SAMPD-N 1 September 1986

FACT SHEET
DEMONSTRATION OF UNDERWATER BERM

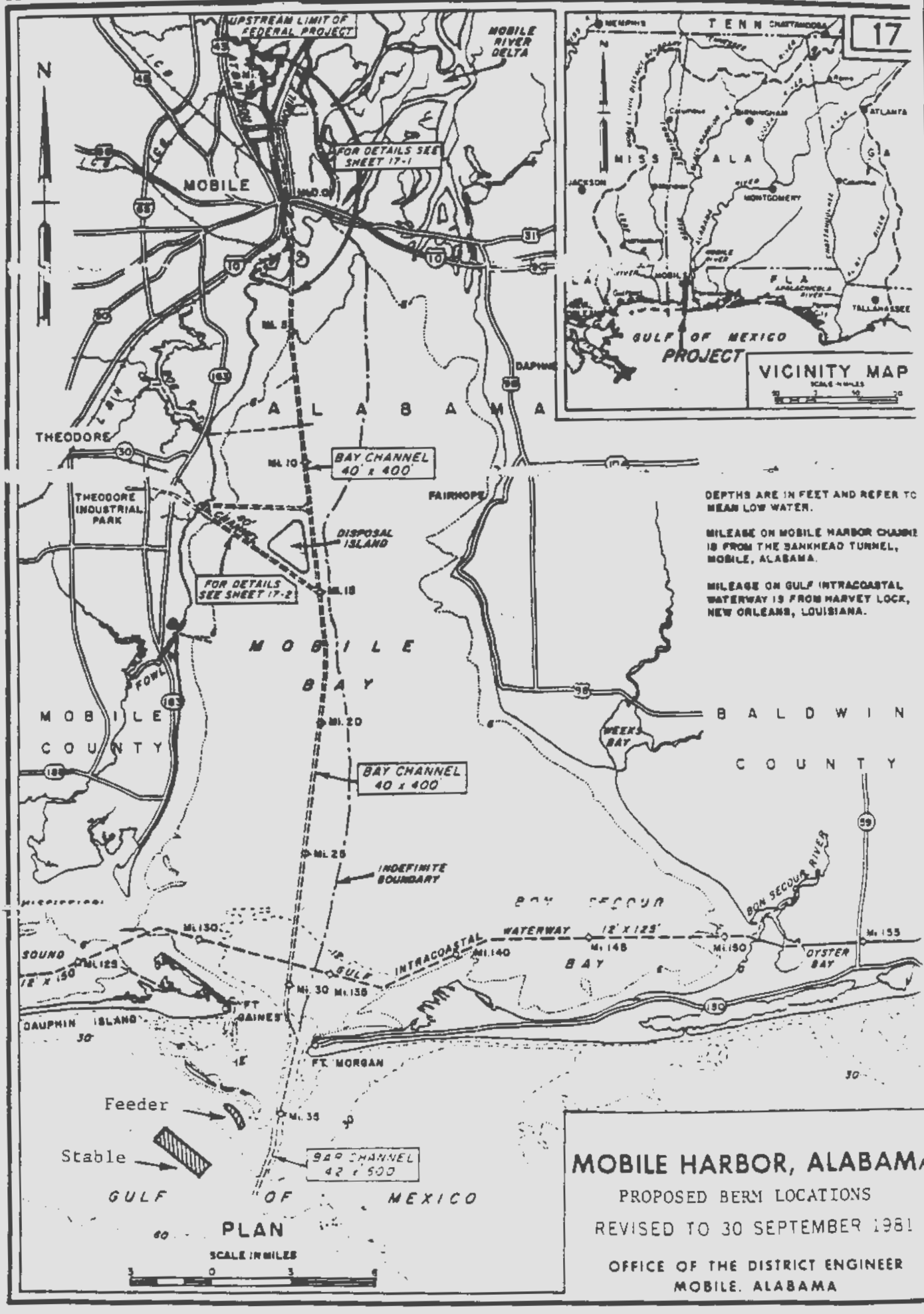
It appears imminent that the Congress will pass a water resources bill that includes over 40 port deepening projects. Additionally, the Congress is considering authorizing a Navy Homeporting plan that may involve dredging at some ports. Since the early 1970's, the Corps of Engineers has funded over $100 million in research, development, and monitoring to identify cost-effective and environmentally acceptable dredging and dredged material diposal options. One innovative option that has great environmental and economic potential and which seems to have broad applicability is the underwater berm. It would not be prudent, however, to implement the concept without a field verification program to test the concept.

Mobile District is participating in a national demonstration of the underter berm. The District takes pride in being innovative. Our staff continually seeks to meet the challenges associated with disposing of dredged material in a cost-effective, yet environmentally acceptable manner. Over the past 10 years the Mobile District has been involved in the Corps' research and development program dealing with dredging and dredged material disposal. Mobile District was involved in the first test of the Corps of Engineers' Reserve Dredge Fleet response to an emergency conducted in 1984. Additionally, Mobile District will host a workshop this fall on the subject of beneficical uses of dredged material. Accordingly, for a variety of reasons Mobile District is a logical candidate for participating in the demonstration.

Dredged material is largely an untapped resource and the purpose of the underwater berm or mound is to utilize dredged material in the coastal zone in a beneficial way. Littoral drift processes move sand along the ocean shorelines. In the Ft. Morgan peninsula vicinity, for example, this movement of sand is generally east to west. As this sand is deposited in a navigation channel, the customary practice is to remove the sand by hopper dredge and transport it to an approved deep water outside the littoral zone. Disposal within the littoral zone (feeder placement) of sandy dredged material removed from the entrance portion of a deep-draft channel would utilize natural processes to nourish the beach. Disposal of dredged material in a berm configuration in deeper water (stable placement) would be more stable, have a positive environmental effect, and, perhaps, reduce the potential for beach erosion.

Each approach has its own advantages. Feeder placement restores beach quality sand to the littoral zone and would reduce beach erosion to some extent. To the extent that this nearshore area may be closer to the channel to be dredged than the disposal area that would otherwise be used, some savings in dredging costs would be realized. Material utilized in feeder placement is limited to sand.

Should monitoring confirm that the berms have the expected beneficial effects, we would likely desire to continue the practice in the future as well as utilize the technique in other parts of the country. Continuation of the practice for Mobile Harbor would, therefore, increase the magnitude of the beneficial effects. On the other hand, should monitoring reveal the occurrence of adverse effects, the demonstration would be curtailed and disposal would occur in the customary manner.



MOBILE HARBOR, ALABAMA

PROPOSED BERM LOCATIONS

REVISED TO 30 SEPTEMBER 1981

OFFICE OF THE DISTRICT ENGINEER
MOBILE, ALABAMA