office buildings.

Mr. Shows is certified Level II in Contracting in accordance with the Defense Acquisition Workforce Improvement Act requirements. Throughout his career, he has participated in many different type contracts and acquisitions, including both design/bid/build and design build, negotiated 8A, IDIQ, MATOC, IFB's, RFP's, Best Value Selections, Blanket Purchase Agreements, Simplified Acquisitions, and service contracts.

He is a registered Professional Engineer in Alabama and Mississippi and an active member of the Society of American Military Engineers.

PROFESSIONAL BIOGRAPHY

JASKARAN SINGH, P.E.

Mr. Singh currently serves as a Geotechnical Engineer under HNTB's contract services to OCPR for West Bank & Vicinity. Mr. Singh represents OCPR's interest in overseeing various flood protection related projects that are under construction in West Bank & Vicinity.

EDUCATION

• Regional Engineering College – Jalandhar, INDIA; BS Civil Engineering, December 2000.
• University of Wisconsin - Milwaukee - MS Civil Engineering, December 2004

REGISTRATION

• Professional Engineer in State of Louisiana. PE.0035148. (Registered since 2009)

EXPERIENCE

Mr. Singh has over seven (7) years of geotechnical design and construction experience with a wide variety of infrastructure projects related to Transportation, Flood control and Public, Private and Commercial buildings. His experience includes design of Levees, Floodwalls, Gate/Control/Drainage Structures, Pump Stations, Cofferdams; Deep and Shallow Foundation design; Retaining Wall design; Pavement Analysis and Design; Deep Soil Mixing Design; Slope Stability Analysis; Excavation Support; Settlement Analysis; Seepage Analysis; Geotextile Reinforcement Design; Wick Drains Layout and Design; Staged Construction and Slurry Cutoff Wall Design. Mr. Singh has managed extensive subsurface investigation and laboratory testing programs and developed final reports, plans and specifications. His experience also includes Soil and Concrete Testing, Contractor Submittal and RFI Reviews, Construction Inspections, Levee and Flood Control Structure inspections and Property Condition Assessments (PCA).

RELEVANT EXPERIENCE

- Served as a Geotechnical Engineer on the design team for City of Dallas, Dallas Floodway System – 100-Year Levee Remediation
- Served as a Geotechnical Engineer on Periodic Inspection team for 38.6 miles of Mississippi River Levee (MRL) System for St. Bernard and Caernarvon to Phoenix, LA.
- Served as a Geotechnical Engineer on Periodic Inspection team for 66.1 miles of MRL System for St. Jude to Venice – West Bank, Plaquemines, LA.
- Served as a Pavement Engineer in an Inspection Team (HNTB, FEMA & LADOTD) for New Orleans Non-Federal Aid Road Assessment Project for assessing road damage caused by Hurricane Katrina-related inundation and demolition, and debris removal activities.
- Provided Geotechnical design services and developed final plans and specifications, for Hero to Oakville (West Bank & Vicinity, LA), NOV-01 and NOV-02 (Plaquemines Parish, LA), LPV-144 through LPV-149 (St. Bernard Parish, LA).
- Provided Geotechnical design services for temporary floodwall reinforcement at Old Bayou Segnette Pumping Station and Company Canal; Old Estelle and New Estelle pump stations in Jefferson Parish and at Pump Station 13 in Orleans Parish, LA.
- While working as a Research Assistant with Prof. Hani Titi at University of Wisconsin – Milwaukee, Mr. Singh helped WisDOT prepare guidelines for "Surface Preparation/Rehabilitation of Existing Concrete and Asphaltic Pavements Prior to an Asphaltic Concrete Overlay" which finally became a topic for his Master's Thesis.

DAVID ST. MARIE, P.E., MBA

Mr. St. Marie is a Civil Engineer with over 11 years of relevant experience who has been contracted to support the State of Louisiana's Office of Coastal Protection and Restoration with Project Management and Construction Oversight for the West Bank and Vicinity Hurricane and Storm Damage Risk Reduction System. Mr. St Marie has provided civil and geotechnical design and consulting services, as well as construction administration and management for a variety of clientele in the transportation, facilities, government and private sectors. Over the past 11 years Mr. St Marie has managed numerous projects with responsibilities including preparation of proposals, cost estimating, fee negotiations, scope development, project work plans, project schedules, conceptual development, design, preparation of construction plans, construction oversight and inspection, supervision of drafting and technical personnel, client relations and invoicing. For the past 5 years Mr. St Marie has worked primarily as a consultant to the US Army Corps of Engineers and has prepared construction drawings and specifications for a variety of projects related to the Hurricane Katrina Recovery in Southeast Louisiana – the projects included Programmatic Cost Estimates, Feasibility Studies, VE Studies, Engineering Alternative Reports, Levee Design, Floodwall Design, Roadway Design, Pump Station Design, Engineering During Construction, Construction Management and USACE Staff Design Support Embedment. Mr. St Marie has also coordinated with clientele and state and federal agencies in preparing applications for obtaining federal project funding; and utilized sound management principles gained through job experience and from completion of MBA coursework. These principles are key for providing project leadership, facilitating achievement of project and company goals, for establishing and maintaining project budgets, and for establishing and measuring performance goals. Mr. St. Marie is currently working with engineers from six countries (France, Germany, Ireland, Netherlands, United Kingdom, and the United States of America) to create the first International Levee Handbook that is intended to be a snapshot of current best practices worldwide which can be used as a decision support document by both the levee owner and/or the levee designer.

DAVID ST. MARIE, P.E., MBA

Education

M.B.A., University of New Orleans, 2005

B.S., Civil Engineering, Louisiana Tech University, 2000

Professional Registrations

P.E.: Louisiana

Professional Affiliations

American Concrete Institute

Society of American Military Engineers

American Society of Civil Engineers

Years of Experience

11

A.E. (Eddie) Templeton, P.E., Professional Biography

Mr. Templeton currently serves as Vice President and manager of engineering services for Burns Cooley Dennis, Inc. Mr. Templeton has over 30 years experience in the geotechnical engineering profession. He is experienced in a wide variety of engineering projects including bridges, roadways, retaining walls, earth slide remediation, navigation structures, flood control structures, earth dams, single and multi-story buildings, wastewater treatment facilities, industrial facilities, towers, tanks and landfills. He has been responsible for all phases of geotechnical investigations and analyses.

EDUCATION

Mississippi State University, M.S., 1984 - Geotechnical Engineering

Mississippi State University, B.S., 1978 - Civil Engineering

REGISTRATIONS

Professional Engineer: Mississippi, Arkansas, Alabama, Texas, Louisiana

RECENT RELEVANT EXPERIENCE

- West Return Floodwall, Phase 2, Jefferson Parish, Louisiana
- Airport East-West Runway Levee, Phase 2, Jefferson Parish, Louisiana
- WBV-90-404C Drainage Structure and Floodwall, Jefferson Parish
- NOV-08 Hurricane Protection Levee, New Orleans to Venice, Plaquemines Parish, Louisiana
- NOV-11 Hurricane Protection Levee, New Orleans to Venice, Plaquemines Parish, Louisiana
- NOV-12 Hurricane Protection Levee, New Orleans to Venice, Plaquemines Parish, Louisiana
- NOV-16 Hurricane Protection Levee, New Orleans to Venice, Plaquemines Parish, Louisiana
- Levee Periodic Inspection, Mississippi River East Bank Levee, New Orleans to Baton Rouge
- Carrollton Levee Enlargement and Floodwall, Orleans Parish, Louisiana
- West Bank Mississippi River in Louisiana, Willow Point to Youngs Point Levee Enlargement and Seepage Berms Items 461-R and 457-R, Madison Parish, Louisiana,
- Item 463-L, Magna Vista to Brunswick, Levee Enlargement and Berms, Warren and Issaquena Counties, Mississippi
- Levee Periodic Inspection, Arkansas River Levee, South Bank, Station 0+00 to 4519+76
- Restoration of Levees and Floodwalls along IHNC and GIWW, Reaches I, II and III, Orleans Parish, Louisiana
- Remediation to Raise the Safe Water Elevation of London Avenue Canal (Station 74+50 to 84+50)

Michael Paul Wielputz, PE
USACE, Savannah District, Environmental & Materials Unit
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WORK EXPERIENCE:

Mike manages the USACE, Savannah District, Environmental & Materials Unit located in Marietta, Georgia. He also serves as the South Atlantic Division Regional Technical Specialist (RTS) and global Subject Matter Expert (SME) for materials engineering within USACE. He has more than 25 years of experience in materials engineering. Mike's engineering background includes more than 12 years of experience working within the USACE South Atlantic Division Materials & Environmental Laboratory. During this time, he gained valuable knowledge and skills for the various uses of aggregates, asphalt, concrete, masonry, mortars, soil, and other miscellaneous materials required in engineering applications and utilized in building construction. Mike's work involves engineering technical support for projects such as Levees, Dams, Runways, Roads, and Building Design & Construction and has taken him to distant locations across the US and to the Republic of Palau, Ecuador, Bolivia, Peru, Brazil, El Salvador, Bahamas, Virgin Islands, Korea, and Puerto Rico.

Mike's knowledge serves both Engineering and Construction divisions within many USACE districts and project offices, by providing design specification guidance and construction guidance during project execution. This knowledge involves maintaining a current understanding of industry standards when utilizing various aggregates, asphalt, concrete, masonry, miscellaneous materials, and soils.

Due to demand from Corps offices within the South Atlantic Division and across the country, Mike utilized his technical expertise to develop and conduct aggregate testing, asphalt testing, concrete testing, masonry and mortars, soil density control, and soil classification training workshops. These efforts have produced 30 formal workshops with more than 614 participants since 2001. The workshops, along with many other informal mentoring sessions concerning materials and testing, has utilized his knowledge in order to enhance the Corps engineering talent. Mike's knowledge serves both Engineering and Construction divisions within many USACE districts and project offices, by providing design specification guidance and construction guidance during project execution.

Mike has directed and conducted many geotechnical investigations for evaluating pavements, structures, and subsurface conditions on various USACE civil works and military projects. Mike's knowledge further stems from many years of experience and application of lessons learned as a result of hundreds of inspections of commercial materials testing laboratories. Mike's support of construction QA activities included SPK Sacramento Levees Deep Soil Mixing and Slurry Cutoff Wall projects for the Pocket Geotech in Sacramento. It further included headquarters support of upper level Quality Assurance Team reviews for both geotechnical design work as well as construction efforts performed for the New Orleans Levees since 2007. Mike further performs as a USACE leader for geotechnical and construction practices on the International Levee Handbook development team involving the United States and other countries such as France, United Kingdom, Germany, and the Netherlands.

EDUCATION:
1989 Bachelor's Degree Civil Engineering (BCE), Georgia Institute of Technology, Atlanta, GA.
1983 Forsyth County High School honors graduate, Cumming, Georgia.

LICENSES/CERTIFICATES:
Professional Engineer License, State of Georgia #22190, renewable 12/31/2012
ACI Concrete Field Testing Technician certification, expires 10/17/13
ACI Concrete Laboratory Testing Technician Certification, expires 11/07/14
ACI Aggregate Testing Technician Certification - Level 1, expires 11/07/14
ACI Concrete Strength Testing Technician Certification, expires 11/07/14
Structural Masonry Specialist, 6/97