

A0006689



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

REPLY TO
ATTENTION OF:

August 17, 1984

Engineering Division
Structural Design Section

Mr. Jens J. Nielsen
Burk and Associates, Inc.
4176 Canal Street
New Orleans, LA 70119-5994

Dear Mr. Nielsen:

Reference is made to your letter of August 1, 1984, in which you forwarded to us for review plans and specifications for the New Orleans Sewerage and Water Board's proposed additions to Drainage Pumping Station No. 6 on the 17th Street Canal. We have reviewed the plans and offer to you the following comments:

1. At present, the west bank levee is the only Federal item on the 17th Street Canal which would be impacted by the proposed work. We have, therefore, reviewed the proposed work relative to its potential impact on the west bank levee and have no adverse comments to offer in this regard.

2. If the applicant wishes to construct the subject work in compliance with the Lake Pontchartrain Hurricane Protection project criteria, the following comments would have to be resolved:

a. No tip elevations were given for the PZ-27 steel sheet piling cut-off under the floodwall between the existing discharge pump "G" and the type "C" I-wall. An analysis should also be presented for our review to verify the adequacy of the seepage cut-off provided.

b. The plans and specifications for a previous permit review of a pile supported floodwall adjacent to the proposed work called for a pile test. These pile test results should be furnished to us for review since the previous floodwall has already been completed.

c. No details are shown for the tie-in of the existing steel sheet piling under pump "G" to the new steel sheet piling under pump "I".

d. Details should be provided of the tie-in between the new type "C" I-wall and the existing west bank levee.

e. Seepage cut-off should be provided under the railroad swing gate monolith in the form of steel sheet piling. Design computations should be presented to verify that this cut-off is adequate under flood conditions.

f. No design computations were provided for the type "C" I-wall to verify that under flood conditions the PZ-22 steel sheet piling is adequate and that deflections under load are minimal. This analysis should be presented for our review.

g. Our preliminary stability analysis shows a possible deficiency of the east levee under low water conditions, with the possibility of failure toward the canal. Computations for the stability analysis of the east levee should be furnished to us for review.

h. No design computations or reinforcement details of the floodwall stem crossing the horizontal discharge culverts were presented. These computations and details, as well as details of the tie-in connection of the new wall to the existing concrete wall, should be presented for our review.

i. No details have been presented for monolith joints in the type "C" I-wall. A monolith joint should be provided at a sheet pile interlock, with 3-bulb waterstop, approximately every 30 feet. A transition slip joint should be provided at a sheet pile interlock where the soil supported I-wall ties into the floodwall over the pile supported discharge culverts. This will allow for differential settlement between the culverts and the type "C" wall. (See ~~enclosure 1~~ ²).

j. Design computations for the steel portion of the railroad swing gate should be presented for our review. It is recommended that the support tie rods should extend from the hinge column to the top of the gate as shown on ~~enclosure 2~~ ³. This helps distribute the gate weight more evenly to the hinges and prevent sagging of the gate.

k. No design computations were presented for the concrete portions of the railroad swing gate monolith. The details for the gate monolith are incomplete, sections showing reinforcement in the base slab, columns and wall stems should be presented. A transition slip joint should be provided at a sheet pile interlock at each end of the monolith to provide for differential settlement between the type "C" wall and the pile supported gate monolith.

l. Piles supporting the railroad swing gate should not be timber piles because the tops of the piles are above the ground water elevation. Prestressed concrete piles are recommended under gate monoliths. These piles are usually arranged with the floodside piles battered toward the flood side to take tension loads and the protected side piles battered toward the protected side to take compression loads under flood conditions. Vertical piles are usually provided under the gate opening to take train loads that occur when the gate is opened.

m. In the specifications, page 2.5, delete last sentence of paragraph 4.6.1.

n. In the specifications, page 2-14, paragraph 12.5, jumpers should be welded 3" below the bottom of the concrete cap, not 3" below the top of the piles.

o. Design computations mentioned above and three copies of the final P&S should be provided to this office to assure that all of the enclosed comments are satisfied. If there are any questions about these comments or if a meeting is desired, please contact Ms. Lynn Broussard (838-2646) or Mr. Jorge Romero (838-2645) of this office.

Sincerely,

FREDERIC M. CHATRY
Chief, Engineering Division

Enclosures

Copy Furnished:

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