US Army Corps of Engineers®

ENGINEERING AND CONSTRUCTION BULLETIN

No. 2010-20 **Issuing Office:** CECW-CE **Issued:** 7 Sep 2010 **Expires:** 7 Sep 2012

Subject: Learning Opportunities in New Orleans and Southeast Louisiana

Applicability: Information

1. The purpose of this Engineering and Construction Bulletin (ECB) is to provide information and ascertain the level of interest on using the massive design and construction program ongoing in and around New Orleans as a potential learning opportunity for those employees not directly involved in the various projects.

2. Congress has fully authorized and funded the Hurricane and Storm Damage Risk Reduction System (HSDRRS) for southeast Louisiana. The HSDRRS includes five parishes and consists of 350 miles of levees and floodwalls; 78 non-Federal pumping stations; three canal closure structures with pumps; and four gated outlets. Contracts will total $14.6 billion by the time the work is complete.

3. HQUSACE along with New Orleans District (MVN) and the Hurricane Protection Office (HPO) are planning on hosting some limited onsite classroom training coupled with field visits to promote knowledge sharing on the unique and innovative engineering and construction methods being used on this huge program. Assuming sufficient demand exists, we envision a half to full day devoted to classroom presentations by those working the project. The classroom sessions will address design and construction methods and challenges and provide context to the field visits. Classroom sessions will be followed by a day or two of visits to one or more project sites to observe the ongoing construction efforts. The intent is to allow people to learn about and observe the technical details of these projects so that they will be better equipped to perform their jobs. Because of the unique character of much of this work, this learning experience may be beneficial to both experienced, mid and junior –level individuals. We believe this learning opportunity will:

- Provide contextual information of ongoing projects
- Grow skills in preparation for undertaking similar design and/or construction work
- Link current design and construction principles to current construction practices
- Engage participants in active learning

4. Appendix A identifies five possible project related classes along with the topics of interest for each project/class. Generally the topics to be addressed will be of interest to civil, structural,

hydraulic, geotechnical and mechanical engineers along with geologists and construction managers. Of course many other technical disciplines will find material of interest too.

5. Both MVN and HPO will provide the lecturers and local transportation to and from the project sites. There will be no tuition for this training. Attendees and their respective offices are responsible for all travel and per diem expenses to the New Orleans area plus their salary. Basically for the cost of travel and per diem this presents a wonderful opportunity for individuals to spend 2-3 days onsite learning about and witnessing some of the largest and most innovative civil works projects in USACE history.

6. To help with the scheduling of classroom sessions (and the related onsite visit), request that interested individuals first receive approval from their supervisors that they will be allowed to attend one or more sessions. Then email John Lanzarone at john.r.lanzarone@usace.army.mil by 24 September 2010 using the subject line "New Orleans Classroom Interest". In the message body please provide the following details:

- Your name (last, first)
- Acknowledge you have your supervisor's tentative approval to attend
- Which of the five initial projects/classes you'd like to attend (or multiple ones)
- Your occupational series (i.e. 801, 810, 1350, etc.)

7. The information in your email along with the number of individuals expressing interest will help us to schedule classes. Once class schedules are established individuals that expressed an interest will be emailed with the proposed class date and duration (2 or 3 days). You will be emailed no less than three (3) weeks before a session. You will have no less than one (1) week to confirm you'll be attending. Depending on demand and the availability of the MVN and HPO staff we may schedule multiple sessions at each project. But since construction is ongoing it's probable that different sessions at the same project will witness different features of the work. We will do our best to avoid scheduling sessions before year-end but the type of construction ongoing will be a major factor in the scheduling of classes.

8. The HQUSACE point of contact (POC) for this ECB is John Lanzarone, CECW-CE-RPOD, 202-761-0944. The POC that can address the technical features of the various projects is Angela DeSoto Duncan of the Hurricane Protection Office, 504-862-2733.

Encl

JAMES C. DALTON, P.E., SES
Chief, Engineering and Construction
Directorate of Civil Works

PROJECT #1

Project Name and Location: New Orleans Hurricane and Storm Damage Risk Reduction System – Lake Borgne Basin Area, located approximately 35 miles east of the New Orleans District Headquarters Building.

Project Description: Congress has fully authorized and funded the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) for southeast Louisiana which will provide 100-year level risk reduction for Southeast Louisiana by June 2011. The HSDRRS includes five parishes and consists of 350 miles of levees and floodwalls; 78 non-Federal pumping stations; 3 canal closure structures with pumps; and 4 gated outlets. The Lake Borgne Basin area encompasses St. Bernard Parish and a portion of New Orleans East. It consists of approximately 24-miles of pile-supported concrete T-walls, two 56' wide sector gates (Bayou Dupre and Caenarveron), approximately 10 miles of levee enlargement including the largest deep soil mixing project in the world (LPV 111) and a large wick drain installation project (LPV 109). It also includes the $1.1B Lake Borgne Barrier, also known as the IHNC Barrier, the largest civil works design-build project in the history of the Corps of Engineers. That project consists of 1.8 miles of barrier floodwall, a 150-foot sector gate and a 150-foot barge gate on the Gulf Intracoastal Waterway (GIWW), and a 56-foot vertical lift gate on Bayou Bienvenue.

Topic(s) of Interest:

- Innovative design and construction of the Lake Borgne Barrier barrier wall, part of the largest civil works design-build contract in USACE history.
- The latest techniques in deep soil mixing used on the largest deep soil mixing project in the world
- Large wick drain installation project (9M LF of wick drains)
- Geotechnical design challenges of soft soils and virgin marsh
- Use of state of the art computer modeling techniques (H&H and Geotech perspectives)
- Design and construction techniques for large sector gates, lift gates, and barge gate at various locations (GIWW, Bayou Bienvenue, Bayou Dupre, and Caenarveron)
- Construction challenges of a large marine access-only construction site (Lake Borgne Barrier)
- Navigation challenges working along the Gulf Intracoastal Waterway (GIWW), the primary east-west navigation corridor in the southern US.
- Construction coordination challenges of multiple contractors simultaneously working in very close proximity to each other
- Challenges in executing an approximately $8B civil works program with an aggressive schedule (PM perspective)
- Early Contractor Involvement (ECI) process for Civil Works (Procurement and Execution)
- Design-Build Process for Civil Works

Points of Contact:

Class registration/scheduling/availability POC: John Lanzarone, Headquarters (Phone 202-761-0944)
Technical POC: Angela DeSoto Duncan, Hurricane Protection Office, Technical Support (Phone 504-862-2733)

Potential Class Time Period: Between September 2010 through December 2010.

PROJECT #2

Project Name and Location: New Orleans Hurricane and Storm Damage Risk Reduction System – New Orleans Area, located approximately 35 miles east of the New Orleans District Headquarters Building.

Project Description: Congress has fully authorized and funded the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) for southeast Louisiana which will provide 100-year level risk reduction for Southeast Louisiana by June 2011. The HSDRRS includes five parishes and consists of 350 miles of levees and floodwalls; 78 non-Federal pumping stations; 3 canal closure structures with pumps; and 4 gated outlets. The New Orleans Lakefront area is bisected by the Inner Harbor Navigation Canal (IHNC) and encompasses the New Orleans metro area and a portion of New Orleans East. It consists of approximately 25-miles of pile-supported concrete T-walls, levees, and I-walls, one 90' wide sector gate and two 50-foot wide lift gates at Seabrook. It also includes completed interim pump stations on three outfall canals and their permanent replacements. The permanent pump stations will be constructed using design-build contracting mechanism.

Topic(s) of Interest:

- Geotechnical design challenges of soft soils and virgin marsh
- Use of state of the art computer modeling techniques (H&H perspective and Geotech perspective)
- Design and construction techniques for large sector gates and lift gates at Seabrook.
- Construction challenges of working immediately adjacent to a regional airport.
- Navigation challenges working at confluence of the Inner Harbor Navigation Canal and Lake Pontchartrain
- Construction coordination challenges of multiple contractors simultaneously working in very close proximity to each other
- Challenges in executing an approximately $8B civil works program with an aggressive schedule (PM perspective)
- Early Contractor Involvement (ECI) process for Civil Works (Procurement and Execution)
- Design-Build Process for Civil Works

Points of Contact:

Class registration/scheduling/availability POC: John Lanzarone, Headquarters (Phone 202-761-0944)

Technical POC: Angela DeSoto Duncan, Hurricane Protection Office, Technical Support (Phone 504-862-2733)

Potential Class Time Period: Between September 2010 through December 2010.

PROJECT #3

Project Name and Location: West Bank and Vicinity, WBV-72. Project is located south of Highway 90.

Project Description: Reach 72 includes the construction of a new levee lift on a sand cell foundation.

Topic(s) of Interest:
- The construction of a new levee lift on geotextile.
- The tie of an earthen section to adjacent floodwalls.
- The construction of a levee on wetlands and the use of the sand cells.
- The logistical safety of a large construction job heavy with dump trucks along a high speed highway.

Point of Contact: Class registration/scheduling/availability POC: John Lanzarone, Headquarters (Phone 202-761-0944)
Technical POC: Angela DeSoto Duncan, Hurricane Protection Office, Technical Support (Phone 504-862-2733) or Lee Guillory, Construction Project Engineer

Time Period: Now through June 2011.

PROJECT #4

Project Name and Location: West Bank and Vicinity, WBV-03a. Project is located along Algiers Canal.

Project Description: Reach 3a includes the Hero Canal Pump Station. Project involves the construction of floodwalls, pump station modifications, and fronting protection.

Topic(s) of Interest:
- The complication of retrofitting a floodwall into a small pump station discharge basin
- The logistical problems of construction of a large t-wall in a very industrial area.
- Traffic control and safety precautions of staging supplies and equipment along a bust road in an industrial area.
- Maintaining operation of a pump station to provide flood protection for community while pulling discharge pipes and replacing pipe stands and pipes.
- TRS design and construction in a congested area.

Point of Contact: Class registration/scheduling/availability POC: John Lanzarone, Headquarters (Phone 202-761-0944)
Technical POC: Angela DeSoto Duncan, Hurricane Protection Office, Technical Support (Phone 504-862-2733) or Lee Guillory, Construction Project Engineer

Time Period: Now through February 2011.

PROJECT #5

Project Name and Location: West Bank and Vicinity, WBV-09c. Project is located on Highway 23.

Project Description: Reach 9c is a gated closure on both a high speed highway and a railroad.

Topic(s) of Interest:
- The coordination of detour roads and sequencing of earthen fill for a ramp on an existing highway.
- Construction of concrete floodwalls adjacent to the highway and railroad.
- Coordination with a railroad.
- Fabrication and installation of flood gates.

Point of Contact: Class registration/scheduling/availability POC: John Lanzarone, Headquarters (Phone 202-761-0944)
Technical POC: Angela DeSoto Duncan, Hurricane Protection Office, Technical Support (Phone 504-862-2733) or Austin Smith, Construction Project Engineer

Time Period: Now through June 2011.