(A0007193) E-1

ENGINEERING DIVISION

Permit Review Sheet

LMN 1 ED-A 9/12/83 ~~ED-Z~~

~~ED-S~~

SUSPENSE:*
~~ED-SI~~
~~ED-SP~~
~~ED-SR~~
~~ED-MW~~

SUSPENSE:*
ED-H
ED-HD
ED-HC
ED-HH
ED-HR
ED-HG

22nd Apr FV

SUSPENSE:* 18 Apr
(1) ED-P
ED-FG
ED-FD
✓ ED-FS JR for

SUSPENSE:* ~~19~~ 24 May Apr
(2) ED-D
ED-DL
ED-DW
ED-DR
(3) ED-DD 13 Cir JM
ED-DG

*If suspense date cannot be met, furnish Secretary, Chief of Eng Div, the date it can be met.

SUBJECT: Appl by Sewerage & Water Board of New Orleans, to install and maintain a pile supported floodwall, discharge pipes and fill for hurricane protection, nr Met, La, in Jeff Ph

4/21/83

ED-FS

If the floodwall is to be built to the High Level Plan Hurricane Protection the following comments should be addressed:

(1) No analysis was presented for the sheetpile wall PZ32-4 and PZ32-1 which ties the new floodwall adjaecent to the 48" steel discharge tube into the existing concrete wall.

(2) Since the base of the floodwall will be placed 12 feet above the groundline on a backfill, consisting of pervious material adjaecent to the cutoff wall, piping may develop from seepage through the interlocks and from seepage between the base of the slab and the sheetpiles. Therefore a positive means of seepage cutoff should be presented.

The construction of the floodwall does not adversely affect the existing Federal levees on the west bank of the canal. No comments are presented if the floodwall is built for anything but High Level Hurricane Protection.

FV

ED-DD

See comments in reply to Ops Div. (DF CMT 6)

JM

Continue comments on separate sheet if necessary

LMN Form 744 1 Dec 74 (Previous Edition Obsolete)

(14)

LMNED-DD (21 Oct 82)
SUBJECT: Appl by Sewerage and Water Board of New Orleans, to install and maintain a pile supported floodwall, discharge pipes and fill for hurricane protection, near Metairie, Louisiana, in Jefferson Parish

TO C/Ops Div FROM C/Engr Div DATE 4 May 83 CMT 6
Mr. Romero/cmr/2647

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 analysis was presented for the steel sheet pile walls PZ-32-4 and PZ-32-1 which tied the new floodwall adjacent to the 48-inch diameter steel discharge tube to the existing concrete wall. This analysis should be presented for our review.

b. Since the base of the floodwall will be placed 12 feet above the groundline on a backfill consisting of pervious material adjacent to the cutoff wall, piping may develop from seepage through the sheet pile interlocks and from seepage between the base slab and the sheet piles. Therefore, a positive means of seepage cutoff should be presented.

c. No analysis was presented for the steel sheet pile retaining wall used for seepage cut-off around the floodside edge of the T-wall base slab. An arbitrary deflection of 1/2-inch on the steel sheet piling was used to design the tension load for the welded studs which anchor the sheet piling to the concrete base slab. The actual deflection could be much larger which would impose a greater load on the studs. This connection could separate creating a seepage path between the concrete base and the sheet piling. The top of this cut off wall should be embedded into the bottom of the concrete base slab as shown in the soils report plates.

d. The steel sheet pile cutoff and the #6 rebars used for cathodic protection will be exposed to the weather. Since the sheet piling specified consists of A328 steel, it would be subject to severe corrosion. Additional provisions must be provided to protect the #6 rebars from the weather by their embedment in the concrete base slab and the steel sheet piling from corroding by either coal tar epoxy coating or changing to Mariner sheet piling.

e. Drawings S-3 and S-6, detail 1 - S-3/S-6, and drawing S-10, detail 3. The steel sheet piling connection details presented allowed a seepage path through the gaps. These details should be revised to eliminate the gaps.

f. Drawing S-10, section B, and details 2A and or 2B. The transition joint details between the concrete wall and the steel sheet pile wall will allow the walls to separate at the slip joint when deflected under hurricane loading. The concrete wall should be extended around the corner and the transition made in a straight wall section in lieu of in perpendicular walls.

g. No analysis was presented to verify the adequacy of the existing cutoff wall under the discharge culvert on the west end of the wall. The cutoff wall may not be adequate under the higher level of hurricane protection required. The analysis for this cutoff wall should be presented for our review.

h. Details of the seepage collar for the discharge pipe through the floodwall stem were not shown on the drawings.

i. The pile foundation layout presented was analyzed only for hurricane loading. The pile layout should also be analyzed under normal, non-hurricane conditions since reversal in pile reactions can occur. The analysis presented did not include the weight of soil backfill over the T-wall base, nor the lateral pressure exerted on the base slab by the retaining/cut-off sheet pile wall. The lateral water load should include the water pressure on the vertical face of the slab. The pile foundation re-analysis should be presented for our review.

j. Drawing S-2, slab "C". The batter piles on this monolith interfere with the foundation piles under the existing concrete platform.

k. No design computations nor details of the floodwall stem over the existing discharge culvert on the west end were presented. These computations and details, as well as details of the wall connection of the existing concrete floodwall should be presented for our review.

l. Pipe support saddles should be provided on both sides of the T-wall stem, on the same monolith slab to support the steel discharge pipes. The wall stem should not bear the weight of the pipes since cracking of the concrete can occur.

m. The design of the T-wall base slab reinforcement was based on soil pressures. Since these are pile supported structures, the T-walls should be designed for pile reactions into the base slab using factored loads.

n. The reinforced concrete floodwalls were designed with Grade 60 steel reinforcement using a yield strength of 60 ksi, a reinforcement ratio equal to 75% of the balanced ratio and factored loads as per the ACI code. The reinforced concrete floodwalls should be redesigned utilizing the following design parameters.

Dead loads x 1.5
Live loads x 1.9 (includes water pressures)
Grade 60 steel: fy = 48 ksi (use 60 ksi to determine development lengths)
Maximum steel ratio = 0.25 of balanced ratio.

LMNED-DD

4 May 83

SUBJECT: Appl by Sewerage and Water Board of New Orleans, to install and maintain a pile supported floodwall, discharge pipes and fill for hurricane protection, near Metairie, Louisiana, in Jefferson Parish

o. Three copies of the final P&S should be provided this office to assure that all the inclosed comments are satisfied. If there are any questions about these comments or if a meeting is desired, please contact Mr. Carl Guggenheimer, (x2645) or Mr. Jorge Romero, (x2647), of this office.

6 Incl
nc

FREDERIC M. CHATRY
Chief, Engineering Division

LMNOD-OF
SUBJECT: Appl by Sewerage & Water Board of New Orleans, to install and maintain a pile supported floodwall, discharge pipes and fill for hurricane protection, near Metairie, Louisiana, in Jefferson Parish

TO C/Reg Func Br FROM C/Proj Ops Br DATE 29 Nov 82 CMT 4
Mr. Baldini/adc/2356

Prior to our submitting a letter of no objection to the Jefferson Levee District, it will be necessary for the applicant to furnish the information required in para "a", CMT 2 above, for review & approval.

1 Incl
nc

D. O. CLEMENT
Chief, Project Operations Branch

TO C/Engr Div FROM C/Reg Func Br Ops Div DATE 12 Apr 83 CMT 5
Mrs. Lucas/rw/2285

Forwarded for comment and return.

1 Incl
Added 5
2. ltr with attachment (4Apr 83)
3. Geo Invest 1 Dec 82
4. computation sheets
5. Spec Apr 83
6. lg dwg (24 sheets)

R. J. VENTOLA
Chief, Regulatory Functions Branch
Operations Division

fwd to appl
29 Nov 82