SPECIAL MEETING OF CITY COUNCIL

5:30 p.m., Wednesday, February 3, 2010

A Special Meeting of City Council was held at 5:30 p.m., Wednesday, February 3, 2010 in Council Chambers of City Hall, 1207 Palm Boulevard, Isle of Palms, South Carolina. Attending the meeting were Councilmembers Bergwerf, Bettelli, Buckhannon, Duffy, Loftus, Piening, Stone and Thomas, Mayor Cronin, City Administrator Tucker, City Attorney Halversen, Assistant to the Administrator Dziuban and City Clerk Copeland. There was a quorum present to conduct business.

1. Mayor Cronin called the meeting to order and acknowledged that the press and public had been duly notified of the meeting in accordance with the Freedom of Information Act.

2. Report of Results of Year 1 Monitoring Report of 2008 Isle of Palms Beach Restoration Project by Tim Kana and Steven Traynum of Coastal Science and Engineering with additional comments from Chris Jones, City Coastal Engineer

Administrator Tucker stated that the report would cover the monitoring results related to the 2008 project and the entire shoreline of the Isle of Palms; it represents the first look at the entire beach. The Administrator indicated that the report would serve as a guide as the City tries to be "more proactive stewards" of the shoreline. The City has taken substantial steps, i.e. written and adopted a Beach Management Plan, written and adopted a Long-range Beach Management Plan and completed the restoration project. The engineers for the beach restoration project were Coastal Science and Engineering (CSE) with oversight by the City's Coastal Engineer, Chris Jones, and CSE is continuing to monitor the beaches for the City as the permit requires. Tim Kana and Steven Traynum will present the scientific results of the beach monitoring and Chris Jones will guide Council on the steps to be taken going forward.

Steven Traynum walked the group through a PowerPoint presentation that provides background on the restoration project, what has been done since the project and the state of the beach as of September 2009. The PowerPoint presentation and an Executive Summary of the Year One Monitoring Results are attached to the historic record of this meeting. Mr. Traynum reported that CSE has completed five (5) surveys since it began working on the island; the initial survey occurred in July 2007 to evaluate erosion; the second was a pre-nourishment survey on a smaller scale in March 2008; the third was a full post-project survey that was done in July 2008; and there have been two (2) additional surveys, in March and September 2009, that have encompassed the entire beach.

Mr. Traynum reported that there is a large ebb tidal delta associated with Dewees Inlet that contains a large amount of sand; he indicated that, "periodically, sand from this ebb tidal delta will break up the delta and allowing the sand to move on shore." He explained that, when the sand moves on shore, it changes wave patterns, therefore, changing the sediment transport direction in different areas. He stated that the island is gaining sand, but there is also short-term accretion and erosion associated with shoal by-pass events. As the sand migrates on shore, it will eventually make its way south, feeding the remainder of the island; he added that, historically, the Isle of Palms has experienced accretion.

The presentation, at this point, illustrated a past shoal bypass event that occurred at the Isle of Palms in 1992. In Stage 1 of the shoal bypass cycle, waves move the shoal on shore; in Stage 2 the shoal is not very far off shore and causes accretion behind the shoal as water breaks, and

the sand that is filling the shore out comes from the adjacent areas of the beach. Therefore, as the shoal is attaching, there is accretion behind it and significant erosion to either side. In Stage 3, the shoal has attached to the shore and sand begins to spread out renourishing the eroded areas; overall, sand is being added to the beach, but there are periods of short-term erosion. Mr. Traynum noted that shoal bypass events are well documented at the Isle of Palms, and that it was such an event that led to the restoration project in 2008.

In reviewing the 2008 project, Mr. Traynum reported that the project took place in three (3) areas, known as Reach A, B, and C and approximately nine hundred thirty four thousand cubic yards (934,000 cu. yds.) of sand was added to just over ten thousand (10,000) linear feet of beach, with Reach B receiving the highest volume of sand. The sand was obtained from three (3) borrow sites that were between two and three miles (2-3 mi) off shore. The post-monitoring studies indicate that eighty-one percent (81%) of the sand added in the 2008 project is remains in the project area

In order to monitor the entire shoreline, one hundred twenty (120) monitoring stations behind the dunes generated profiles between fifteen hundred and fifteen thousand feet (1,500 to 15,000 ft) off shore. The monitoring indicated that only the Breach Inlet area up to 6th Avenue gained sand between March and September 2009; the presentation included graphs of each area of the seven-mile (7-mi) stretch of Isle of Palms' beach, indicating the amount of sand in each in September 2009 versus March 2009.

In graphics of the Dewees Inlet area, Mr. Traynum pointed out two (2) situations of interest, i.e. (1) in the March 2009 survey, a marginal flood channel is seen – these channels are very common to inlets; (2) in the September 2009 survey, the channel has moved much closer to the beach, a secondary channel may be forming, and the sand is expected to migrate onto the beach. Temporarily there is a lot of scarping in that area of beach because it has severely eroded as the channel moves closer to shore.

The presentation then moved through a series of animated models of Dewees Inlet beginning July 7, 2009 and ending in September 2009 providing the following data:

- A shoal is migrating to the southwest;
- The main channel of Dewees Inlet is being pinched off as the shoal moves in;
- As that happens, a secondary channel is forming and getting deeper, wider and building seaward; and
- The 2008-2009 shoal attachment has caused much of the erosion visible at Ocean Club and the northern part of Reach A.

If the secondary channel continues to close off the original channel, it will become the main, dominant channel of Dewees Inlet. In so doing, the millions of cubic yards of sand in the shoal will be free to move onto the beach, but that process could also cause significant erosion. Mr. Traynum explained that the data is not presently available to predict what is going to happen – where the shoal will attach or how long it will take to attach. He added there have been studies done at the Isle of Palms that indicate these shoals come ashore every four to six (4-6) years

bringing between three hundred and five hundred thousand (300,000-500,000) cubic yards of sand onto the beach. Mr. Traynum repeated that information is not available to know if this shoal is a typical event; assuming that the shoal follows the previous attachment cycle, the island will be faced with erosion hot spots.

Mr. Traynum summarized his report by stating that the 2009 shoal bypass event added about three hundred thirty thousand cubic yards (330,000 cu yds) of sand that fully attached after the March 2009 monitorings, and the shoal continues the process of flattening out and spreading sand into other areas. He stated that, based on CSE's models and the aerial images from the 1990s included in the presentation, the sand is expected to move both to the north and the south eventually to naturally nourish the eroded areas.

Administrator Tucker introduced the next phase of the presentation that would address the areas of focused erosion that are occurring as a result of the shoal in Dewees Inlet. She stated that, since the City does not want to find itself in circumstances like those of 2008, she has asked the engineering team and the City's consultant to provide City Council with options to consider for responding to the shoal attachment event and focused erosion creating. She reminded Council that both permitting and project execution take time, so it was important for Council to decide how it wanted to proceed to avoid a crisis situation.

Dr. Kana commented that CSE had seven (7) options to offer the City for combating short-term, localized erosion; they are as follows:

1) Sand scraping off the shoal attachment area – Where there is surplus sand that will be renewed, trucks could be sent to the tip of the shoal for excavation and pumping onto shore. One disadvantage to this alternative is that a permit the City received in the pasts for similar activity was challenged.
2) Shoal dredging – This is where sand would be taken from the outer part of the shoal using a dredge and pumped to the eroded areas; this would require ocean-certified dredge and would be more difficult to permit because any dredging operations have environmental issues different from trucking operations.
3) Truck sand from an inland source – This would involve thousands of trucks depositing the sand which would be spread by bulldozers. Permitting for this type project is relatively easy; the difficulties lie in the wear-and-tear to the roads and the cost of the sand; the cost to truck in the sand is approximately four times higher than to get it from the beach.
4) Nourish from sand deposits in the Intracoastal Waterway – It has been reported that there is a large sand buildup in channels behind Dewees Inlet, behind the marina and in the marina basin. This product would have to be evaluated for its beach quality, because many deposits in the marsh contain mud; if beach compatible sand were to be found, a smaller dredge could be used at a lower cost for mobilization to pump it to the beach. This option would be more difficult to permit.
5) Nourish from accreted areas that are well-removed from existing development, such as the Cedar Creek Spit – The sand found here is coming from the Front Beach up the inlet; it is nourishment sand working its way up the inlet. This option was considered in the past, but was discarded as not being viable.

6) Large scale nourishment using off-shore sand sources – There are deposits two and a half or three miles offshore that are not part of the Dewees Inlet system; borrowing could also be done from the Dewees Inlet ebb tidal delta, but it would likely raise environmental issues and would likely be subject to challenge. In addition, the mobilization of the dredge alone would cost two million dollars ($2,000,000).
7) Take no action – Dr. Kana noted that this had been done in the past and would have no cost involved until a serious problem developed. He indicated that this was the least acceptable alternative.

Dr. Kana repeated that there is a huge natural supply of sand coming in, and this huge sand bar off the northern end of the island is causing the wave patterns, focusing the erosion and creating "hot spots." He concluded by reporting good news that the beach is getting a lot of free sand, but bad news of focused erosion that is impacting approximately ten percent (10%) of the project area. According to Dr. Kana, the best idea would be a small-scale project addressing the erosion hot spots in hopes that it would allow enough time for the shoal to spread out and until it is time for another large-scale project – perhaps ten to fifteen (10-15) years.

Mayor Cronin asked Chris Jones to come forward to give his advice regarding the focused erosion areas of the beach. Mr. Jones noted that, in 2007-2008, he had worked with twelve (12) people on a Long-Range Beach Management Advisory Committee; he referred to a table that was included in the Committee's report and in CSE's report. He related that the Committee had worked to reach a consensus as to which of these alternatives were desirable or undesirable; the entire group agreed that dredging from offshore was a good idea because the strategy moves sand from a source external to the island, and that was done in 2008. On the option to nourish the beach by trucking off-island sand, the group discouraged this as a good alternative for large projects; beach nourishment by scraping sand off a shoal met with general agreement in the Committee.

Mr. Jones expressed his opinion that a two-pronged approach was needed on the Isle of Palms, i.e. the shoal attachment scraping/shoal management option described earlier and, on the occasion when there is a large project, dredge from offshore. He stated that there is sand available that will ultimately come on shore and be beneficial, but, in the short term, is causing focused erosion problems; his recommendation to the City Council was to "go after" that sand source.

Mr. Jones said that the shoal-scraping project could use land-based equipment and that the sand was of good quality; the City would be accelerating the natural process of putting the sand where it would go in time. He added that it was a good way to address the persistent shoal attachment/erosion problem that occurs repeatedly on the Isle of Palms and that this type action was required for beach management on the island.

Mayor Cronin repeated Mr. Jones' recommendation that sand scraping was the most desirable option for the City to address the focused erosion in the 2008 project area and that scraping would likely be the most cost effective alternative based on the amount of sand the City could get. Mr. Jones indicated that approximately one hundred thousand cubic yards (100,000 cu yds) of sand would be needed for the problem areas.

Mayor Cronin asked that Administrator Tucker review money available to accomplish this task. The Administrator restated that the monitoring indicates that the beach is going to continue to experience focused erosion until the shoal attaches on the north end of the island. For the 2008 restoration project, the City collected approximately ten million dollars ($10,000,000) and contributed approximately one million nine hundred thousand dollars ($1,900,000); included in that budget is the City's long-term commitment to permitting agencies for beach monitoring. Funds are available that are earmarked for contingencies; she suggested that Council act to allow her to propose to the other stakeholders for the City to pursue a permit for a focused renourishment activity, specifically the sand scraping from shoal attachment. The Administrator reminded Council that permitting takes time and that there is the possibility of a legal challenge; she commented that "the longer the mid-stage cycle goes on with the shoal attachment, the more critical the focused erosion may become." She, therefore, indicated that it would be prudent to begin the administrative process now. Administrator Tucker proposed sending correspondence to all of the stakeholders detailing the status of the 2008 project, the success of it, the status of the funds on-hand and the proposal to pursue a permit for a sand scraping for shoal attachment project. She stated that Dr. Kana had estimated a cost of fifty thousand dollars ($50,000) for permitting. She also suggested that the City continue contractual relations with the same parties that had assisted the City with the 2008 project and post-project monitoring.

MOTION: Councilmember Stone moved to approve Administrator Tucker's proposal as stated; Councilmember Loftus seconded.

Mayor Cronin indicated that the information to be related to the stakeholders was that the balance remaining from the 2008 project to do the remaining monitoring, plus any other activities authorized by the stakeholders is approximately one million three hundred thousand dollars ($1,300,000). Of that amount, two to three hundred thousand dollars ($200,000-300,000) is committed to post-project monitoring leaving approximately one million dollars ($1,000,000) of stakeholder's money to devote to additional activity in the "hot spot" areas.

Councilmember Duffy asked Mr. Jones to define the magnitude of the sand scraping activity; Mr. Jones stated that he and Dr. Kana have estimated the need for one hundred thousand cubic yards (100,000 cu yds) of sand to overcome this focused erosion problem at an estimated construction cost of half a million dollars ($500,000). The permitting, planning, construction administration and monitoring are included in the half million dollars.

Councilmember Loftus asked Mr. Jones what the project timeline would be assuming that the stakeholders support it; Mr. Jones responded that, absent challenge, permits could be obtained in the summer or fall of 2010 and the work take place in the winter of 2010-2011.

Mayor Cronin informed the Council that DHEC is circulating a document for public comment entitled "Adapting to Shoreline Change – A Foundation for Improved Management and Planning for South Carolina, Draft Report, Shoreline Change Committee;" he reported that this document discourages scraping stating that "it is not a strategic long-term solution." The Mayor noted that the final report will be sent to the South Carolina legislature for potential adoption to become part of management plan from which DHEC controls permitting. He also stated that the City

would be commenting on the report as would other beach communities. Mayor Cronin did express concern that the reports could slow the permitting process for the City.

Dr. Kana noted that scraping has been attempted before and challenged before; therefore, he indicated that the key to successful permitting was to explain to the agencies the tight controls that will be imposed on the project, that buffers would be set up to prevent scraping near any buildings and the project would be closely monitored. He expressed his opinion that the monitoring results would demonstrate to the agencies how the sand is coming ashore off the delta, so the project is taking sand from a renewable resource – sand that would eventually come to the beach. He voiced his opinion that it made sense for the State to want to manage the sand supplies in inlets where there is development.

Councilmember Stone asked what the DHEC report was encouraging; Mayor Cronin replied that the report advocates retreat, but it does not explain how retreat occurs in already developed areas. The Mayor added that the report also does not discourage offshore dredging.

Councilmember Buckhannon asked what the next step would be if the scraping project was challenged and how would it elevate the costs.

Administrator Tucker remarked that Councilmember Buckhannon's questions were ones that had been covered in preliminary discussions with Dr. Kana, Mr. Traynum and Mr. Jones. She stated that to have a Plan B, the City would need to apply for two (2) very different permits simultaneously.

Call for the Question: The motion PASSED UNANIMOUSLY.

Mayor Cronin expressed concern over the time intervals between monitorings; he stated that the next one was scheduled to be in July 2010 when the last had been September 2009. Mr. Traynum agreed that was the existing plan, but CSE's report had recommended increasing the frequency to two (2) monitorings per year. The increased frequency would provide an estimate on whether the erosion on the beach was speeding up or slowing down and give a better timeline about when another project would need to be done. Mayor Cronin asked if the City would need a more current survey in order to submit a comprehensive permit application; Dr. Kana replied that he did not see that as a critical issue in permitting. Dr. Kana recommended that, since Mr. Traynum had presented monitoring results for March and September 2009, the July monitoring be eliminated in favor of March and September 2010 with the March monitoring data being less detailed than the September. Dr. Kana said that CSE could provide a proposal to modify the scope of their contract for semi-annual comprehensive surveys if that was what the City wanted.

3. Adjourn

MOTION: Mayor Cronin moved to adjourn the meeting at 6:47 p.m.; Councilmember Bettelli seconded and the motion PASSED UNANIMOUSLY.

Marie Copeland
City Clerk