

**MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
COASTAL ADVISORY COMMITTEE MEETING
HELD ON APRIL 20, 2017**

PRESENT: G. Paul Kemp, Chair
Andrew Englande, Committee Member
Rusty Gaude, Committee Member
Clay Cosse'
John Lopez

The Coastal Advisory Committee (CAC) of the Southeast Louisiana Flood Protection Authority-East (SLFPA-E or Authority) met on April 20, 2017, in the Second Floor Council Chambers, Joseph Yenni Building, 1221 Elmwood Park Blvd., Harahan, Louisiana. Mr. Kemp called the meeting to order at 2:10 p.m.

Opening Comments: Mr. Kemp stated that about six months to a year ago the CAC began discussions about potential ways to increase risk reduction from the 100-year level to possibly the 500-year level. The CAC is starting to consider some of the potential options. An Authority consultant, Robert Jacobsen, was tasked to examine the weakest links in the Hurricane and Storm Damage Risk Reduction System (HSDRRS). The weakest link is the Inner Harbor Navigation Canal (IHNC) Complex, which contains risks that were not quantified. Therefore, there is a need to scrutinize the risks and potential ways to mitigate the risks in an emergency situation. He stressed the need to move forward with the next phase of the work relative to the risk mitigation.

Mr. Kemp advised that Dr. John Lopez with the Lake Pontchartrain Basin Foundation (LPBF) will provide a presentation on a proposed LPBF project located on property leased from the Orleans Levee District (O.L.D.). The LPBF's permits are in place; however, the CAC may be able to assist with answering some engineering questions.

Adoption of Agenda: The agenda was adopted by the Committee as presented.

Public Comments: None.

New Business:

**A. Pontchartrain Beach Nourishment Project–
John Lopez, Lake Pontchartrain Basin Foundation**

Dr. Lopez reviewed a map of Pontchartrain Beach and pointed out the historic seawall and HSDRRS levee. The levee is located on the floodside of the seawall on at least one-half of the beach area. The parcel leased by the LPBA from the O.L.D. includes the end terminal groins and the pier. The service road in front of the levee is located within the leased area. The O.L.D. requested that no modifications be made within 20-

feet of the road. The leased area includes elevations that are below 5-ft. with potential wetland concerns and areas above 5-ft. He pointed out that there could be potential 408 Permit concerns for anything within 350-ft. of the centerline of the levee. The LPBF has gone through the permitting process and anticipates that it will be fully authorized and permitted for 404 and 408 Permit requirements. The LPBF previously developed bathymetry and elevation maps and anticipates developing another map this year in order to have good elevation control. The LPBF also did a qualitative analysis on sand transport and a vegetation analysis. He pointed out that the vegetation seems to be stabilizing at about the same position indicating that overall the beach is fairly stable. Pre-Katrina and post-Isaac data showed that the reaches on the west side of the beach were fairly stable and that there was some loss of sand on the east side.

Dr. Lopez reviewed the history of the development of Pontchartrain Beach. The historic seawall was constructed as a WPA project and the beach was developed in front of the seawall. Initially there were two groins. The beach was redesigned in the 1940's. The original two groins were extended and new terminal groins were added on the east and west sides. Two additional cells were added on either side of the initial cell located between the original groins. In 1947 a sheetpile structure was added in the middle of the original beach resulting in four cells. The 1947 sheetpile structure (groin) is now in poor condition. Sheetpile retaining walls were added midway along the groins in order to rebuild the beach. The retaining walls and clay fill behind the walls were buried with sand; however, the sheetpile is now being exposed. The levee was initially constructed in the 1960's after Hurricane Betsy and crosses the seawall. Part of the seawall is buried under the UNO Research and Development Park parking lot. Rock foreshore armoring or seawall is located in front of most of the HSDRRS levee system facing Lake Pontchartrain; however, the Pontchartrain Beach area is an exception. Although the beach is fairly stable, it has not had beach nourishment in 60 or 70 years and the overall reservoir of sand has declined.

Dr. Lopez reviewed and discussed the three elements of the approved permitted plan:

- Replacement of sand
- Removal of the sheetpile groin
- Construction of a rock breakwater

Dr. Lopez explained that the LPBF obtained an estimate of \$25,000 to cut the sheetpile groin. He asked for recommendations on the most effective method of removing the sheetpile groin. The construction of a parallel offshore rock breakwater would functionally replace the sheetpile wall. Land right approvals were received from the State to remove the sheetpile and construct the breakwater. The breakwater would be constructed beyond 350-ft. of the levee centerline reducing potential 408 Permit issues. The construction of the breakwater is estimated at \$600,000 and the design includes five feet of overbuild to compensate for settlement. The LPBF obtained a permit to stage sand at the Pontchartrain Beach site. The LPBF purchased sand originally intended for fracking that was located on the Industrial Canal. Ideally, the LPBF would like the sheetpile groin removed and breakwater in place before moving the sand to the beach area. Most of the currently available sand would be placed in the center part of

the beach (the main recreational beach area), which could potentially extend the aerial extent of the beach 30 to 40-ft. lakeward. The sand would be placed to cover the exposed retaining wall.

Dr. Lopez advised that the LPBF has the capacity and knowledge necessary for the placement of the sand; however, he requested advice on the removal of the sheetpile wall and design, construction and funding for the breakwater. Mr. Kemp commented that the Authority has not provided any funding for the project; however, it could perhaps contribute some engineering to help with the decision on the methodology for removing the sheetpile wall and on the design of the breakwater. He advised that he would work with Dr. Lopez over the next 30 days regarding the Authority's participation.

B. Preview of SLFPA-E Complex Structure Risks;

C. Possible need for Temporary Emergency Deviations to vary from IHNC Basin Master Water Control Manual & associated operations plans/instructions, and

D. Discussion of Contingency Preparations for TEDs.

Mr. Kemp explained that the IHNC and westernmost reach of the MRGO/GIWW is an interior water storage feature for the HSDRRS and must function in order to achieve the 100-year level of protection. Bob Jacobsen reviewed the HSDRRS to ascertain the areas with the highest risks. The I-walls located along the IHNC, most of which were constructed pre-Katrina, have an unknown risk of failure should water levels rise above a safe level in the reservoir. The reservoir is closed on the either end by the Seabrook Complex and the IHNC Surge Barrier and Bayou Bienvenue Sector Gate. The IHNC Sector Gate and Barge Gate are two of the most complicated closure structures in the system; therefore, there is a concern about increased water levels should there be an inability to completely close either structure and about the impact on the legacy I-walls. He stressed that he was addressing emergency backup efforts to keep water from overtopping the IHNC floodwalls and not a standard operational plan.

Mr. Turner further explained that the Authority was concerned about the risks associated with a potential vessel allision with the I-walls. The U.S. Army Corps of Engineers (USACE) determined that all vessels should be vacated from the IHNC to eliminate the problem. However, practically speaking, it is very difficult to vacate every vessel and potential floating object. Several options were considered to alleviate the risks. One potential option is to construct a pump station to maintain low water levels; however, a pump station would be very costly to construct, operate and maintain. Another potential option is to allow some of the water in the IHNC-GIWW corridor to drain into the Central Wetlands in order to maintain a low enough water level to preclude vessels from impacting the wall. Other potential scenarios were considered in which high water associated with a 500-year to 1,000-year storm event cannot be contained within the walls of the IHNC resulting in overtopping. The report produced by Bob Jacobsen identified the IHNC area as a potential risk. A series of meetings were held with the USACE to consider using the Bayou Bienvenue Structure during a storm event to allow the flow of water into the Central Wetlands. The USACE determined that a 408 Permit would be required, which would be a lengthy and costly process, and the

probable result is that the USACE would not grant the permit. However, the USACE indicated that an emergency waiver could potentially be allowed during a storm event. Therefore, the Authority must develop sufficient criteria to allow an emergency waiver and enable the Bayou Bienvenue Structure to be used to permit the flow of water into the Central Wetlands. The Authority must also investigate the potential consequences and determine whether the consequences outweigh the benefits. Mr. Jacobsen also recommended in his report that the USACE's analysis of the I-walls be reviewed to investigate the factors of safety to determine whether the same conclusion is reached relative to the treatment of water levels in the IHNC. He suggested that a task order be initiated to facilitate discussions and meetings with the Coastal Protection and Restoration Authority (CPRA) and USACE relative to the development of criteria that would allow the flow of water into the Central Wetlands along with the potential consequences and associated costs. The work could be stopped at any point should a determination be reached that the potential procedure is not feasible. The Board must determine whether it would approve the modification of the Bayou Bienvenue Structure so that it could be used for this procedure and controlled from a safe location during a storm event.

Mr. Kemp commented on the potential inundation of the low lying parts of Paris Road and the potential need to beef up the interior drainage levee. He pointed out that the surface area of the Central Wetlands is ten times larger than the IHNC system. The efforts could also be used as an impetus to improve the Central Wetlands habitat.

Mr. Jacobsen explained that the HSDRRS was designed in accordance with FEMA 100-year storm criteria in order to reduce flood insurance costs. The study identified potential opportunities to reduce the residual risks within the HSDRRS. The executive summary for the report was provided to the CAC at a prior meeting. Two priorities identified for potential residual risk reduction are the East Jefferson/St. Charles Parish legacy system and the IHNC. The USACE makes the assumption in the certification of the HSDRRS for FEMA NFIP purposes that vessels, barges or other floating objects are not going to impact the IHNC I-walls and that approximately 6 to 6-1/2' of water, including rainfall and pumping, could potentially be added to the IHNC basin. The study considered other factors; e.g., an extreme 500-year condition pushing the water to the level that was experienced during Hurricane Gustav, and the possibility that the stress to the walls during Gustav could have potentially weakened the walls. Several areas of consideration were presented in the report relative to the IHNC: 1) a better understanding of the factor of safety for each reach of the I-walls; 2) diverting water from the IHNC Basin into the Central Wetlands should the water level significantly increase due to factors such as the overtopping of the IHNC Surge Barrier; and 3) the potential odds of a failure at the HSDRRS complex structures. It does not seem feasible to attempt to modify the standard operating plan; however, a clear methodology for implementing a temporary deviation from the plan could be feasible. Clear criteria, including identification of consequences, must be developed in order to allow a temporary deviation during an emergency. The development of a real time model and implementation of required upgrades to features would be needed prior to the execution of a temporary deviation during an emergency. The CPRA and USACE must be on

board and the Authority must know whether a temporary deviation is feasible. He recommended a rational sequencing of the development of the required information and that the Authority move forward with the issuance of a task order. The proposed task order includes nine steps. The first five steps deal with obtaining preliminary estimates, scopes of work and schedules from five engineering firms to investigate the factor of safety evaluation of the I-walls and the factor of safety of the Florida Avenue/Forty Arpent System should additional water be placed in the system, a storm-hardened monitoring system, upgrading the operability of the complex structures during a storm and review of the limit of additional water storage in the Central Wetlands in order to ensure that the pumping of water out of St. Bernard Parish is not affected. He anticipated that the scopes of work and cost estimates could be developed over the next few months and that the not to exceed amount of the proposed task order would be under \$50,000. The Authority could decide whether to move forward with the actual tasks. The remaining task order items deal with a 2D model for the Central Wetlands.

Mr. Kemp pointed out that Tetra Tech is preparing a risk analysis report for the complex structures and would provide a presentation to the Board at an upcoming meeting. Dr. Lopez noted that the Louisiana Coastal Master Plan includes elements regarding the Rigolets and Chef Menteur Passes that could potentially impact the HSDRRS and necessitate some type of mitigation. Mr. Jacobsen suggested meeting with CPRA and USACE relative to potential deviations and the preparation of contingency information and designs to implement deviations. Mr. Turner recommended meeting with FEMA early in the process in order to determine whether a potential deviation could affect accreditation and flood insurance rate maps.

Mr. Kemp advised that he would work with Mr. Turner and Mr. Jacobsen regarding the next step. He asked that Mr. Cosse give some thought to this matter.

There was no further business; therefore, the meeting was adjourned at 3:37 p.m.