



DEPARTMENT OF THE ARMY
WATER RESOURCES SUPPORT CENTER, CORPS OF ENGINEERS
CASEY BUILDING
FORT BELVOIR, VA 22060-5586

Pat

REPLY TO
ATTENTION OF:

WRSC-D

03 APR 1987

Mr. James Bradley
Chief, Operations & Construction Branch
USACED, South Atlantic
510 Title Building
30 Pryor St., S.W.
Atlanta, GA 30335-6801

Dear Jim:

I am sending a copy of this letter to Forrest Pruett and to Jim Houston.

The enclosed ENR article and some other articles have not reflected the multiple purposes of the berm. We want the emphasis to be on the trough of the storm waves striking the top of the berm and being tripped which will dissipate a large percentage of the wave force and by doing so, reduce the erosion effects on the shoreline. This is the primary purpose of the stable berm.

A secondary benefit is the berm should act as a retainer to prevent the movement of material in the nearshore area into deeper water where it will not contribute to a more gentle underwater slope of gradient in the near shore area. Movement of material into deep water can occur as the result of storm wave action. This aspect of the berm will contribute to retaining existing material as well as material deposited in the nearshore zone in the "feeder beach" operations.

After the berm is completed, it will provide a protected area between the berm and the strand. This will allow operation of cutterhead dredges which can economically pump stockpiled material directly onto the beach.

Lastly, is the benefit described in the enclosed article. It is very important that we use this sequence and to indicate the "potential" for improving the fishing habitat.

Sincerely,

William R. Murden, P. E.
Chief, Dredging Division

CF: Forrest Pruett
Jim Houston

Gulf berm designed to curb isle erosion

By GEORGE WERNETH
Press Register Reporter

There is something new under the sea. A mound or "berm" of sand eight feet high and one mile long has been placed on the floor of the Gulf of Mexico south of Dauphin Island as part of an effort to curb erosion of the island's beaches.

The Army Corps of Engineers' Mobile District recently completed the berm, which is located about three nautical miles due south of the eastern end of Dauphin Island, Walter W. Burdin, study manager for the Corps project, said.

THE BERM was constructed with 432,000 cubic yards of sand taken from maintenance dredging of the Mobile Bar Channel and placed by hopper dredge at the site south of the island.

The berm is expected to dissipate the damaging force of storm waves before they reach the shoreline and is also expected to feed sand to the beaches along the southern shore, according to Winnie L. Smith of the Mobile District's Public Affairs Office.

The demonstration project also will

likely add to nearby Sand Island, "which will provide protection for Dauphin Island where considerable beach erosion occurs," Mrs. Smith said.

TO MONITOR THE project's results, the Corps will place 300 "seabed drifters" in Gulf waters. The Corps began placing the drifters in area waters earlier this week. The drifters, which look like miniature umbrellas, have stems about two feet long and are weighted to sink to the floor of the Gulf. It is believed that they will drift with the sand as it is carried by the underwater current.

Each drifter has a postage-paid, waterproof card attached to it and Burdin said he hopes everyone who finds a drifter will return the card to the Corps' Mobile District. He said he hopes those who find drifters will at least answer the most important question: "Where did you find it?"

Burdin said the current will be monitored for about a year through the project and said he hopes the drifters will all drift northwestward to Dauphin Island and to Sand Island, which would mean that the project is working successfully. He said all of the data will be analyzed.

CORPS OFFICIALS said this is believed to be the first time such a berm has been constructed in Gulf Coast waters.

If the project is successful, the Corps will replace the berm after it wears away, Burdin said. He said the berm will probably last for several years.

A second, much larger berm, is planned for a site on the Gulf bottom about 10 miles southwest of Fort Morgan, the Corps official said. This berm will be in deeper water and its purpose will be to improve fishing habitat and to attract different kinds of fish, he stated. It will not be used to lessen island erosion, he said.

THE SECOND BERM will be constructed from about 19 million cubic yards of dredged material from the upcoming deepening of the Mobile Ship Channel.

Sam Green, chief of the Corps' Mobile District Public Affairs Office, said the Mobile District is looking at other dredge material programs and is seeking to reduce the cost of dredging Mobile harbor. He said the Mobile District is seeking to come up with beneficial uses of dredged material.

Claims filed on RCC dams

The Mobile (AL) Press/Mar 5-87

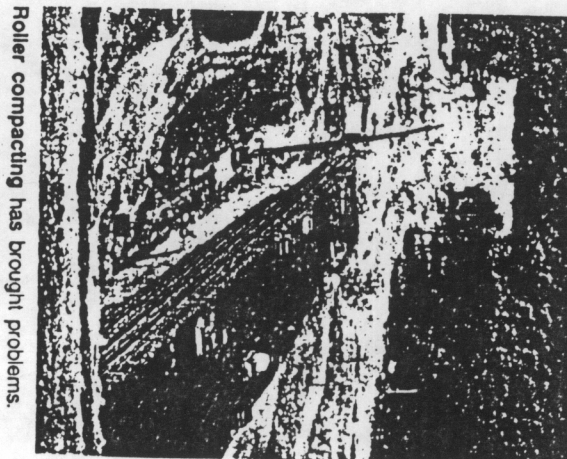
Huge claims have been filed involving two roller-compacted concrete gravity dams under construction—Upper Stillwater in Utah and Monksville in New Jersey. The claims call attention to some of the problems of working with RCC, the first major advance in concrete dam construction since mass placement.

At Upper Stillwater, Tyger Construction Co. Inc., Spartanburg, S.C., filed a \$46-million claim against the Bureau of Reclamation. Tyger, an open-shop arm of Guy F. Atkinson Co., signed a \$60.6-million contract in December 1983 to build the RCC dam, BuRec's first and the world's largest. When completed, in a year, the water storage dam will be 2,673 ft long and 193 ft high, containing 1.36 million cu yd of concrete, mostly RCC (ENR 12/4/86 p. 22).

At Monksville, S.J. Groves & Sons Co., Minneapolis, filed a \$15.5-million claim against the co-owners—the North Jersey District Water Supply Commission and Hackensack Water Co. Groves signed a \$14.7-million contract in early 1984 to build the 150-ft-high, 317,000-cu-yd water storage dam. The start of work was delayed for a year because of problems in obtaining permits. But foundation work was completed in 1985 and Groves placed all of the RCC on schedule last year (ENR 6/19/86 p. 58).

O'Brien & Gere Engineers Inc., Syracuse, N.Y., designed the dam with help from Ernest K. Schrader. He has been involved in nearly every RCC dam in the U.S., starting with Willow Creek Dam, the world's first, completed in 1982.

At both Upper Stillwater and Monksville, contractors have had problems meeting the owners' demands for the cleanup of RCC lift surfaces. At Upper Stillwater, BuRec's design requires that lift surfaces be kept meticulously clean to ensure proper bonding. The bureau



Roller compacting has brought problems.

also is strictly enforcing requirements for treating cold joints and for cleaning the concrete surface after the region's frequent rainstorms.

BuRec requires extensive cutting of cold joints after 72 hours. Tyger's project manager, Roger E. Schuetke, says the contractor has spent up to 10 times as much as expected on cleanup.

But Tyger's claim centers on additional foundation treatment required by the bureau in 1984. Schuetke says delays caused by the added excavation set Tyger back 20 months.

At Monksville, the claim asks for \$6.8 million because of the added costs of producing extra aggregate for the RCC mix from a borrow pit rather than obtaining all of it from material excavated for the dam. It also seeks \$4.7 million for added foundation work and \$3.9 million for unexpected RCC lift preparation and design changes.

By MICHAEL PERLSTEIN
St. Bernard/Plaquemines bureau

Army Corps of Engineers officials in New Orleans have decided to scrap a controversial plan to build a hurricane protection levee on the east bank of the Atchafalaya River in the Acadiana region, Corps of Engineers Lt. Col. Vic Landry said.

The Corps instead will recommend that the parish's 14-foot levee be raised one to three feet from Venice to north of Port Sulphur, Landry said.

At a public meeting with Corps officials last April, several St. Bernard officials expressed concerns over the levee proposal.

A St. Bernard parish planner argued at the meeting that the east bank levee would inhibit the flow of fresh water into the marsh, allowing encroaching salt water to harm vegetation and wildlife.

Police Juror Henry J. Rodriguez Jr., who earlier expressed fears that an east bank levee would funnel a hurricane toward St. Bernard, said Monday the Corps' decision is welcome news.

Their decision is, "one of the best I've heard from them in a long time," Rodriguez said. "The east bank levee certainly would have been a detriment to us in St. Bernard. And it would have been a disaster in the event of a hurricane."

Corps Chief of Engineering Frederick Chatry said the Corps decided against the levee for three reasons: it would be more expensive, it would involve more maintenance and it would do more damage to the environment than the proposal to upgrade the levee.

"The decision was influenced by public input," Chatry said. "The east bank levee raised some serious environmental concerns."

The cost of upgrading the river levee is estimated at \$84 million compared with \$92 million to build an east bank levee, Chatry said. He said the project could be substantially completed in five to seven years.

Chatry said that once complete, the Corps' plan to raise the river levee will satisfy the Federal Emergency Management Agency's stiff flood regulations for south Plaquemines.

FEMA has determined that the lower end of Plaquemines is so vulnerable to flooding that new buildings must be built as high as 17 feet off the ground.

Parish President Luke Petrovich said he is looking for ways to speed up with the money as well as hasten completion of the project.

Mobile (AL) Press /Mar 6-87

'Great things' seen for areas

By DEBBIE BRELAND
Press Register Reporter

There are great things ahead for the Mobile area," Assistant Secretary of the Army Robert K. Dawson in Mobile Thursday told a group of engineers who worked on the Tennessee-Tombigbee waterway.

"A CONTRACT FOR Phase One work on William Bacon Oliver Lock and Dam on the Black Warrior/Tombigbee River system has been awarded and construction is scheduled to begin soon... This will eliminate a shipping bottleneck and increase ease of traffic flow."

Plans are under way to deepen the Mobile Harbor channel, the mouth of the Tennessee-Tombigbee waterway, to allow cheaper and more efficient shipping of coal.

DAWSON SAID that he expects to see future growth and maturity of the Tenn-Tom over the next two decades.

The completion in 1985 of the Tenn-Tom can be likened to the birth of a newborn. It was delivered after much pain and a great deal of anticipation," Dawson said at an awards ceremony held by The Permanent International Association of Navigational Congresses at Port Coaco.

Daniel B. Barge, Jr., national president of the American Society of Civil Engineers, presented the ASCE 1986 Special Achievement Award to the Mobile District, U.S. Army Corps of Engineers, for the Tenn-Tom.

THE AWARD ANNUALLY recognizes a select few projects representing "the greatest contribution to civil engineering and mankind," he said. The Permanent International Association of Navigational Congresses met at the Admiral Semmes Hotel Thursday and is meeting again today, with the theme, "Tennessee-Tombigbee Waterway and Port of Alabama, Shortcut to the Gulf of Mexico."

"Many looked forward eagerly to the Tenn-

Tom's arrival and much was expected of it," Dawson said. "Now, less than two years later, I find a number of people complaining that all that see being produced is a few disappointments... a few recreational benefits."

"Well, what do you expect from a 2-year-old? Dawson said, drawing laughs from the audience.

"I AM NOT READY to write off its prospects but like that newborn, this waterway is not yet to fulfill its potential without a lot of care and guidance from those who parented it."

He said that almost half of potential freight traffic on the Tenn-Tom was expected to be on shipments, but tonnage is down on all waterways.

"The entire water transportation industry presently in a slump, partially because of the high value of the American dollar and an over-abundant oil supply. Together these have depressed the nation's coal market drastically," Dawson said.

ACCORDING TO DAWSON, over the past several years Mobile has increased its share of the total national coal export market and now ranks second.

Concerning user fees, Dawson said that the significance of the Water Resources Development Act of 1986 is "the affirmation of that fundamental beneficiary pay principle in the context of the federal water program... People who benefit from a project pay for some of the cost of that project."

"COST SHARING and user fees will allow us to spread the dollars that we do get to more projects and therefore, we will get more political support. The projects will diminish in size and scope in the reality of cost sharing reform," he said.