MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
ENGINEERING ADVISORY COMMITTEE MEETING
HELD ON APRIL 7, 2011

PRESENT: Thomas Jackson, Chair
George Losonsky, Commissioner
Louis Wittie, Commissioner
Ricky Brouillette, Office of Coastal Protection and Restoration (OCPR)
Robert Turner, SLFPA-E Regional Director

The Engineering Advisory Committee met on April 7, 2011, in the Second Floor Hall of the Lake Vista Community Center, 6500 Spanish Fort Blvd., New Orleans, Louisiana. Chairman Jackson called the meeting to order at 11:23 a.m.

Opening Comments: Mr. Jackson commented on the National Committee on Levee Safety (NCLS) Program workshop that he and Mr. Pineda attended yesterday and on the value that the comments offered in the workshop would add to the NCLS's deliberations on standards.

Adoption of Agenda: The agenda was approved as presented.

Approval of Minutes: The minutes of the March 3, 2011 Engineering Advisory Committee meeting were approved.

Public Comments: None.

Old Business:

A. Status of issue of corrosion protection of St. Bernard T-Walls.

Mr. Brouillette explained that OCPR has engaged a consulting group with its panel of experts in meetings, telephone discussions and a field trip. There has not been any change in their opinion in the legitimacy of the concerns; however, further evaluations are still on-going. One of the items brought up in the deliberations was the opportunity to place leads on some of the piles that have not yet been buried in LPV 148. Evaluations are going on in terms of risk issues, the implications if and when something occurs, and options for fixing and dealing with problems in the future.

Mr. Jackson inquired about the use of test piles to evaluate corrosion. John Greishaber with the U.S. Army Corps of Engineers (USACE) explained that the idea of using test piles was not received well. The current plan is to recommend excavating at the base slab at certain sites after ten to fifteen years in order to see the actual condition of the piles.

B. Status of Orleans Avenue, London Avenue and 17th Street Outfall Canal issues.

Stevan Spencer, SLFPA-E Regional Chief Engineer, distributed copies of the USACE status report on the Outfall Canal Remediation Projects and the tentative Project Schedule for the Permanent Pump Station Projects.

Mr. Jackson explained that the Board adopted two resolutions at its April 21st meeting concerning issues that the SLFPA-E would like to discuss with the USACE. He stated that he was not aware of any response from the USACE to the resolutions. The first resolution concerned spot calculations performed by the SLFPA-E consultant to determine at what height the water surface level in the canal reaches a level of safety of 1 and the question of whether the height of the floodwalls should be lowered to a safe level above the safe water elevation (SWE). Mr. Greishaber stated that he appreciated Mr. Jackson's concern, but that the political relevancy of lowering the floodwalls must also be addressed. He stated that the USACE will not lower the height of the walls. If the SLFPA-E feels that the height of the floodwalls should be lowered, the USACE would not object; however, the USACE sees no logic to lowering the height of the floodwalls. Mr. Jackson reiterated that the intent of the resolution is to discuss the two issues with the USACE in order to determine whether there is a problem. Mr. Greishaber commented that the first step is to speak with the New Orleans Sewerage and Water Board (S&WB) to find out what happens if the water level reaches an elevation of 9-ft. He stated that his understanding is that water would start flowing into the pumping station. Mr. Jackson agreed that the S&WB should be a party to these discussions. He stressed that the S&WB is responsible for pumping water into the canal; however, the SLFPA-E is responsible for containing the water.

Mr. Jackson advised that the second resolution concerned an excavation template for the outfall canals. Mr. Greishaber explained that an adequate excavation that provides the required factor of safety is included within the USACE's report. A permit would be required for any dredging. Part of the permit request would address the stability to the proposed depth of the dredging for the required factor of safety. He stated that the development of a template for every mile of canal is cost prohibitive. There are 500 reaches in the three outfall canals. Part of the permit process is that the permit request must also go to the USACE. Mr. Jackson pointed out that computations made in connection with the remediation work were made based on the existing canal sections. He explained that while all these recent calculations are available, he would like to establish and execute a written agreement between the SLFPA-E and the S&WB indicating excavation levels. The excavation levels could be based on the existing cross sections, depending on conveyances. SLFPA-E and S&WB representatives have met twice on outfall canal issues. Mr. Greishaber advised that the recent soils reports, borings and the finalized reports will be available to the public.

Mr. Brouillette asked whether the final reports would include a three dimensional hydrograph of the current elevations and the identification of the 2-ft. layer of silty sand along the walls for cross correlation in the future. In addition, he had heard that a 3-D hydrologic model was being done to address the erosion in areas where the piles are shallow. Mr. Greishaber advised that the analytical work and retrieval of information has

been completed. A finite element analysis on wall deflection will be done. He stated that he was not familiar with a 3-D analysis.

Mr. Turner commented that the SLFPA-E's concern goes beyond the potential for dredging. Various scenarios could occur during the normal course of operating the canals that could alter the cross sections. Typically, the cross section of the bottom of the canal is not looked at during inspections. It will be imperative that the outfall canal sections are monitored as part of the inspection process. If the USACE does not give the SLFPA-E a safe template, he asked that the USACE give its commitment that it will run the analysis when cross sections are done to determine that the factor of safety is being met. Mr. Greishaber responded that it is highly unlikely that this would be an annual event. It is likely over a less frequent time with cogent reason. The USACE will turn the project over to the SLFPA-E and would step in if there is a flaw, however, it would not step in if there is an O&M problem. The USACE would step in, for example, if there is an overall deepening of the entire canal as a result of the activity of the permanent pump stations. Mr. Turner stated that the SLFPA-E will need guidance to determine the existence of any future problems. Mr. Greishaber responded that a statement could be placed in the O&M manual relative to the performance of surveys; however, he did not think that the USACE would take those surveys. Guidance based on the current cross sections will be placed in the O&M manual. Variations from these cross sections will need to be addressed. Mr. Turner asked whether the USACE would provide technical support. Mr. Greishaber stated that the answer to when you have a problem is when you violate the current cross sections. The issue of stability includes not only the configuration of the bottom of the canal, but also the silty materials overlying the beach sands in the bottom of the canals. The reports contain engineering calculations. He advised that there are some areas where the existing cross section has a very large factor of safety; therefore, if a portion of the existing cross section is lost, the factor of safety may not be violated.

Mr. Jackson asked whether the S&WB provided parameters on conveyance, intake basin elevations and pump curves to the USACE. He reiterated that whatever the S&WB does the SLFPA-E must be able to guarantee that the levees and floodwalls will contain the water during a maximum or peak event. Therefore, a written agreement should be established with the S&WB delineating any controls necessary to ensure the safety of the public. Mr. Greishaber stated that the USACE is equal partners with the SLFPA-E and the S&WB and would be willing to sit at the table and help hammer out an agreement. Mr. Jackson asked that a representative of the hydraulics section of the USACE attend the meeting. It was determined that a meeting will be scheduled that would include S&WB representatives.

Mr. Spencer advised that the USACE anticipates awarding the contract for the permanent pump stations on April 21st. The USACE requested rights-of-entries from the non-federal sponsors by April 15th. The footprints include park areas operated by City Park and the O.L.D. Non-Flood Division, Coconut Beach owned by the City of New Orleans and property owned by UNO. The permanent pump stations are scheduled for completion in 2014.

C. Presentation by Taylor Engineering, Inc. on St. Charles/East Jefferson Internal Levee (Compartmentalization Study) scope of work (Task Order No. 5).

Robert Jacobsen with Taylor Engineering, Inc. explained that this is a follow up to the presentation provided at the March 3rd Committee meeting on Task Order No. 5. The scope of work is based on a Community Development Block Grant (CDBG) received by the SLFPAE for multiple tasks. Two phases of the CDBG involve a scope of work to look at compartmentalization studies. The intent is to determine potential structures inside of the polder that could be recommended for further feasibility study in the future, either in conjunction or cooperation with the USACE or as a lead or sole effort on the part of the SLFPA-E, to reduce residual risks. The first phase is to look at one particular structure that is a remnant structure from the old exterior levee system along the East Jefferson parish line that extends south of Louis Armstrong Airport and basically terminates at Airline Highway. It was proposed that the structure be reinforced and completed as a measure to reduce residual risks, particularly to East Jefferson, associated with potential overtopping or breach events in St. Charles Parish. Mr. Jacobsen clarified that the study is strictly to look at the hydraulics of the potential physical barrier along the East Jefferson/St. Charles Parish lines. The recommendation on whether to go to the next level would be based on the hydrodynamics and preliminary costs and other impacts.

Mr. Jacobsen advised that the CDBG envisions looking at additional structures beyond the previously described structure in the overall metropolitan New Orleans/St. Charles region, the New Orleans East polder and the St. Bernard/9th Ward polder. The full scope of work envisions looking at the hydraulic implications of potential compartmentalization projects and the merits of the projects as a reasonable means to tackle the reduction of residual risks. The study is not intended to look at detailed design investigations or drainage impacts of the structures. The study will look at the circulation impacts of potential large magnitude events for which the structures would be designed to provide risk reduction.

Mr. Jacobsen stated that the data collection phase for the first project has largely been completed. He reviewed some of the data that was collected, which included major drainage features, conveyance channels and LIDAR data. The exercise will look at the rate in which water from a certain area moves into and fills up a certain part of a polder with respect to the other parts of the polder when a breach of high magnitude is introduced. The USACE has typically used a simple bath tub model for some of the residual risks in which water equalizes to a common level. The 2-D model that will be used in this study is a circulation model that is dynamic with water being driven by detailed topography and telemetry. The recommended model in this effort is the ADCIRC model. He clarified that the terrain will be submerged and that water will be routed in the model in a 2-D method; however, this is not a channel model and is not intended to give flow rates in individual channels. Pump stations at the boundaries will be included in the model; however, internal point-to-point pumping capabilities will not be included. All water must travel to the boundary by gravity and from the boundary the water can be pumped out. Slides were reviewed of the model domain which showed the major channels and embankments and the model mesh.

Mr. Jacobsen explained that feedback is needed as to how the project should be tested with simulations that would reveal whether the project is warranted for recommendation. In addition, a stakeholder meeting will be scheduled in accordance with the CDBG in order to receive input. He explained that a major wave topping event would only yield a few thousand acre-feet of water across the polder, which would be no more than a major rainfall, and that such small hazards are not the best scenario to assess the impacts of the proposed structure. A still water overflow event with an average overtopping of one foot over one mile of levee for a period of one hour would equate to about 2,200 acre-ft. of water. He recommended that scenarios with 100,000 acre-feet of water coming into the bowl, which is similar to a Katrina-type event, would be needed in order to determine the potential effects of the proposed structure. The budget will only accommodate a limited number of scenarios; therefore, the scope of work will look at six events. To assess the impact of the proposed internal levee he recommended at least two locations for major breach scenarios near the location of the structure just west of Louis Armstrong Airport on the East Jefferson and St. Charles sides. He recommended that the remaining events include major breaches at additional locations.

Mr. Jacobsen reviewed the additional limitations and assumptions. An attempt will be made to validate the model for Katrina; however, this will be done under Phase II. The USACE is updating the analysis for residual risk using the actual design information. The scope of work for this project is not envisioned as a "redo" of the JPM-OS storms and is scenario driven to illustrate specific impacts of the potential structure.

Mr. Jacobsen advised that a stakeholder meeting to receive input must be held in accordance with the CDBG before the modeling phase is commenced. He suggested that a stakeholder meeting be scheduled for all interested stakeholders and added that he would be willing to talk to select stakeholders in smaller groups. The agenda for the stakeholders meeting is as follows:

- Suggestions for model improvement
- Other inundation scenarios
- Other major breach scenario locations
- Other potential internal compartmentalization structures for Phase II evaluation

Mr. Losonsky recommended that a working session be held to consider the decisions that need to be made. Mr. Turner suggested that the Commissioners could be contacted relative to their interest in providing input and that a one or two hour workshop could be scheduled. Mr. Turner also suggested that one of the scenarios could be the 400-year event for 90 percent confidence.

There was no further business; therefore, the meeting was adjourned at 1:00 p.m.