

TFG FILES INVENTORY

DATE: 12-15-05

Box Number: 49285543

Alternate Number: 17

Other Identification: LN191

Contents Associated With:

1. Contract DACW29-94-C-0079, Daily Logs, 1180-1-1Q, Lake Pontch, LA & Vic, HLP, London Avenue, Outfall Canal, Mirabeau; Section B, Folder 5, Item 37 b.

A0006527✓
A0006524✓
A0006531 (maps to be
seaweed)
A0006536 (maps to be
seaweed)
A0006504
A0006499
A0006506
A0006507
A0006509
A0006512

A0006519
A0006522

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2. xxxxxxxx

3. xxxxxxxx

A0006504
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A0006506
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A0006522

A0006527

David Wurtzel

5 Oct 2005

As per our meeting this morning attached are three copies of parts of the permit files on the 17th Street Canal. The files are on microfilm.

Attachments

1. Permit document issued on 15 June 1984 to the New Orleans Sewage and Water Board to remove bottom material from the 17th Street Canal from Lake Pontchartrain to Pumping Station so as to increase the cross-sectional flow area to allow upgrade of the pumping station from 6,650 cfs to 10,400 cfs. Included in the permit approval was the installation and maintenance of floodwalls and mooring structures.
2. Public notice dated 23 June 1983 announcing the permit request to dredge in the 17th Street Canal and to announce a public information meeting for 20 July 1983.
3. Project Environmental Assessment dated 6 June 1984.
4. Time extension issued on 22 June 1992 to allow work through 13 June 1997. Work to be completed is south of the Old Hammond Highway Bridge.
5. Permit document issued on 23 August 1983 to upgrade Pumping Station No. 6 to increase pumping capacity with permit addition dated 29 August 1983.
6. Permit document issued on 7 January 1988 to siphon water from the 17th Street Canal to West Esplanade Canal to improve water quality in Jefferson Parish.

Roger Swindler
Regulatory Branch
x-2278

Application No. LM30D-6P (17th Street Canal)2
Name of Applicant Sewerage and Water Board of New Orleans
Effective Date JUN 13 1984
Expiration Date (If applicable) _____

Inspector

**DEPARTMENT OF THE ARMY
PERMIT**

Referring to written request dated May 9, 1983 for a permit to:

() Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403);

() Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344);

() Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052; P.L. 92-532);

Sewerage and Water Board of New Orleans
City Hall, Civic Center
New Orleans, Louisiana 70165

is hereby authorized by the Secretary of the Army:
to dredge to enlarge and maintain an area and install and maintain flood walls
and mooring structures,

in the 17th Street Canal (Metairie Relief Canal) from Pumping Station No. 6
to a point about 400 feet north of the Bucktown Pedestrian Bridge, in
Lake Pontchartrain,
at Metairie, Louisiana, in Jefferson Parish,

in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit (on drawings, give file number or other definite identification marks.) in 11 sheets titled Metairie Outfall
Canal Maintenance Dredging, dated May 1983,

subject to the following conditions:

I. General Conditions:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit; and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (33 U.S.C. 1344), the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532, 86 Stat. 1052), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, or any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the term of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementation plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that he will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall allow the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in reasonable accordance with the plans and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

j. That this permit does not obviate the requirement to obtain state or local assent required by law for the activity authorized herein.

k. That this permit may be either modified, suspended or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be materially false, materially incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

o. That if the activity authorized herein is not completed on or before _____ day of _____, 19 _____, (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition t hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

u. That if the permittee during prosecution of the work authorized herein, encounters a previously unidentified archeological or other cultural resource within the area subject to Department of the Army jurisdiction that might be eligible for listing in the National Register of Historic Places, he shall immediately notify the district engineer.

ii. Special Conditions: (Here list conditions relating specifically to the proposed structure or work authorized by this permit):

v. That all dredging will be performed by bucket dredge or other similar mechanical dredge equipment to lessen turbidity impacts. No hydraulic dredging is to be performed.

w. That no dredging will be performed during Pumping Station No. 6 pumping operations.

x. That adequate silt screens will be placed in the immediate area of dredging operations to control turbidity.

* y. That dredged material from the canal will be transported from the site by leak-proof trucks. Care will be taken during loading and transportation operations to control spillage of material from the trucks.

z. That a physical barrier will be constructed on the berm of the dredge area to control silt from entering the canal.

✓ aa. That the site or sites from the offsite disposal of dredged material will be approved by the New Orleans District Corps of Engineers prior to disposal operations.

bb. That the disposal method such as coverage with clear fill, depth of disposal material, etc., will be in accordance with applicable state environmental laws and regulations.

cc. That the New Orleans District reserves the right to inspect the site during operations and add additional conditions to the permit to protect the overall public interest.

dd. That the permittee is aware that approvals or permits are required from the Orleans Levee Board and the Jefferson Levee Board.

ee. That the permittee is aware that the work authorized under this permit may not necessarily be creditable under the "Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection" project.

ff. That the permittee will submit three sets of the final plans and specifications to the Chief of Engineering Division of the New Orleans District for information and further coordination with the permittee's architect-engineering firm.

gg. That in issuing this permit the New Orleans District recognizes that structures and mooring facilities in the canal will be removed and that some boat mooring structures may be placed in the canal after dredging. The New Orleans District interposes no objection to boat mooring structures in the canal provided the structures are installed by or under the approval of the permittee.

hh. That the permittee will maintain the present level of hurricane protection throughout the duration of the construction.

1013
The following Special Conditions will be applicable when appropriate:

STRUCTURES IN OR AFFECTING NAVIGABLE WATERS OF THE UNITED STATES:

a. That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

b. That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.

c. That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

d. That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.

e. Structures for Small Boats: That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.

MAINTENANCE DREDGING:

a. That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for _____ years from the date of issuance of this permit (ten years unless otherwise indicated);

b. That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.

DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES:

a. That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the Clean Water Act and published in 40 CFR 230;

b. That the discharge will consist of suitable material free from toxic pollutants in toxic amounts.

c. That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution.

DISPOSAL OF DREDGED MATERIAL INTO OCEAN WATERS:

a. That the disposal will be carried out in conformity with the goals, objectives, and requirements of the EPA criteria established pursuant to Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, published in 40 CFR 220-228.

b. That the permittee shall place a copy of this permit in a conspicuous place in the vessel to be used for the transportation and/or disposal of the dredged material as authorized herein.

This permit shall become effective on the date of the District Engineer's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

Firm [Signature]

PERMITTEE

June 13, 1984

DATE

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

B. J. [Signature]
C. J. Retales, Chief, Operations Division

June 13, 1984

DATE

for Robert C. Lee, Colonel
DISTRICT ENGINEER,

U.S. ARMY, CORPS OF ENGINEERS

Transferee hereby agrees to comply with the terms and conditions of this permit.

TRANSFEEEE

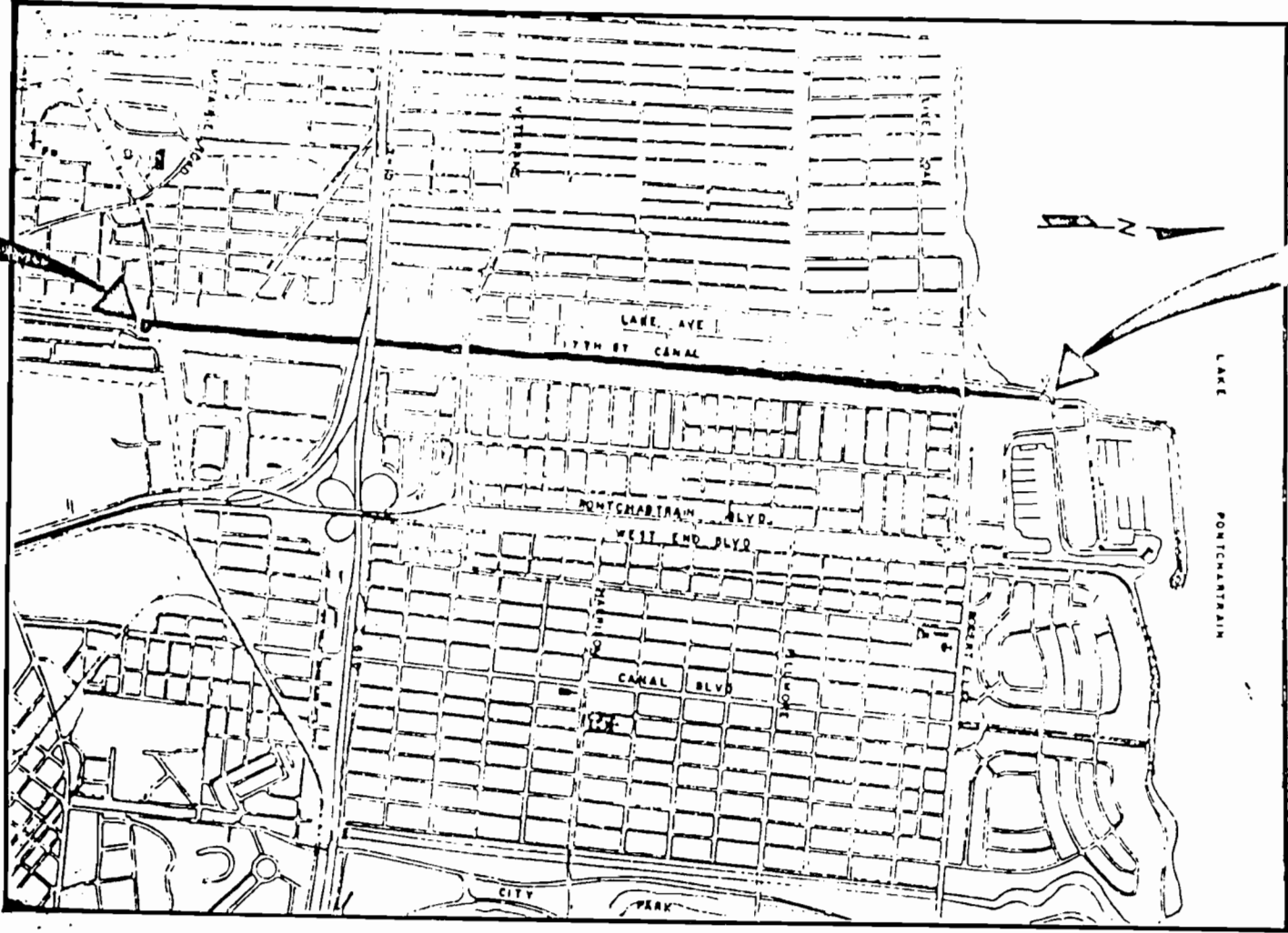
DATE

Enclosure
Set of drawings (11 sheets)

4

GIN PROJECT

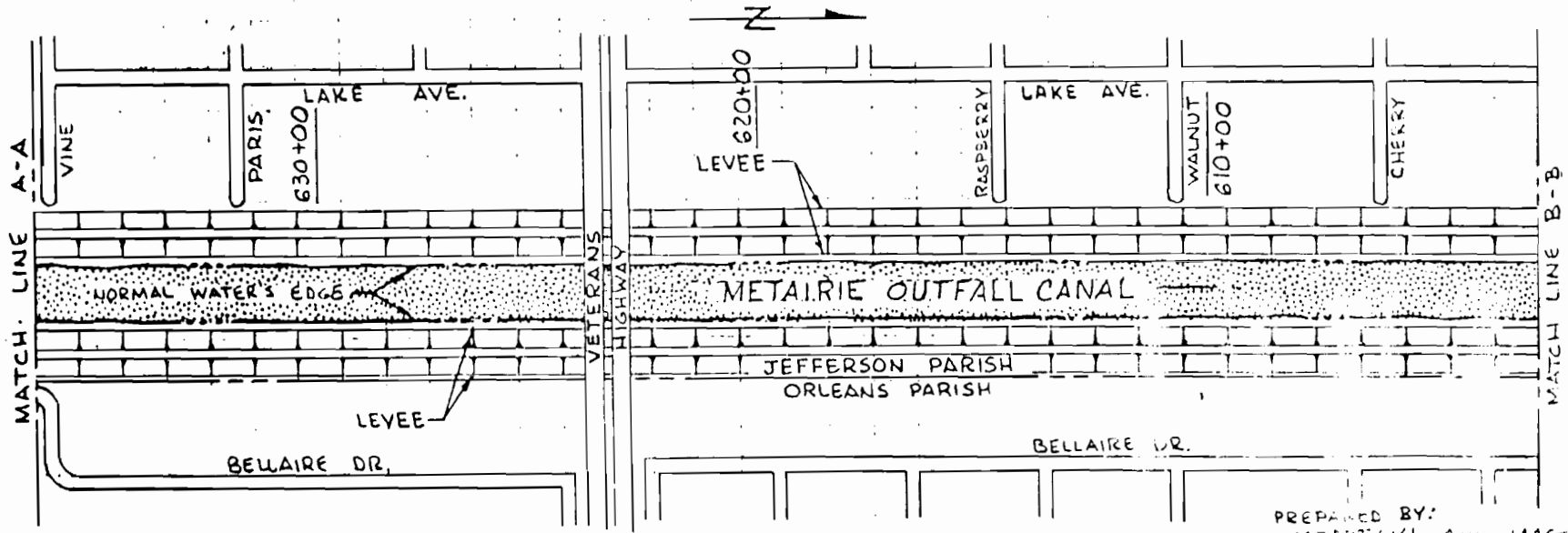
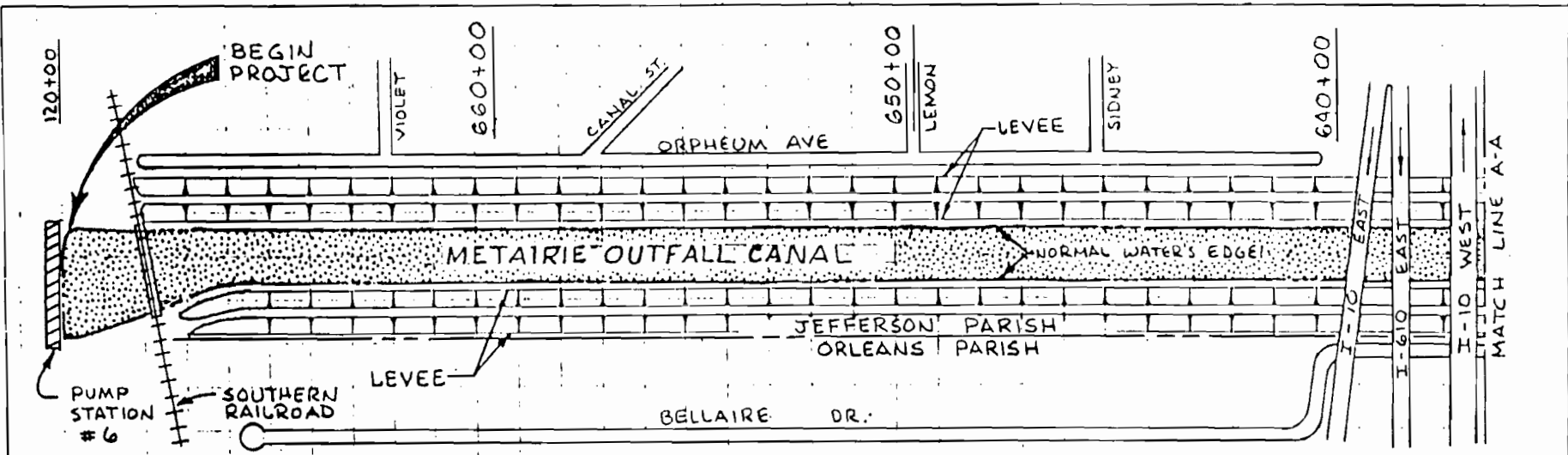
END PROJECT



PROJECT LOCATION



METAIRIE OUTFALL CANAL
 SEWERAGE AND WATER BOARD
 OF ORLEANS PARISH, LA.
 PREPARED BY: MODJESKI AND MASTERS
 SH 1 OF 11
 MAY, 1983

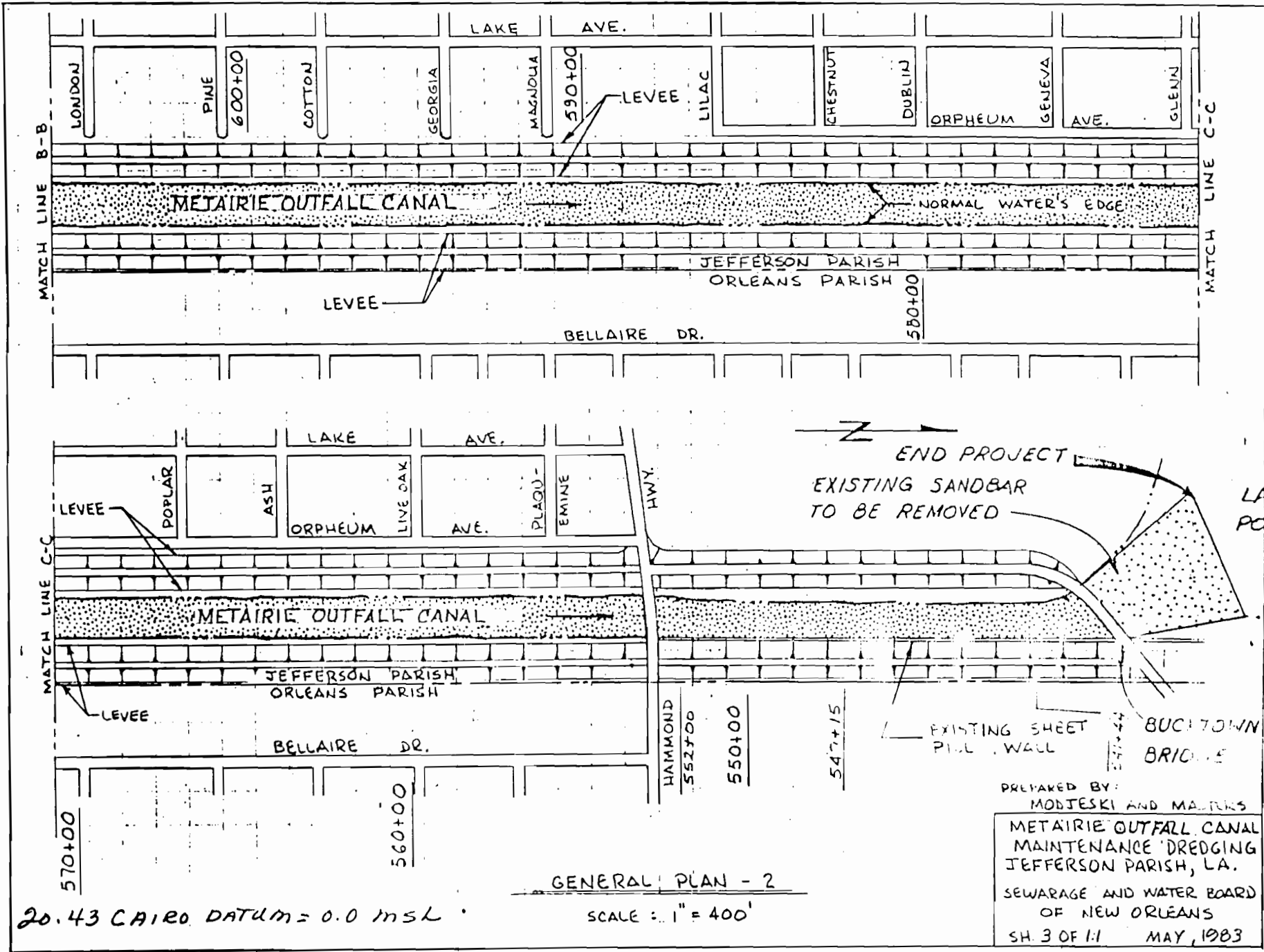


20.43 = 0.0 MSL
ELEVATIONS SHOWN ARE
CAIRO DATUM. 20.43 CAIRO
DATUM = 0.0 MEAN SEA LEVEL

GENERAL PLAN - 1

SCALE: 1" = 400'

PREPARED BY:
MODJESKI AND MASTERS
METAIRIE OUTFALL CANAL
MAINTENANCE DREDGING
JEFFERSON PARISH, LA.
SEWERAGE AND WATER BOARD
OF NEW ORLEANS
SH. 2 OF 11 MAY, 1983

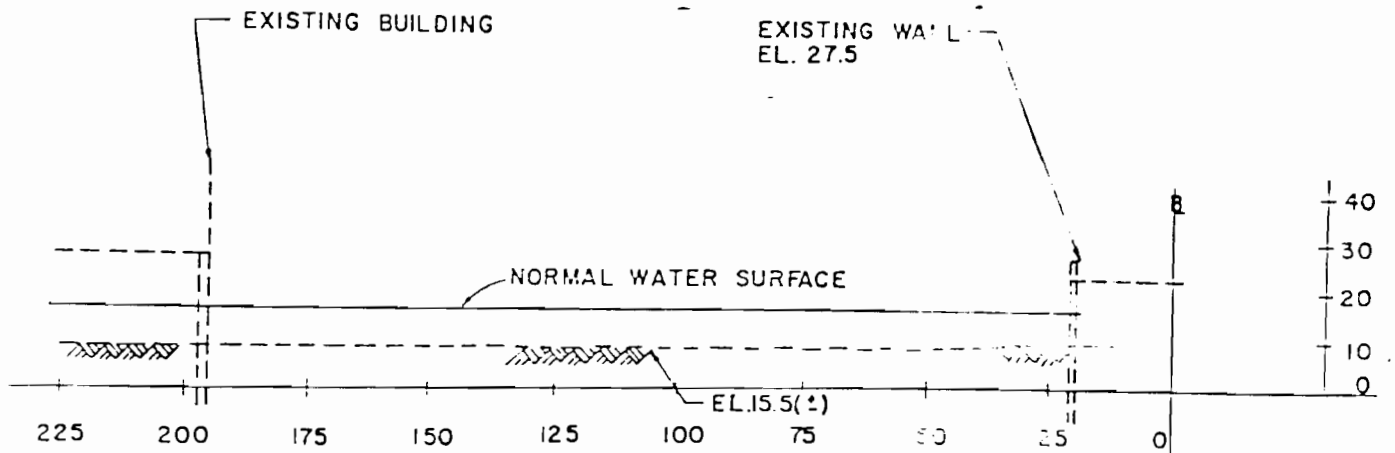


20.43 CAIRO DATUM = 0.0 MSL

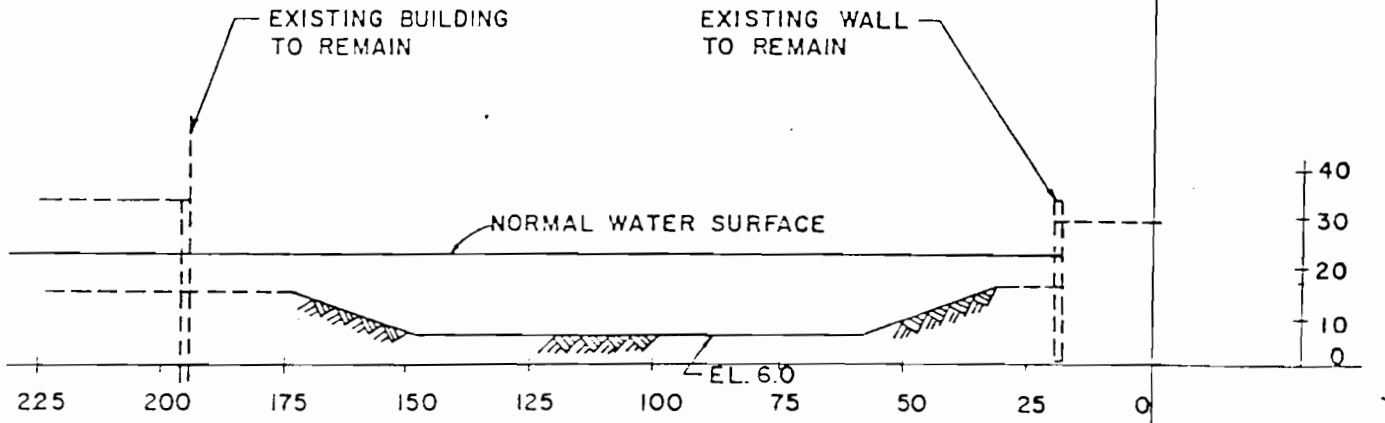
GENERAL PLAN - 2

SCALE : 1" = 400'

PREPARED BY:
 MODJESKI AND MATRYS
 METAIRIE OUTFALL CANAL
 MAINTENANCE DREDGING
 JEFFERSON PARISH, LA.
 SEWERAGE AND WATER BOARD
 OF NEW ORLEANS
 SH. 3 OF 11 MAY, 1983



EXISTING



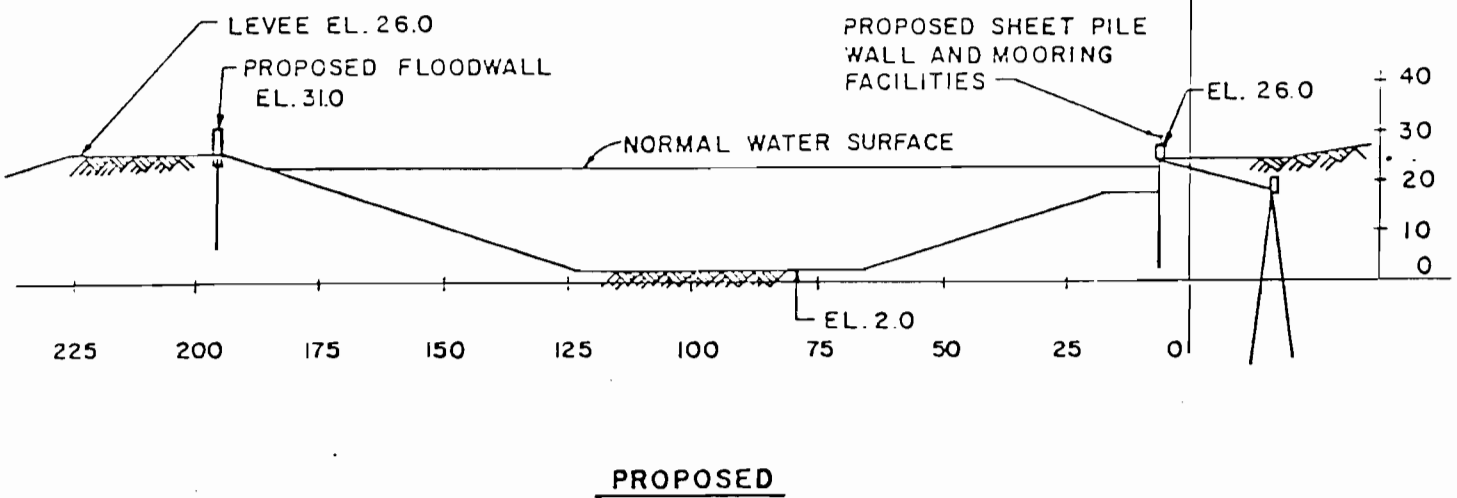
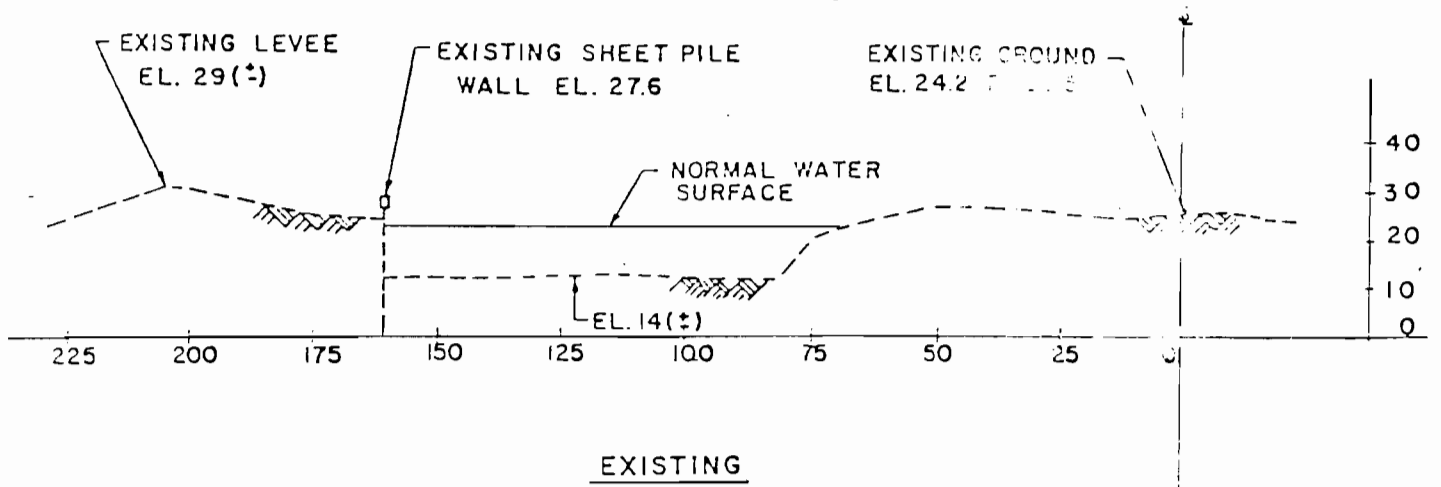
PROPOSED

SECTIONAL VIEW 300' NORTH OF THE BUCKTOWN BRIDGE

(LOCKING SOUTH)

1" = 40'

20.43 CAIRO DATUM = 0.0 m 5.1



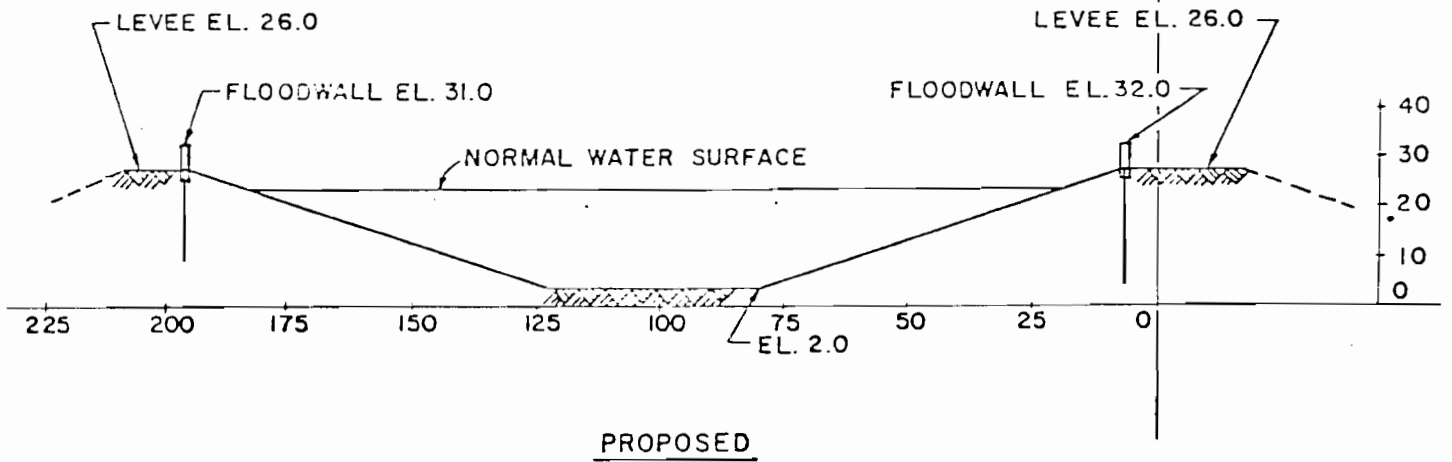
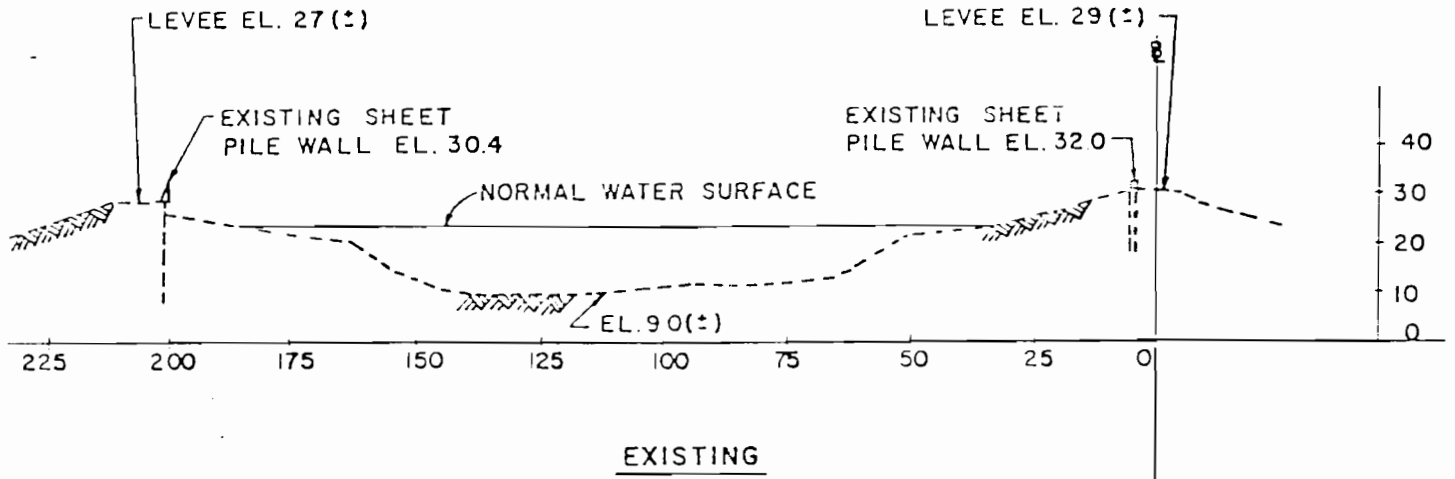
SECTIONAL VIEW BETWEEN BUCKTOWN BRIDGE AND HAMMOND HIGHWAY

(LOOKING SOUTH)

1" = 40'

20.43 CAIRO DATUM - 100' ±

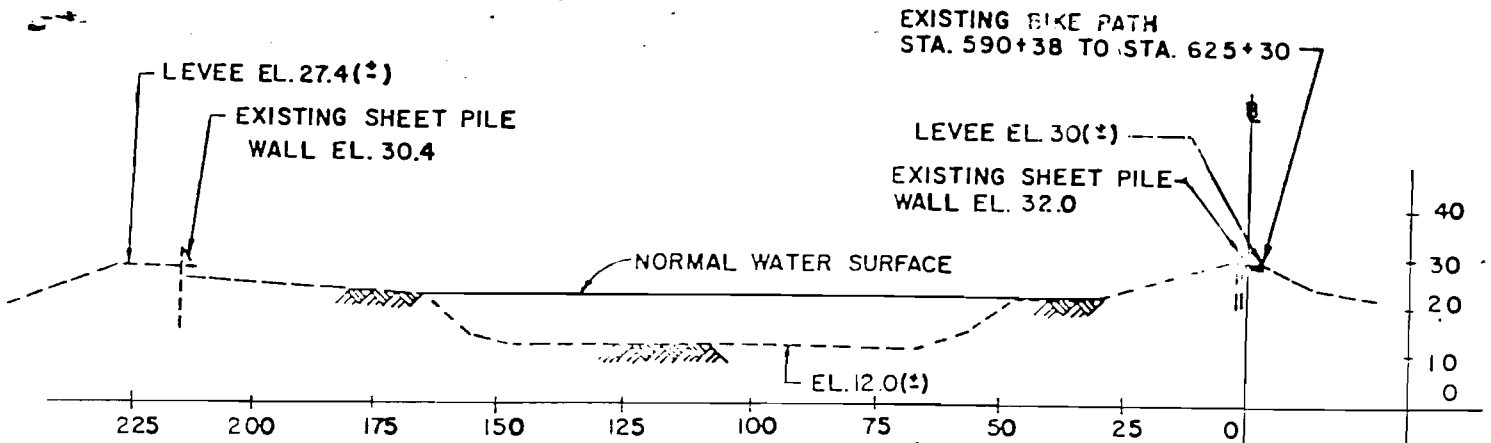
METAIRIE OUTFALL CANAL
 SEWERAGE AND WATER BOARD
 OF ORLEANS PARISH, LA.
 PREPARED BY: MODJESKI AND MASTERS
 MAY 1977



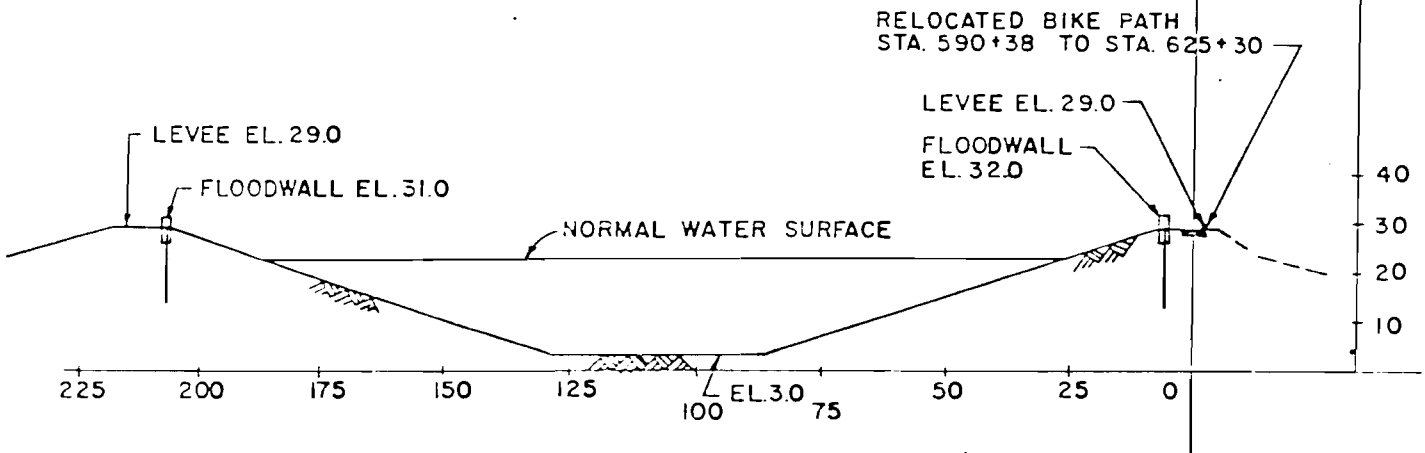
SECTIONAL VIEW BETWEEN HAMMOND HIGHWAY AND VETERANS HIGHWAY

(LOOKING SOUTH)

1"=40'



EXISTING



PROPOSED

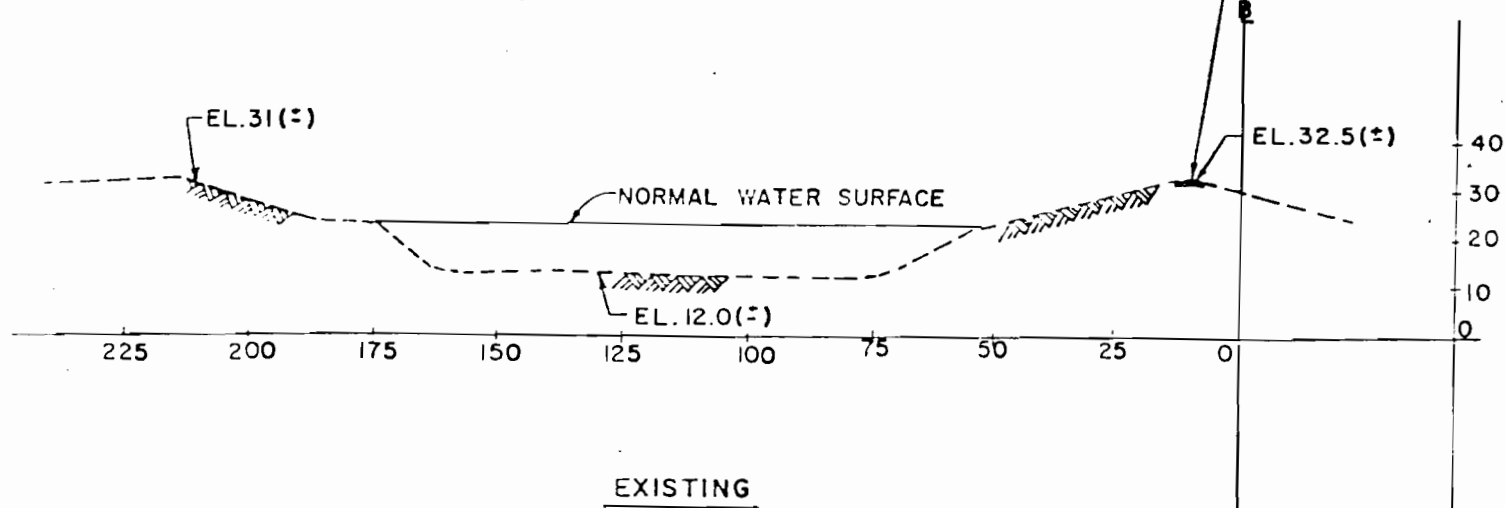
SECTIONAL VIEW BETWEEN VETERANS HIGHWAY AND I-10

(LOOKING SOUTH)

1" = 40'

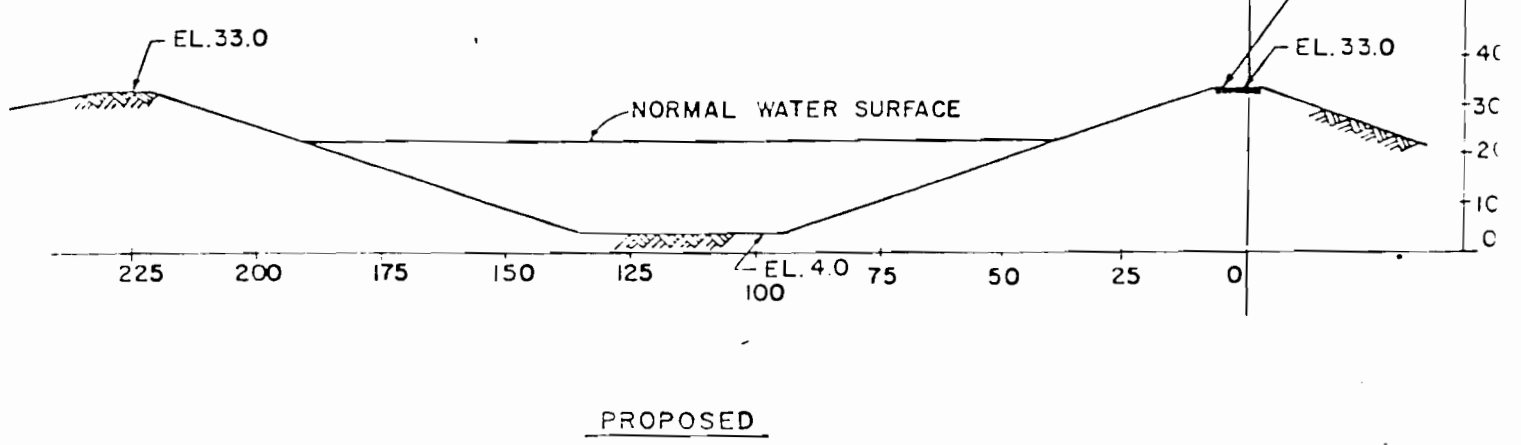
20.43 CAIRO DATUM = 0.0 msl

EXISTING BIKE PATH
STA. 642+76 TO 675+00



EXISTING

RELOCATED BIKE PATH
STA. 642+76 TO STA. 675+00



PROPOSED

SECTIONAL VIEW BETWEEN I-10 AND PUMP STATION NO. 6

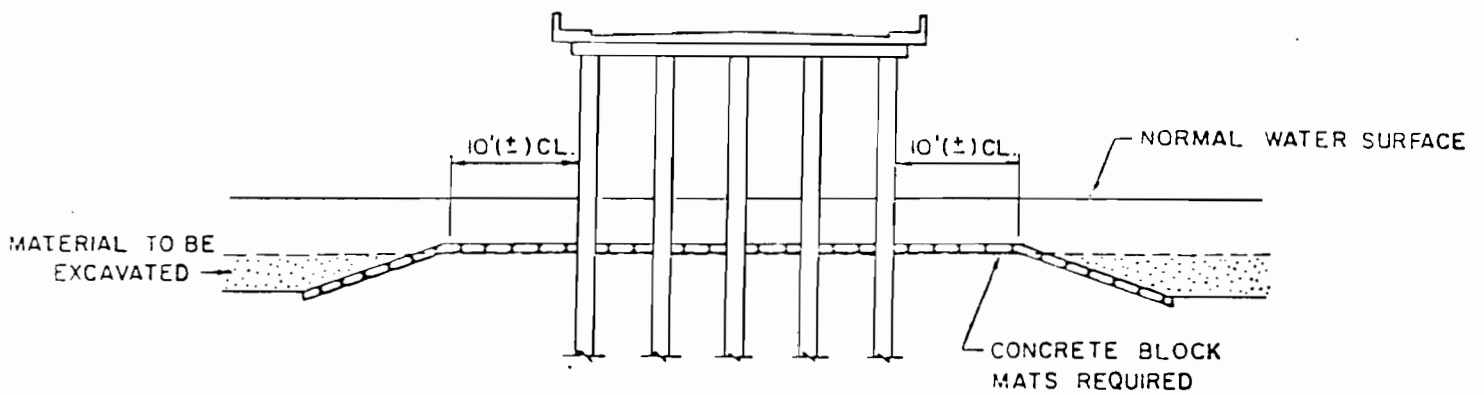
(LOOKING SOUTH)

1" = 40'

20.43 CAIRO DATUM = 0.0 M.S.L.

METAIRIE OUTFALL CANAL
SEWERAGE AND WATER BOARD
OF ORLEANS PARISH, LA.

PREPARED BY: MODJESKI AND MASTER
SHEET NO. 11
MAY, 1987



EXCAVATION LIMITS AT BRIDGES

NO SCALE

NOTE: NO EXCAVATION WILL BE REQUIRED BETWEEN I-10 EASTBOUND AND I-10 WESTBOUND. HOWEVER CONCRETE BLOCK MATS WILL BE REQUIRED.

20.43 CAIRO DATUM = 0.0 M.S.L.

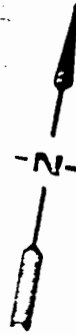
METAIRIE OUTFALL CANAL
SEWERAGE AND WATER BOARD
OF ORLEANS PARISH, LA.
PREPARED BY: MODRESKI AND MASTERS

L A K E

P O N T C H A R T R A I N

Jefferson
Parish

Orleans
Parish



Pumping Station No. 6

Pumping Station No. 1

2550 ACRES
FROM JEFFERSON

7860 ACRES
FROM ORLEANS

M I S S I S S I P P I

R I V E R

OUTFALL CANAL

AVENUE 'C'

WETAIRE ROAD

LOUWIS DITCH

BERNARD CANAL

AVENUE 'B'

HOVEY CANAL

FROM JEFFERSON

ORLEANS ST.

VALERIE CANAL

J. SUBSTANTIAL

WALNUT AVE.

J. CARROLL AVE.

LOWMEYER ST.

MADRIALE AVE.

MAISON AVE.

CLAYTON AVE.

ST. CHARLES AVE.

LAND ST.

ST. CHARLES AVE.

ST. CHARLES AVE.

ST. CHARLES AVE.

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ST. CHARLES AVE.

ST. CHARLES AVE.

WETAIRE OUTFALL CANAL
SEWERAGE AND WATER BOARD
OF ORLEANS PARISH, LA.
PREPARED BY: MOOLESKI AND MASTERS
SH. 10 OF 11 MAY, 1963

SYNOPSIS OF HYDRAULIC ANALYSIS

I. Determination of Cross-sectional Area

Reference: Open-channel Hydraulics by Chow, 1959
Pages 165-168

- A. A velocity of 4 fps was determined to be the recommended allowable.
- B. The Manning Formula was used to arrive at the desirable cross-sectional area of 2500 sf.
- C. The D'Aubuisson Method was used to calculate the backwater effect of the bridges and other obstructions.

II. History of Project

- A. Phase I
 1. Canal capacity analyzed for 7225 cfs.
 2. Canal capacity analyzed for 10,000 cfs from Hammond Hwy. to the Lake and 6650 cfs from Pump Station No. 6 to Hammond Hwy.
- B. Phase II - canal capacity analyzed for 10,400 cfs from Pump Station No. 6 to the Lake.
 1. M & M Manual Calculations
 2. HEC 2 by consultant of Jefferson Parish
 3. Hydro-dynamic Model & HEC 2 by Drs. Alawady and Suhada
 4. Linfield-Hunter Analysis

Inspector

1583

February 20, 1987

Operations Division
Permits Section

SUBJECT: LMNOD-SP(17th Street Canal)2

Sewerage and Water Board of New Orleans
City Hall, Civic Center
New Orleans, Louisiana 70165

Gentlemen:

As requested in your letter dated February 4, 1987, the authorization granted by the Secretary of the Army in permit dated June 13, 1984, from the District Engineer at New Orleans, Louisiana, to dredge to enlarge and maintain an area and install and maintain flood walls and mooring structures in the 17th Street Canal (Metairie Relief Canal) from Pumping Station No. 6 to a point about 400 feet north of the Bucktown Pedestrian Bridge in Lake Pontchartrain, at Metairie, Louisiana, in Jefferson Parish, is specifically extended to June 13, 1992.

The conditions to which the work is made subject, excepting the time limit for completion, remain in full force and effect.

This is the last extension of time which will be granted for this permit without full permit reprocessing. If the work is not completed by the date granted under this letter, it will be necessary for you to reapply for a permit to perform any work after that date. You then must submit a new completed application form, permit drawings indicating work completed and remaining, and request new letters of no objection. It is possible that, as a result of the new evaluation, your request for a time extension could be denied or the authorization for the portion of your project not completed could be significantly modified.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Henry R. Schnorr
Assistant Chief, Operations Division
for
Lloyd K. Brown
Colonel, Corps of Engineers
District Engineer



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

June 23, 1983

REPLY TO
ATTENTION OF:

Operations Division, Permits
Ms. Hall
(504) 838-2299

SUBJECT: LMNOD-SP (17th Street Canal)2

PUBLIC NOTICE

Interested parties are hereby notified that application has been received by the District Engineer for a Department of the Army permit to authorize the following pursuant to Section 10 of the River and Harbor Act of March 3, 1899, (30 Stat. 1151; 33 USC 403):

DREDGING FOR DRAINAGE IMPROVEMENTS IN THE 17TH STREET CANAL
(METAIRIE RELIEF CANAL)

Purpose: To describe the proposed project and solicit comments, and to announce a scheduled public information meeting to be held by the Sewerage and Water Board of New Orleans at the City Council Chambers, City Hall, 1300 Perdido Street, New Orleans, Louisiana 70112, on July 20, 1983, at 7:00 p.m.

Name of applicant: SEWERAGE AND WATER BOARD OF NEW ORLEANS, City Hall, Civic Center, New Orleans, Louisiana 70165.

Location of work: In the 17th Street Canal (Metairie Relief Canal) from Pump Station No. 6 to Lake Pontchartrain, in Metairie, Louisiana, in JEFFERSON PARISH, as shown on the attached drawings.

Character of work: Dredge to improve drainage. The dredging operation will consist of the removal of approximately 470,000 cubic yards of material from the bottom of the canal. The dredged material will be hauled from the site in leak proof trucks and deposited in a nonwetland site. One such location is adjacent to the sewage treatment plant off Florida Avenue owned by the applicant. The proposed dredging is part of a project to increase the cross sectional area of the canal and to increase the pumping rate of Pump Station No. 6 from the present 6,650 cubic feet per second to 10,400 cubic feet per second to improve the drainage capability of the canal and thereby reduce the incidence of flooding.

The 17th Street Canal was dug as a stormwater drainage outlet by the City of New Orleans in 1872. It was redredged in 1897, and again in 1929. The 17th Street Canal is the main stormwater drainage outlet for approximately 7,860 acres of urbanized land in Orleans Parish (Uptown, Broadmoor, Carrollton) and approximately 2,550 acres of similar area in Jefferson Parish (between Metairie Road and the Mississippi River).

PUBLIC NOTICE

6-27-83

This project is part of an overall project whose elements are aimed at providing a system capable of a 5-year return frequency protection. The applicant's project is to improve the present hydraulic characteristics of the canal to allow the pumping rate of Pump Station No. 6 to increase to 10,400 cubic feet per second, thereby reducing the instances of street and home flooding in the drained area.

The applicant proposes to remove all obstructions from the canal including all boat mooring facilities. The applicant has stated that people whose boats are displaced by the project will be allowed to moor their boats to the proposed sheet-pile wall on the west side of the canal. This and other alternatives are under consideration by the applicant. The project will displace approximately nine residences and two businesses presently located in the drainage canal. However, these improvements will decrease the flooding potential to approximately 200,000 residents of urban areas in Jefferson and Orleans Parishes.

As part of the project, modifications will be made to the existing levees on both sides of the canal to provide for levee stability. Although changes in the shape of the levees will be needed, the landside levees toes will not extend any further from the canal than they are at present. The existing bike paths will be removed during construction, but will later be replaced.

The Sewerage and Waterboard of New Orleans has scheduled a public information meeting at City Council Chambers, City Hall, 1300 Perdido Street, New Orleans, Louisiana 70112, on July 20, 1983, at 7:00 p.m. to explain the project in further detail. Everyone who has interest in this project is strongly urged to attend. The normal public notice comment period is being extended to allow for comments after the meeting.

Plans for the proposed work are now on file in the Office of the District Engineer, US Army Engineer District, New Orleans, Foot of Prytania Street, New Orleans, Louisiana, and may be seen by anyone having interest in the matter. Protests to the proposed work, suggestions for modification thereof or objections to it, stating reasons therefor, will be received up to and including August 1, 1983 . Letters must contain both the applicant's name and the notice number.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources.

The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among those are conservation, economics, esthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use, navigation, recreation, water supply, water quality, energy needs, safety, food production, and, in general, the needs and welfare of the people.

No properties listed in the National Register of Historic Places are near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, or historical sites or data. Copies of this notice are being sent to the State Archeologist, State Historical Preservation Officer, and the National Park Service.

You are requested to communicate the information contained in this letter to any other parties whom you deem likely to have interest in the matter.

Our initial finding is that the proposed work would neither affect any species listed as endangered by the US Department of Interior nor affect any habitat designated as critical to the survival and recovery of any endangered species.

The applicant has certified that the proposed activity described in the application complies with and will be conducted in a manner that is consistent with the Louisiana Coastal Resources Program.

C. J. Nettles
Chief, Operations Division

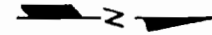
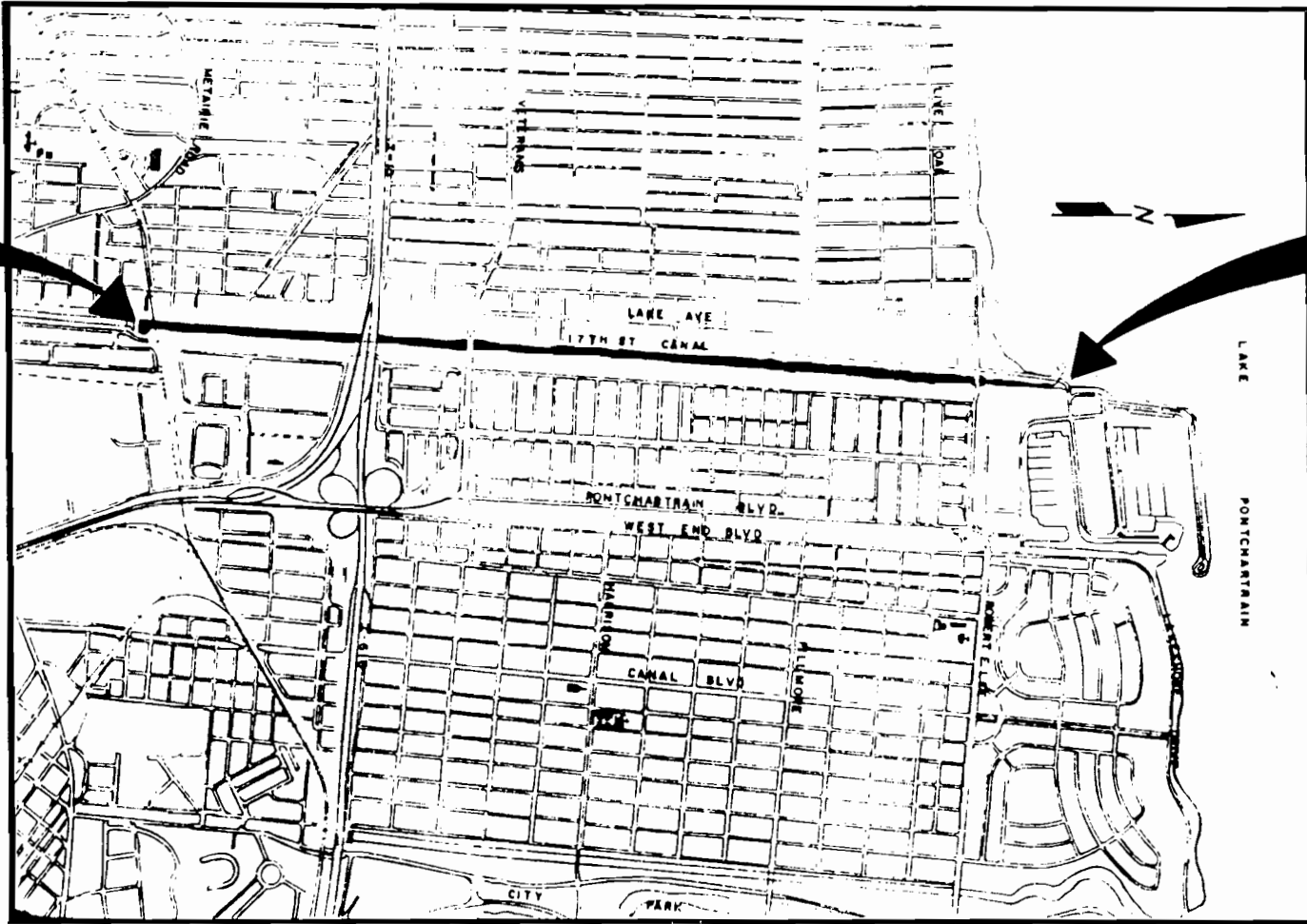
This project combines two (2) previously submitted permit requests by the Sewerage and Water Board of New Orleans' plan to improve the hydraulic characteristics of the 17th Street Canal. The limits of the total project are Pump Station No. 6 on the south and 370.0 feet north of Bucktown Pedestrian Bridge to the north, as shown on Attachment pages 2 and 3. The permit Application for Phase I was submitted to your office on December 29, 1980. The Permit Application for Phase II was submitted April 20, 1981. This application is to supersede the previous ones by combining the two (2) phases into one (1) project.

The applicant's goal for the 7,860 acres (75%) of Orleans Parish and 2,550 acres (25%) of Jefferson Parish drained by the 17th Street Canal is a drainage system capable of providing 5-year return frequency protection. The canal's tributary area is shown on Attachment page 10. Elements of the overall plan include: improving the drainage system upstream of Pump Station No. 6, increasing the pumping capacity of Pump Station No. 6 from 6,650 to 10,400 cubic feet per second, and dredging the 17th Street Canal (470,000 cubic yards) to give it the capability of carrying the increased flow. The improvement of the canal to a cross section capable of carrying 10,400 cubic feet per second in the section between the Hammond Highway Bridge and the Bucktown Bridge was provided for in the December 29, 1980 application.

Preliminary plans for this project call for the construction of sheet pile walls with concrete caps along both levees for the majority of the length of the project, then excavation of the canal to provide a flow area in the neighborhood of 2,500 square feet. In addition, some lowering of the existing levees behind the proposed sheet pile walls will be required to meet stability requirements. Sheet pile walls will, however, be of sufficient height to meet current flood protection criteria. The Southern Railroad Bridge just north of Pump Station No. 6 will require some modification as it could possibly become a substantial flow obstruction at extremely high lake stages and could also be a possible cause of flooding, due to the fact that the rail elevation is several feet below the existing levees in its proximity. Detailed hydraulic analyses have been undertaken during the design phase of this project to determine the effect of this bridge and other obstructions within the canal for the design flow of 10,400 cubic feet per second. Hydraulic gradient calculations based on the projected flow of 10,400 cubic feet per second at normal lake elevations and after completion of canal dredging, indicate an insufficient rise in water elevation at Veterans Highway Bridge to warrant consideration of flood gates. A synopsis of the hydraulic analyses is described on Attachment page 11.

All excavated material will be hauled away in leak proof trucks and disposed of in a nonwetland area and covered by at least one foot of clean fill to comply with suggestions made the the EPA concerning a previous permit application.

BEGIN PROJECT



END PROJECT

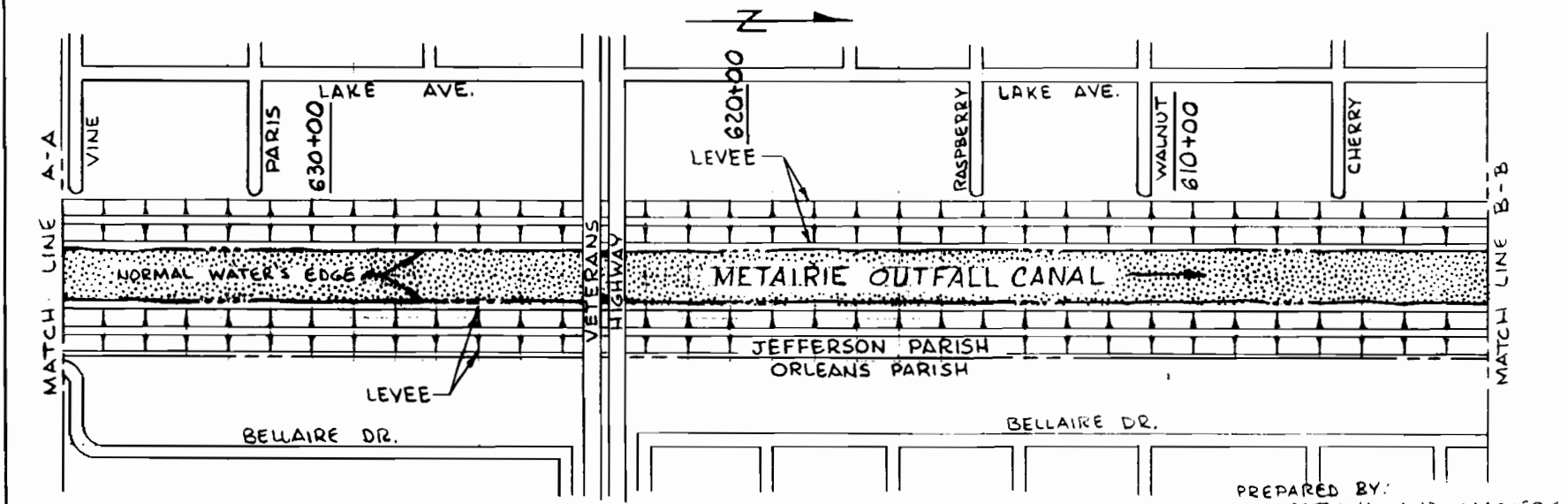
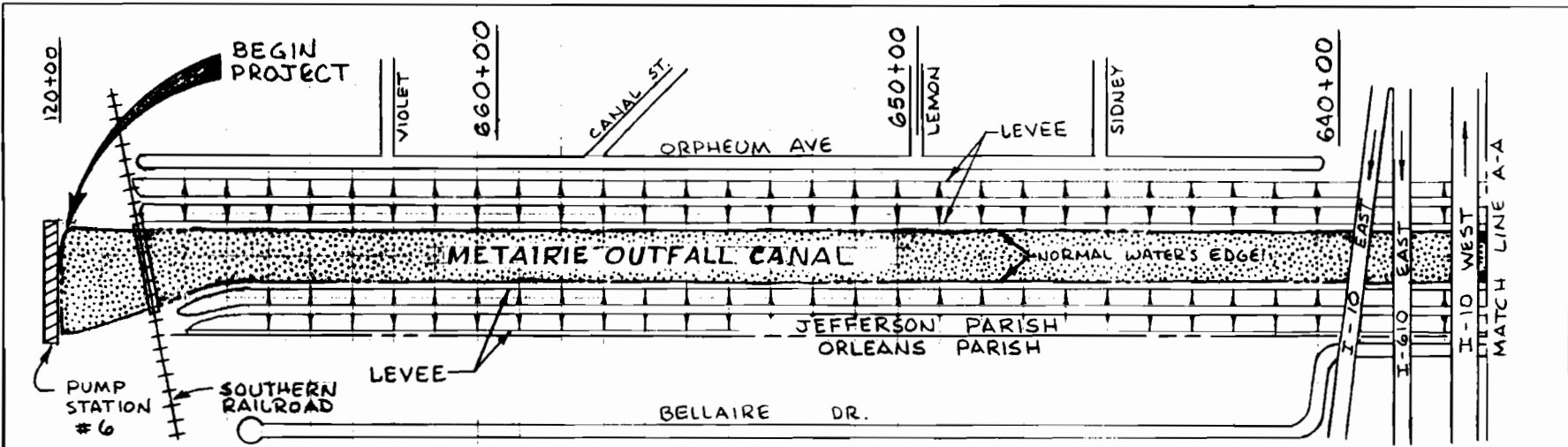


PROJECT LOCATION

2000 0 2000 4000

Scale in Feet

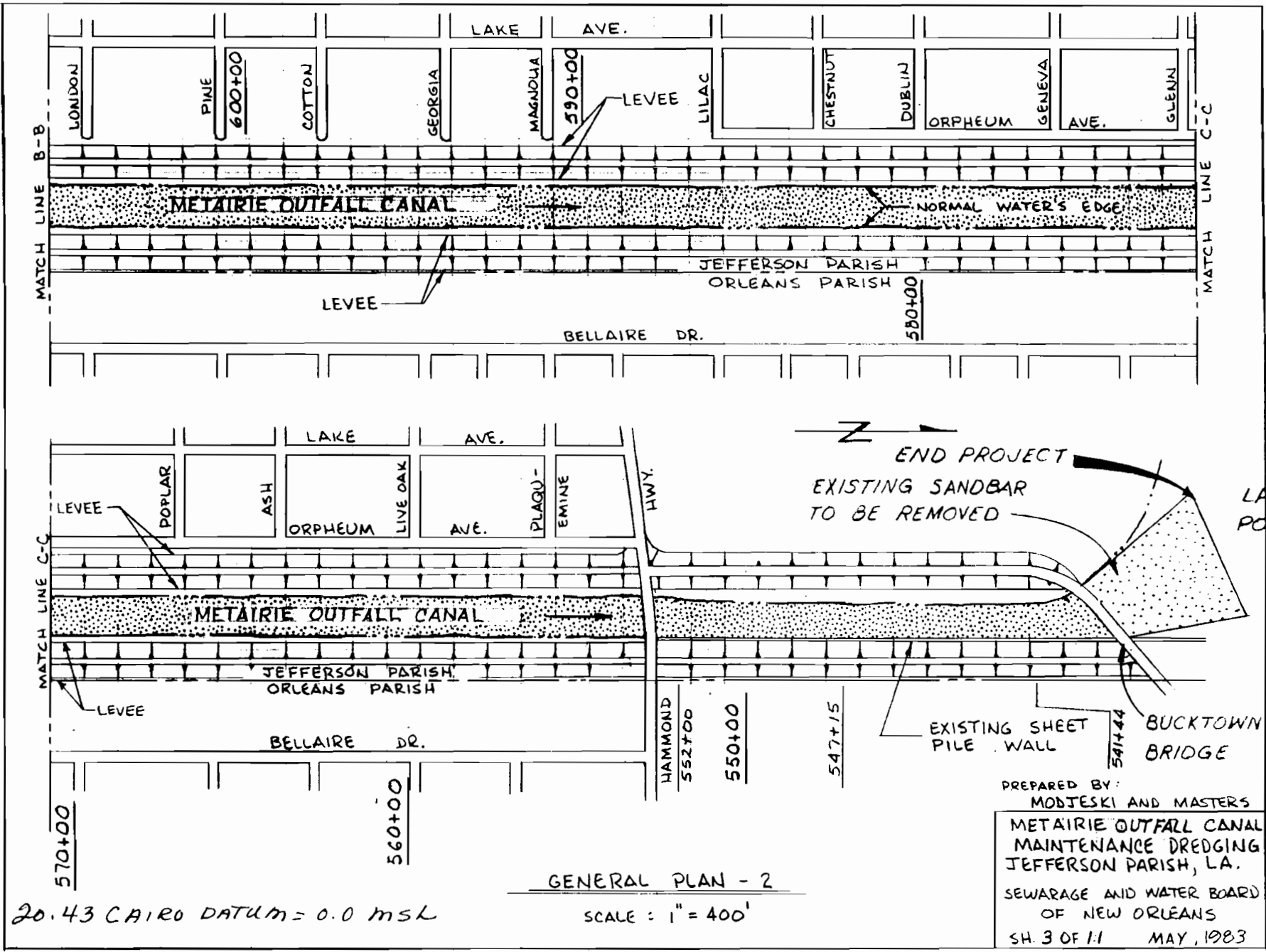
METAIRIE OUTFALL CANAL
SEWERAGE AND WATER BOARD
OF ORLEANS PARISH, L.A.
PREPARED BY: MODJESKI AND MASTERS
SH. 1 OF 11 MAY, 1983



20.43 = 0.0 MSL
ELEVATIONS SHOWN ARE
CAIRO DATUM. 20.43 CAIRO
DATUM = 0.0 MEAN SEA LEVEL

GENERAL PLAN - 1
SCALE: 1" = 400'

PREPARED BY:
MODTESKI AND MASTERS
METAIRIE OUTFALL CANAL
MAINTENANCE DREDGING
JEFFERSON PARISH, LA.
SEWERAGE AND WATER BOARD
OF NEW ORLEANS
SH. 2 OF 11 MAY, 1983



20.43 CAIRO DATUM = 0.0 MSL

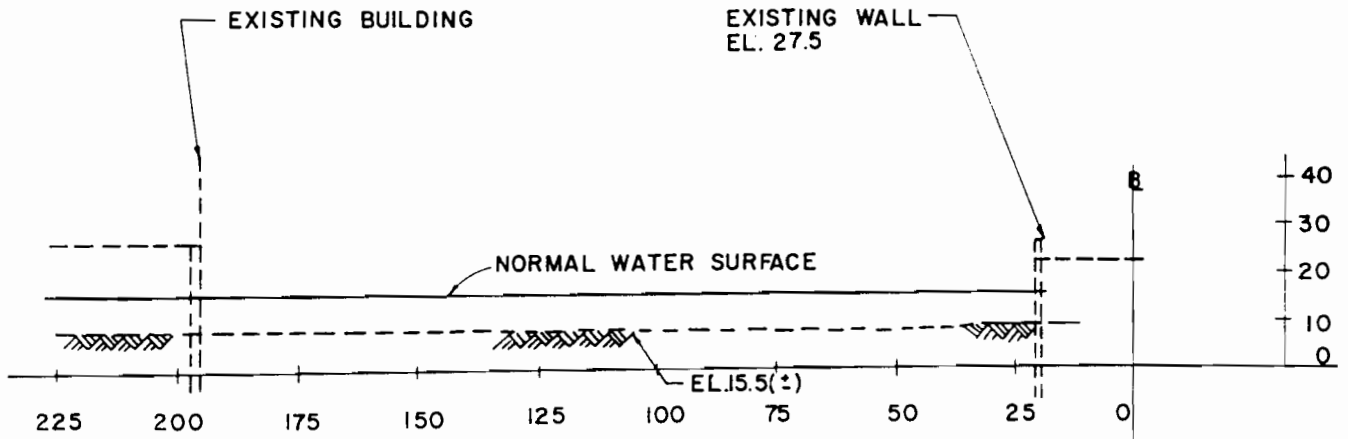
GENERAL PLAN - 2

SCALE : 1" = 400'

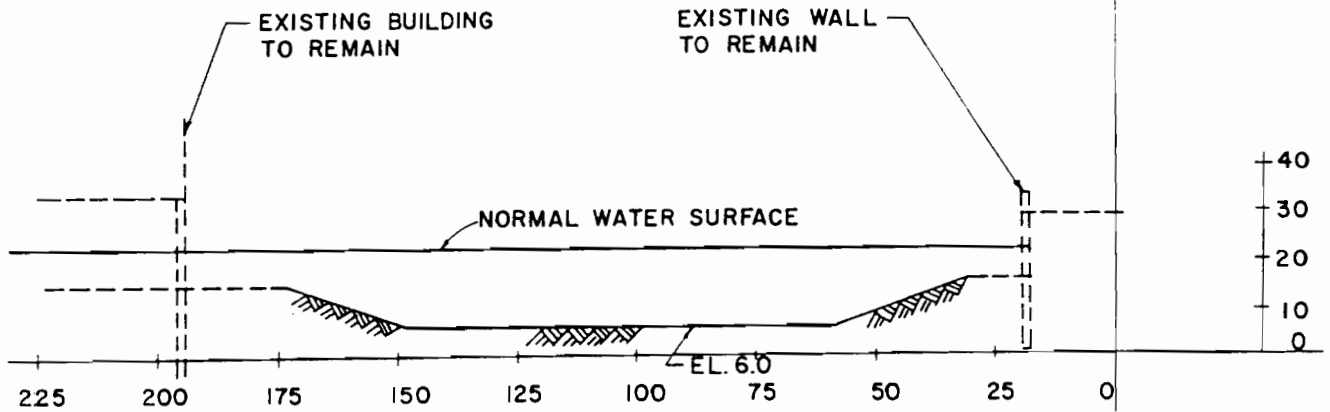
PREPARED BY:
MOJTESKI AND MASTERS

METAIRIE OUTFALL CANAL
MAINTENANCE DREDGING
JEFFERSON PARISH, LA.

SEWERAGE AND WATER BOARD
OF NEW ORLEANS
SH. 3 OF 11 MAY, 1983



EXISTING



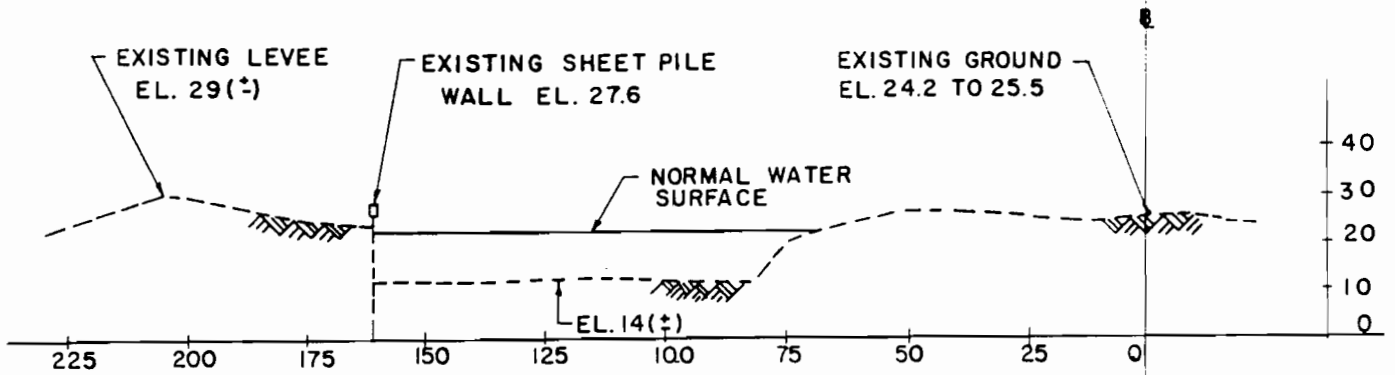
PROPOSED

SECTIONAL VIEW 300' NORTH OF THE BUCKTOWN BRIDGE

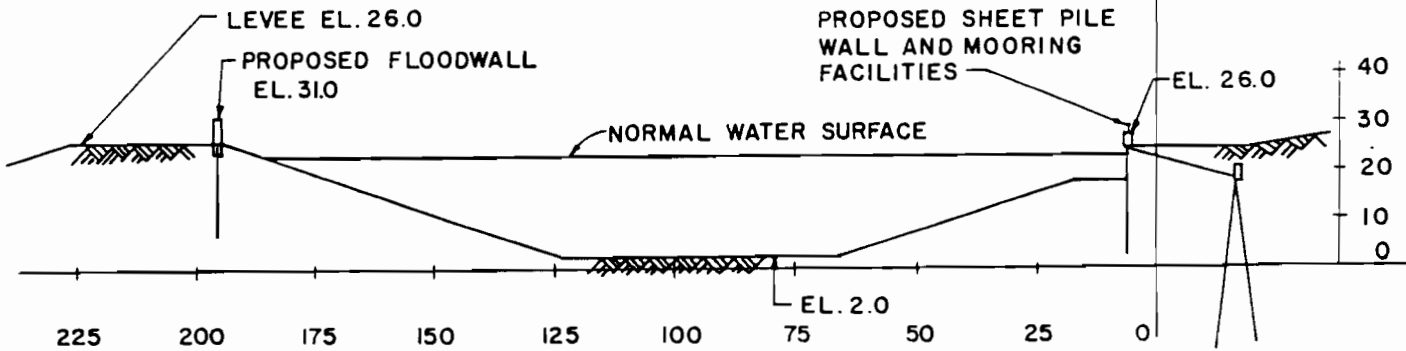
(LOOKING SOUTH)

1" = 40'

20, 43 CAIRO DATUM = 0.0 M.S.L.



EXISTING



PROPOSED

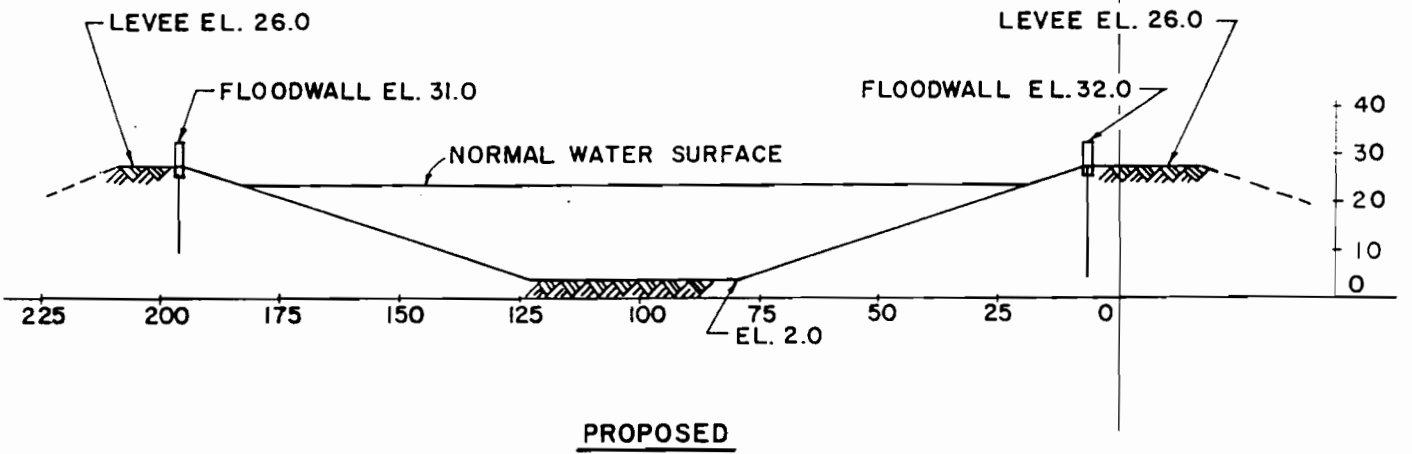
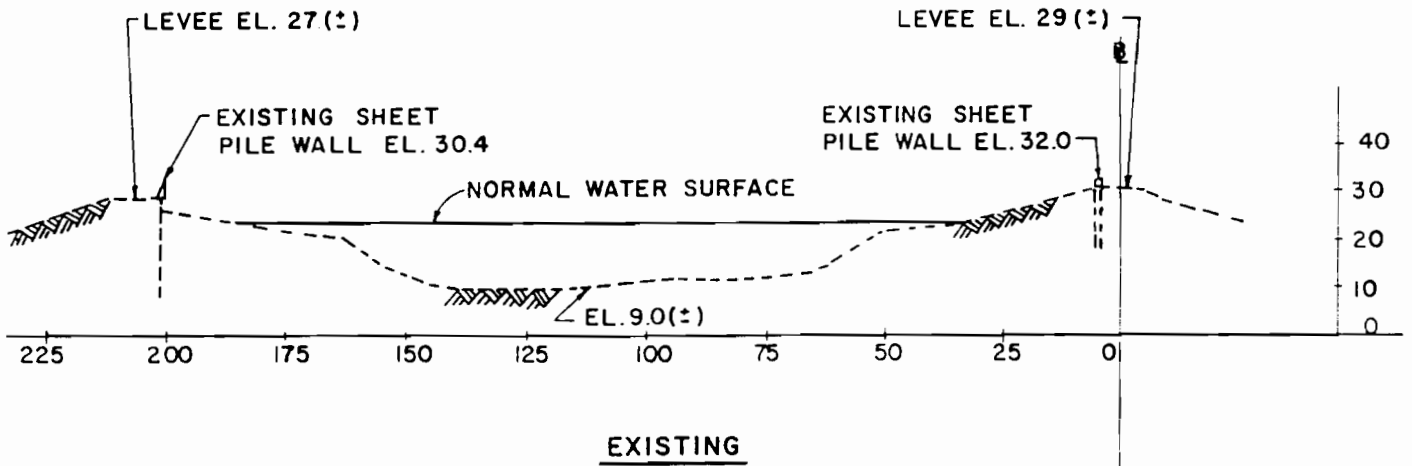
SECTIONAL VIEW BETWEEN BUCKTOWN BRIDGE AND HAMMOND HIGHWAY

(LOOKING SOUTH)

1" = 40'

20.43 CAIRO DATUM = 0.0 M.S.L.

METAIRIE OUTFALL CANAL SEWERAGE AND WATER BOARD OF ORLEANS PARISH, LA.	
PREPARED BY: MODJESKI AND MASTERS SH. 5 OF 11	MAY, 1983



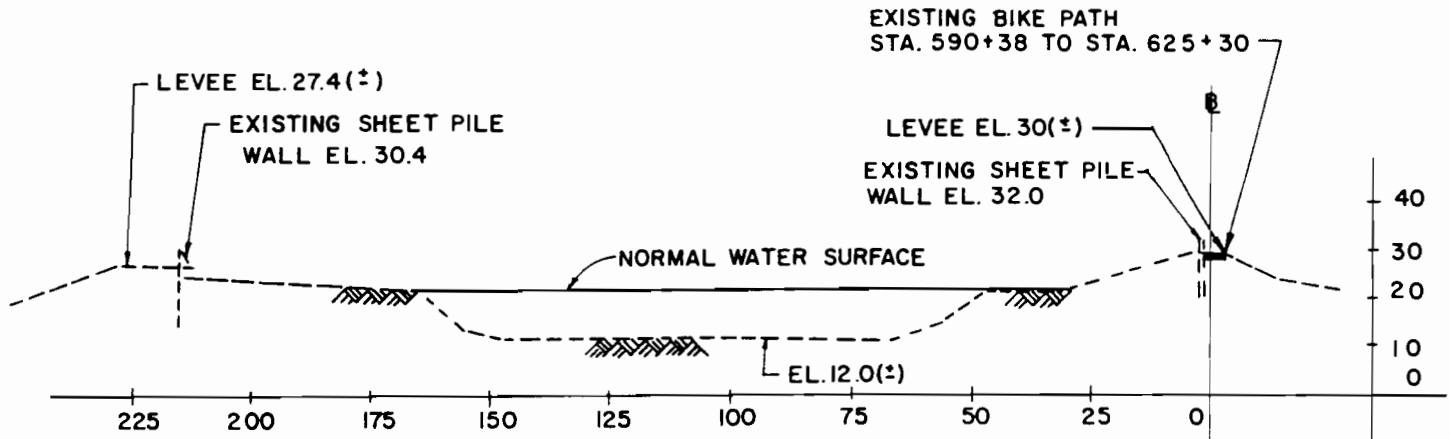
SECTIONAL VIEW BETWEEN HAMMOND HIGHWAY AND VETERANS HIGHWAY

(LOOKING SOUTH)

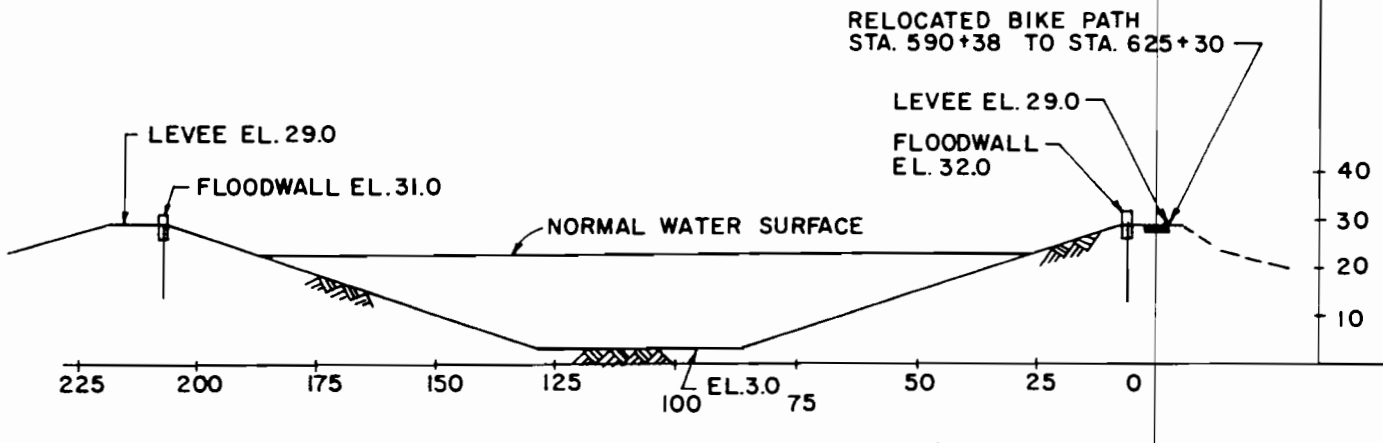
1"=40'

20.43 CAIRO DATUM = 0.0 MSL

METAIRIE OUTFALL CANAL SEWERAGE AND WATER BOARD OF ORLEANS PARISH, LA.	
PREPARED BY: MODJESKI AND MASTERS	MAY, 1983
SH. 6 OF 11	



EXISTING



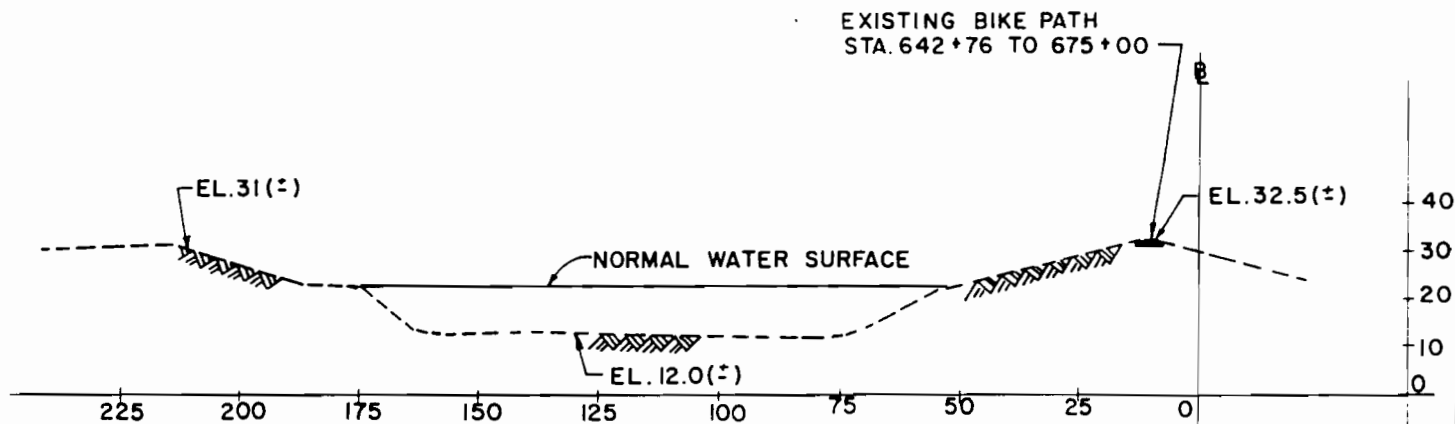
PROPOSED

SECTIONAL VIEW BETWEEN VETERANS HIGHWAY AND I-10
(LOOKING SOUTH)

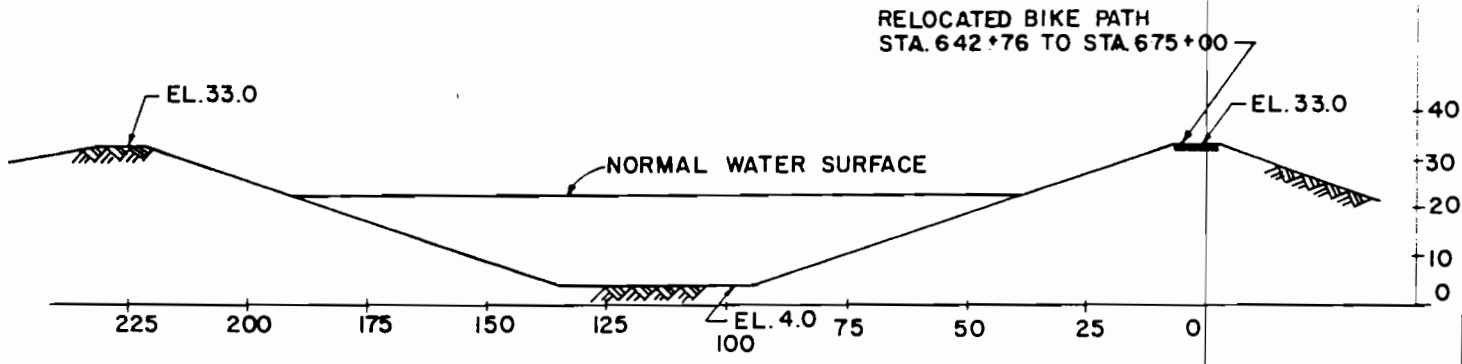
1" = 40'

20.43 CAIRO DATUM = 0.0 m s l

METAIRIE OUTFALL CANAL
 SEWERAGE AND WATER BOARD
 OF ORLEANS PARISH, LA.
 PREPARED BY: MODJESKI AND MASTERS
 SH. 7 OF 11
 MAY, 1983



EXISTING



PROPOSED

SECTIONAL VIEW BETWEEN I-10 AND PUMP STATION NO. 6

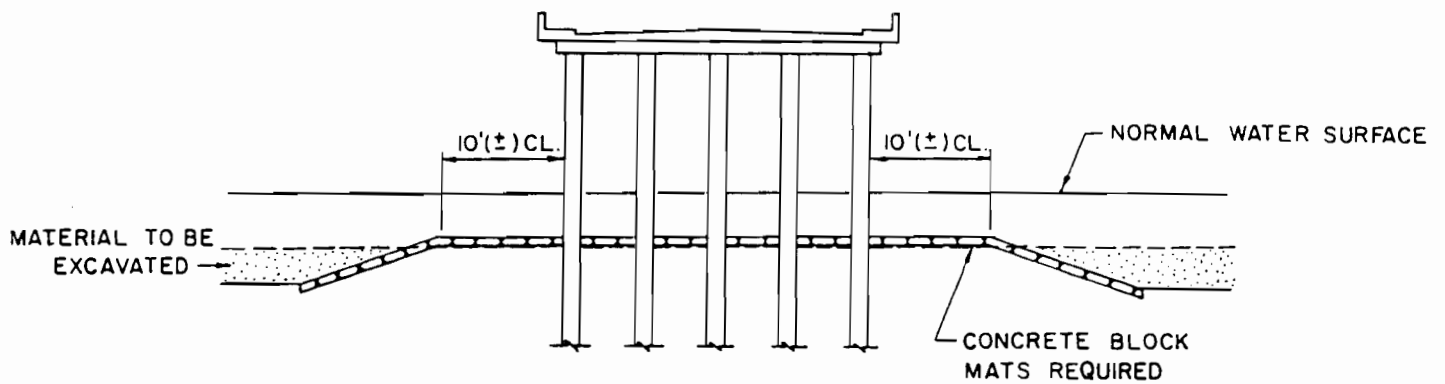
(LOOKING SOUTH)

1" = 40'

20.43 CAIRO DATUM = 0.0 M.S.L.

METAIRIE OUTFALL CANAL
SEWERAGE AND WATER BOARD
OF ORLEANS PARISH, LA.

PREPARED BY: MODJESKI AND MASTERS
SH. 8 OF 11 MAY, 1983



EXCAVATION LIMITS AT BRIDGES
NO SCALE

NOTE: NO EXCAVATION WILL BE REQUIRED BETWEEN I-10 EASTBOUND AND I-10 WESTBOUND. HOWEVER CONCRETE BLOCK MATS WILL BE REQUIRED.

26.43 CAIRO DATUM = 0.0 M.S.L.

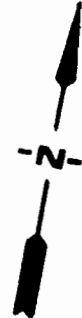
METAIRIE OUTFALL CANAL SEWERAGE AND WATER BOARD OF ORLEANS PARISH, LA.	
PREPARED BY: MODJESKI AND MASTERS SH. 9 OF 11	MAY, 1983

L A K E

P O N T C H A R T R A I N

Jefferson
Parish

Orleans
Parish



Pumping Station No.6

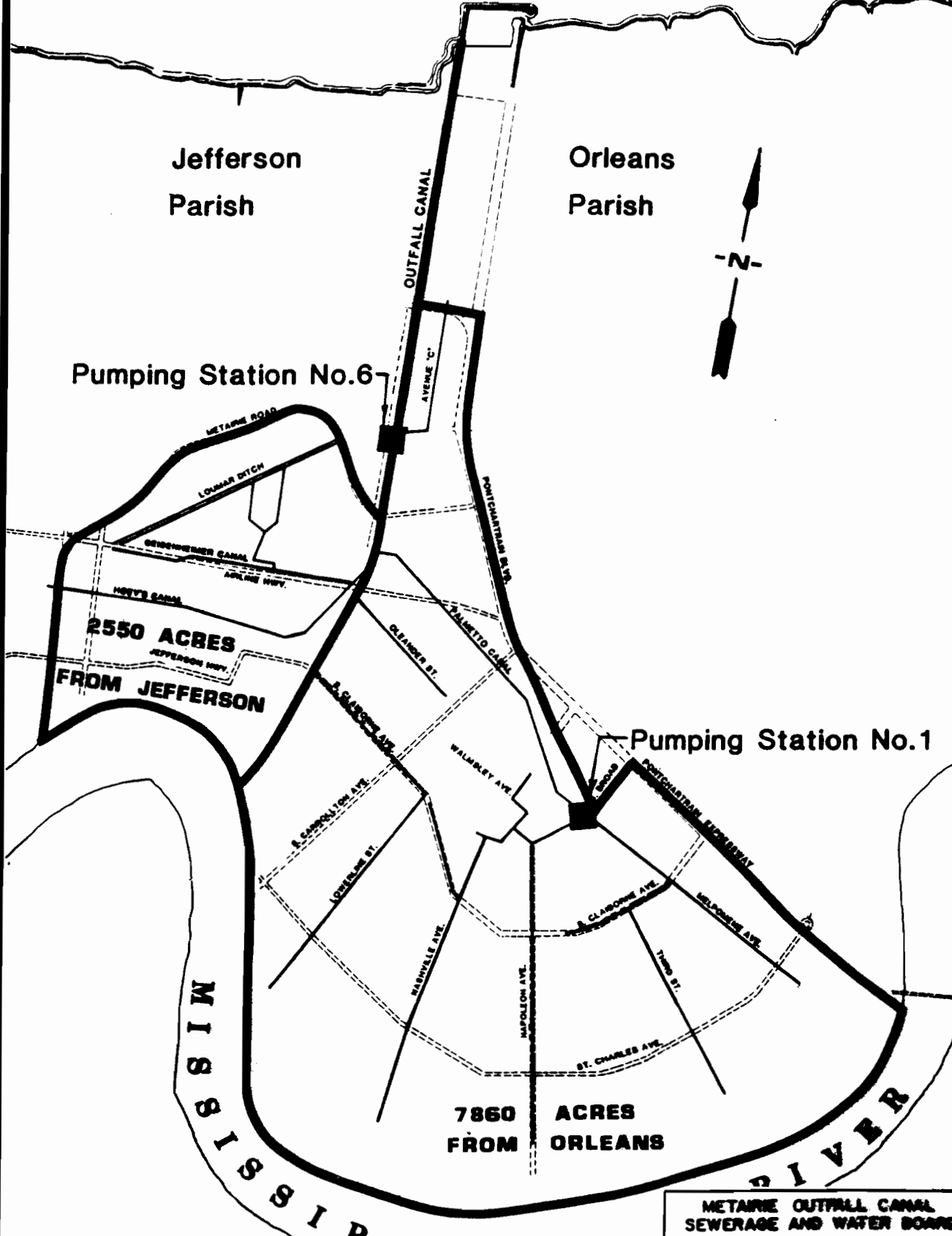
Pumping Station No.1

2550 ACRES
FROM JEFFERSON

7860 ACRES
FROM ORLEANS

M I S S I S S I P P I

R I V E R



METAIRIE OUTFALL CANAL
SEWERAGE AND WATER BOARD
OF ORLEANS PARISH, LA.
PREPARED BY: MOJESKI AND MASTERS
SH. 12 OF 11 MAY, 1963

SYNOPSIS OF HYDRAULIC ANALYSIS

I. Determination of Cross-sectional Area

Reference: Open-channel Hydraulics by Chow, 1959
Pages 165-168

- A. A velocity of 4 fps was determined to be the recommended allowable.
- B. The Manning Formula was used to arrive at the desirable cross-sectional area of 2500 sf.
- C. The D'Aubuisson Method was used to calculate the backwater effect of the bridges and other obstructions.

II. History of Project

A. Phase I

1. Canal capacity analyzed for 7225 cfs.
2. Canal capacity analyzed for 10,000 cfs from Hammond Hwy. to the Lake and 6650 cfs from Pump Station No. 6 to Hammond Hwy.

B. Phase II - canal capacity analyzed for 10,400 cfs from Pump Station No. 6 to the Lake.

1. M & M Manual Calculations
2. HEC 2 by consultant of Jefferson Parish
3. Hydro-dynamic Model & HEC 2 by Drs. Alawady and Suhada
4. Linfield-Hunter Analysis

MAILING LISTS USED BUT NOT ATTACHED TO THIS PUBLIC NOTICE 1983

<u>CODE LIST NO.</u>	<u>CODE LIST DATE</u>
1	JUNE
2	JUNE
3	JUNE
4	JUNE
5	JUNE
6	JUNE
8	JUNE
9	JUNE
10	JUNE
11	JUNE

CODE LIST NO. 41

APPLICATION FOR PERMIT BY

Sewerage & Water Board of New Orleans
c/o Madjeski and Masters

1055 St. Charles Ave. Suite 510

New Orleans, La. 70130

Adams Barge Craft
P.O. Box 1283
Harvey, LA 70059

Hon. Francis E. Lauricella
900 Commerce Rd., Suite 100
Harahan, LA 70123

Harry Bolton
4716 Windson St.
Metairie, LA 70001

Mayor's Office
Harahan City Hall
Harahan, LA 70123

Burk & Associates, Inc.
4176 Canal St.
New Orleans, LA 70119
ATTN: Environmental Div.

Mayor's Office
1801 Williams Blvd.
Kenner, LA 70062

Curtis Chatelain Jr.
421 Aris Ave.
Metairie, LA 70005

Oyster Champagne, Inc.
P.O. Box 1344
Gretna, LA 70054

Ray Gibbons Certified Welders
P. O. Box 945
Port Sulphur, LA 70083
ATTN: Rex Mars

Mrs. Albert Pizani
P.O. Box 533
Lafitte, LA 70067

Postmaster
Marrero, LA 70072

Robert Harper
5333 River Road
New Orleans, LA 70123

SCNO Barge Lines, Inc.
12680 Olive St. Rd.
St. Louis MO 63141
ATTN: John F. Hynes

Hon. E. Henry Eddie Heaton, Jr.
3323 South Carrollton Ave.
New Orleans, LA 70118

Southern Yacht Club
150 N. Roadway Dr.
New Orleans, LA 70124

Wilmer G. Hinrichs
1601 FNBC Bldg.
New Orleans, LA 70112
ATTN: Dora Santini

Ernest A. Voisin
215 Melody Dr.
Houma, LA 70360

Jefferson Parish Council
New Courthouse Bldg.
Gretna, LA 70053

WVUE-TV
P.O. Box 13847
New Orleans, LA 70185
ATTN: News Dept.

Jefferson Environmental &
Development Control Dept.
P.O. Box 10007
Jefferson, LA 70181

West Jefferson Levee District
403 Baratavia Blvd.
Marrero, LA 70072

Jefferson Parish Planning
3330 N. Causeway Blvd., Suite 300
Metairie, LA 70002
ATTN: Lydia Jemison

W. R. White
First Nat'l Bank of Jefferson
Gretna, LA 70053

Jefferson Port Commission
1799 Stumpf Blvd.
Bldg. # 5, Suite 3-A
Gretna, LA 70054

* Bayou Oysters, Inc.
P.O. Box 68
Amite, LA 70422

NEW ORLEANS AREA OFFICE ATTN: Tony VEnterella

LAKEVIEW CIVIC IMPROVEMENT ASSOCIATION
P.O. Box 24378
New Orleans, LA 70184

* Chemco, Inc.
P.O. Box 94
Harvey, LA 70059
ATTN: Vic Cangelosi

Crown Point Civic Corp.
Rt. 1, Box 351 C
Marrero, LA 70072
ATTN: Linda Myers

Crown Point Civic Corp.
Rt. 1, Box 333 B
Marrero, LA 70072
ATTN: Diane Ribando

* Cvitanovich Seafood, Inc.
101 Liberty St.
Belle Chasse, LA 70037

* John J. Laborie
2721 Baratavia Blvd.
Marrero, LA 70072

* LSU Cooperative Extension Service
1825 Bonnie Dr.
Marrero, LA 70072
ATTN: Jerald Horst

Dewberry & Davis
8401 Arlington Blvd.
Fairfax, VA 22031
ATTN: Wm G. Fry

Bridge City Civic Assn
P.O. Box 729
Bridge City, LA 70094

MARRERO LAND & IMPROVEMENT ASSOCIATION, LTD
5201 Westbank Expressway
Marrero, LA 70072

CAPT. FRANCIS BOFFONE
BOX 486-C, HWY 301
BARATARIA, LA 70036

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
P. O. BOX 80267
NEW ORLEANS, LOUISIANA 70160
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

AN EQUAL OPPORTUNITY EMPLOYER

Sewerage & Water Board of New Orleans
c/o Modjeski and Masters
1055 St. Charles Ave., Suite 510
New Orleans, Louisiana 70130

CODE LIST NO. 47

APPLICATION FOR PERMIT BY

Mrs. J. D. Bird
4842 Savoie Court
New Orleans, LA 70129

Harry Bolton
4716 Windsor St.
Metairie, LA 70001

Burk & Associates, Inc.
4176 Canal St.
New Orleans, LA 70119
ATTN: Environmental Div.

Chef Menteur Land Co.
6021 Constance St.
New Orleans, LA 70118
ATTN: Doris L. Mahler

Paul Decharry
4500 1 Shell Square
New Orleans, LA 70139

Councilman Mike Early
City Hall, Rm 2-E-09
1300 Perdido St.
New Orleans, LA 70112

Ray Gibbons Certified Welders
P.O. Box 945
Port Sulphur, LA 70083
ATTN: Rex Mars

Hon. E. Henry Eddie Heaton, Jr.
3323 S. Carrollton Ave.
New Orleans, LA 70118

New Orleans Civil Defense
6991 Pontchartrain Blvd.
New Orleans, LA 70124

New Orleans Dept. of Safety & Permits
1300 Perdido St., City Hall
New Orleans, LA 70112

Ida Rome
335 Tricou St.
New Orleans, LA 70117

Philip W. Siragusa, Jr.
4430 Karen Ave.
Jefferson, LA 70121

Southern Yacht Club
150 N. Roadway Dr.
New Orleans, LA 70124

U. O. Toro
Rt. 6, Box 184 DK
New Orleans, LA 70129

* New Orleans City Plng Commission
City Hall, Rm 9 W
1300 Perdido St.
New Orleans, LA 70112

* Amigo Enterprises
P.O. Box 1062
Chalmette, LA 70044

LAKEVIEW CIVIC IMPROVEMENT ASSOCIATION
P.O. Box 24378
New Orleans, LA 70184

* Lawrence Schaeffer
Rt. 6, Box 279 LA
New Orleans, LA 70129

* John J. Laborie
2721 Baratavia Blvd.
Marrero, LA 70072

* LSU Cooperative Extension Service
1825 Bonnie Dr.
Marrero, LA 70072
ATTN: Jerald Horst

NANCY O'DONNELL SIMONEAUX
6878 MEMPHIS ST.
NEW ORLEANS, LA 70124

JOHN P. LYONS
P.O. Box 4160
New Orleans, LA 70178

LMNOD-SP (17th Street Canal)2

Environmental Assessment

DREDGING OF METAIRIE OUTFALL CANAL
(17TH STREET CANAL) IN JEFFERSON PARISH, LOUISIANA

BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

PREPARED BY:



Zain H. Terzi

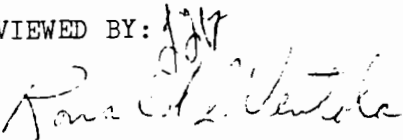
Environmental Resources Specialist

Regulatory Functions Branch

DATE:

June 6, 1984

REVIEWED BY:



Ronald J. Ventola

Chief, Regulatory Functions Branch

DATE:

June 7, 1984

I. Permit Title: LMNOD-SP (17th Street Canal)2

II. Location: In Jefferson Parish, along the Orleans-Jefferson Parish line (see page 1 of Inclosure 1) from Pumping Station No. 6 to Lake Pontchartrain.

III. Proposed Action: The proposed project combines two (2) previously submitted permit requests by the Sewerage and Water Board of New Orleans to improve the hydraulic characteristics of the 17th Street Canal. The limits of the total project are Pumping Station No. 6 on the south and 370 feet north of Bucktown Pedestrian Bridge to the north, as shown on pages 2 and 3 of Inclosure 1. The permit application for phase I was submitted to the Corps on December 29, 1980. The permit application for phase II was submitted on April 20, 1981. The present application is to supersede the previous ones by combining the two phases into one project.

The applicant's goal for the 7,860 acres (75%) of Orleans Parish and 2550 acres (25%) of Jefferson Parish drained by the 17th Street Canal, is a drainage system capable of providing 5-year return frequency protection. The canal's tributary area is shown on page 10 of Inclosure 1. Elements of the overall plan include: improving the drainage system upstream of Pumping Station No. 6; increasing the pumping capacity of Pumping Station No. 6 from 6650 c.f.s. to 10,400 c.f.s.; and dredging the outfall canal by removal of approximately 470,000 c.y. of material to give it the capability of carrying the increased flow. The improvement of the canal to a cross-section capable of carrying 10,400 c.f.s. in the section between the Hammond Hwy. Bridge and the Bucktown Bridge was provided for in the December 29, 1980 application.

Preliminary plans for this project call for the construction of sheet pile walls with concrete caps along levees on both sides of the canal for the majority of the length of the project, then excavation of the canal to provide a flow area in the neighborhood of 2500 square feet. In addition, some lowering of the existing levees behind the proposed sheet pile walls will be required to meet stability requirements. Sheet pile walls will, however, be of sufficient height to meet current flood protection criteria. The Southern Railroad Bridge just north of Pumping Station No. 6 will be modified as it could possibly become a substantial flow obstruction at extremely high lake stages (Lake Pontchartrain) and could also possibly cause flooding, due to the fact that the rail elevation is several feet below the existing levees in its proximity.

Detailed hydraulic analyses have been undertaken during the design phase of this project to determine the effect of the railroad bridge and other obstruction within the canal for the design flow of 10,400 c.f.s. (see page 11 of Inclosure 1).

All excavated material will be hauled away in leak-proof trucks and disposed of in a non-wetland area, one location recommended by applicant

near Florida Avenue, and covered by at least one foot of clean fill and compacted to comply with suggestions made by the U.S. Environmental Protection Agency (EPA) concerning a previous permit application. Preliminary proposed cross sections of the canal are shown on pages 4-9 of Inclosure 1.

IV. Environmental Setting:

A. Regional parameters are adequately addressed in the Final Environmental Impact Assessment, Bucktown Harbor, Jefferson Parish, Louisiana, prepared by the Environmental and Development Control Department of Jefferson Parish in January 1979. A copy of the cover sheet and table of contents of this assessment is attached as Inclosure 2. The Draft EIS for Lake Pontchartrain and Vicinity Hurricane Protection Project of December 1983, prepared by New Orleans, U. S. Army Corps of Engineers, also addresses these parameters in detail.

B. Site-Specific Characterization:

1. Physical Setting:

The 17th Street Canal is a man-made channel approximately 200 feet wide situated at the boundary line between Jefferson and Orleans Parishes. The portion involved in this assessment is the 2.4 mile stretch of the canal, between Pumping Station No. 6 and Lake Pontchartrain, known as Metairie Relief Outfall Canal. The reach between Bucktown Bridge and the Hammond Highway Bridge constitutes approximately 1100 feet of this length. Within this reach, the Orleans (east) side is formed by a sheet pile wall behind which at some distance is the levee itself. This sheet pile wall is in a very deteriorated condition in that it is rusted through so that it is perforated with large holes. The top of the sheet pile is at El. 7.74 feet National Geodetic Vertical Datum (NGVD) with a tip elevation of -27.93 NGVD and backed by 50 feet soldier piles at 7 feet on center and 25 feet long tie-back rods at 7 feet on center secured to a buried continuous concrete dead man beam. Elevation of the levee behind this is 9.57 NGVD. The Orleans Levee Board is planning to raise the levee in some manner to achieve hurricane flooding protection height.

The lake side of the Bucktown Bridge on the Orleans side is occupied by a pile mounted 60 feet wide building extending parallel to the Bucktown Bridge and 80 feet into the canal mouth.

On the Bucktown side, a levee (road) and sheet pile wall extends northward, at approximately El. 9.57 NGVD and 12.57 NGVD, respectively from the Hammond Highway for approximately 250 feet until it joins the Lake levee at which point the road descends to approximately El. 4.57 NGVD. Existing building structures, lightly constructed docks and walkways, extend into the water area of the canal. To a lesser extent this same condition extends along both canal banks south of the Hammond Highway for another 1000 to 1200 feet. These, however, are essentially lightly constructed small docks or walkways at the water's edge.

South of the Hammond Highway, the canal is a sodded slope canal bank with levees. Brush and small trees are found along both levees, particularly along the nominal water's edge. Sheet pile walls in the crown of the levee run to the I-10 crossing with top of sheet pile at El. 11.57 NGVD on the Jefferson side and approximately El. 9.57 NGVD on the Orleans side.

South of I-10, the earthen levees (no sheet pile in crown) continue to the Southern Railroad crossing. The Jefferson levee is at El. 12.57 NGVD with the Orleans side being lower at El. 10.57 NGVD. The levee height integrity is broken on both sides at the railroad crossing.

The 17th Street Canal flow is impacted by five bridge crossings, namely the wooden Bucktown Bridge near the Lake, Hammond Highway Bridge, the Veterans Highway Bridges, the I-10 Bridges and Southern Railroad Bridge near the Pumping Station No. 6.

A sand shoal exists in the canal extending into Lake Pontchartrain. This shoal rises from an El. -16.43 NGVD approximately 450 feet south of the Bucktown Bridge to El. -6.43 NGVD just inside the bridge and thence rises to El. -4.43 to -4.03 NGVD approximately 200 feet outside the bridge. It continues at approximately El. -4.43 NGVD for approximately 150 feet before sloping down gently to El. -5.43 NGVD at 550 feet out. These elevations are generally uniform transversely across the area.

Lake Pontchartrain is classified as "water quality limited." The water quality limited classification is given a stream segment where it is known that water quality does not meet all applicable standards and/or is not expected to meet all applicable standards, even after application of the effluent limitations required by the Federal Water Pollution Control Act. The lake surface water is subjected to sewerage contaminated storm water, and domestic and industrial wastewater discharges from the New Orleans metropolitan area. The 17th Street Canal is one of the numerous stormwater outlets into the lake.

The surface water quality of Lake Pontchartrain in the vicinity of the 17th Street Canal is given in Table I. It characterizes the lake as a relatively turbid, alkaline, estuary with moderate to relatively high mean concentrations of nitrite nitrogen and orthophosphates in the vicinity of the project area. Nitrite nitrogen and orthophosphate concentrations, however, are characteristically higher near the mouth of 17th Street Canal.

Bulk sediment and bacteriological test data from the 17th Street Canal, from the Pumping Station No. 6 to the mouth of the canal, is attached as Inclosure 3 to this assessment. The nearest location to the project area for which the State of Louisiana has published water quality criteria is that portion of Lake Pontchartrain west of the Highway 11 Bridge. These criteria are:

TABLE I
SURFACE WATER QUALITY OF LAKE PONTCHARTRAIN AT
METAIRIE RELIEF OUTFALL CANAL, BUCKTOWN

PARAMETER	RANGE*	MEAN
Air Temperature (°C)	21-35	29.9
Water Temperature (°C)	17.3-31.5**	25.6
	17.5-31.5	25.6
Secchi Disc Visibility (ft.)	1-3	2.1
Turbidity (JTU)	3-15	9.7
Settleable matter (ppm)	0.1-.060	0.2
pH	7.8-8.8	8.1
Phenolphthalein Alkalinity (ppm CaCO ₃)	0-15	2.5
Total Alkalinity (ppm CaCO ₃)	53-100	84.3
Free Carbon Dioxide (ppm)	0-5	3.2
Conductance (mmhos/cm)	1.3-4.7	3.2
	1.4-5.8	3.9
Salinity (ppt)	0.7-2.2	1.6
	0.7-3.4	2.0
Chloride (ppm)	376-1226	865
	381-1900	1123
Sulfate (ppm)	80-175	140
Total Hardness (ppm CaCO ₃)	12.3-36.7	26.8
Dissolved Oxygen (ppm)	1.4-9.0	6.2
	2.4-8.4	6.8
Ammonia-N (ppm)	0.37-1.1	0.81
Nitrite-N (ppm)	0.02-0.08	0.04
Nitrate-N (ppm)	0.07-0.38	0.24
Orthophosphate (ppm)	0.65-1.54	1.16
Total Iron (ppm)	0.08-0.30	0.15
Silica (ppm)	3.5-12	7.4
Tannins and Lignins (ppm)	0.2-2.6	1.6

* Monthly from July through November, 1973; March, 1974.

** Indicates surface and bottom readings S/B.

Source: Environmental Impact Assessment, Bucktown Harbor, Jefferson Parish, Louisiana 1979.

DO	40 mg/l
pH	6.0-8.5
BAC Std.	1*
Temp	32°C
TDS	500 mg/l

2. Biological Environment:

a. Vegetation. The vegetative character of the project area has been totally altered by residential and commercial development. Consequently, no natural plant-habitat associations, including wetlands exist in the area. The existing terrestrial vegetation consists of sodded levee crown and slopes maintained by Orleans and Jefferson Parish levee Boards.

Due to the hydraulic characteristics of the canal and relatively deep and turbid water, especially during pumping of the runoff storm waters, it is doubtful that submerged vegetation could establish in the bottom of the canal. However, due to the frequent fluctuation of the water level in the canal, the canal slopes support some aquatic vegetation such as water hyacinth, and various grasses and other opportunistic weedy plants that would develop along the intertidal zone and any disturbed waste area, roadside or ditch.

The most common grasses on and along the breakwater of Bucktown Marina are Bermuda grass, barnyard grass, and goose grass.

b. Fauna. Because the vegetation characterizing the project area is typical of other areas similarly disturbed by man and his activities, only a limited amount of habitat is available for the more opportunistic or adventive species. Mammals other than small rodents, rabbits and opossums are not likely to frequent the area. Common birds in the area are red-winged black birds; sparrows; bluejays; mockingbirds; grackles; mourning doves; pigeons; various species of waterfowl, which frequently visit the lake on their way to the wetlands along the Gulf; and the large groups of laughing gulls, which gather on the beach and shallow areas of the lake.

Various species of reptiles and amphibians are common in the vicinity of the project area including green anoles, treefrogs, various snakes and turtles.

* Indicates Primary Contact Recreation - Based on a minimum of not less than 5 samples taken over not more than a 30-day period, the fecal coliform content shall not exceed a log mean of 200/100 ml. nor shall more than 10 percent of the total samples during any 30-day period exceed 400/100 ml. (State of Louisiana Water Quality Criteria, Louisiana Stream Control Commission, 1977).

The most common invertebrates include bryozoans, clams, polychaets, and crustaceans such as barnacles, copepods, amphipods and various crabs and shrimp, and numerous species of plankton in the lake.

The most common vertebrates in the nearby lake area, and probably in the canal are the bay anchovy, the striped mullet and the Gulf Killifish. Numerous other fishes of the Lake Pontchartrain may frequent the project area. There are over 16 species of fish and shellfish in Lake Pontchartrain which are considered commercial, also three species of penaeid shrimp, the American oyster and the blue crab. The brackish water clam is harvested only for its shell deposits and not as a food item.

V. Environmental Consequences:

A. Social Impacts:

1. Noise. Noise levels that will be generated by the dredging and construction activities will be intermittently high but normally acceptable, rarely producing unacceptable levels of 80 dB (A) beyond 50 meters from the source. Table II gives resultant sound levels from various types of construction equipment. Table III shows the community noise equivalent levels for one day of construction activities. There will be no long-term impact from noise after completion of the project.

2. Esthetics. There will be a temporary impact on the esthetics in the project area by the presence of dredging and construction equipment and hauling of dredged material by trucks and degrading the presently sodded levees. However, after completion of the project and resodding of the levees, the preproject conditions will prevail in a relatively short period of time.

3. Historical Sites:

No National Register sites are located on or near the project site. There was an attempt by the residents of Bucktown fishing village, living in homes constructed on piles intruding on the Jefferson side of the canal, to declare their residences as historic structures. However, in accordance to oral and written communications with the Louisiana Historic Preservation Officer, the structures of the Bucktown are not eligible for inclusion in the Register of Historic Places.

4. Archeological sites. No known archeological sites are located within the project site. If any such sites are uncovered during the dredging of the canal, the appropriate state agencies will be notified immediately.

5. Recreation. Due to the presence of construction equipment and intermittent high noise levels at the project site, the bike path on the crown of the levees on the Jefferson site along the canal will not be used. However, the Sewerage and Water Board of New Orleans is contemplating to replace the bike path after completion of the construction of the levees.

Table II

RESULTANT SOUND LEVELS FROM CONSTRUCTION EQUIPMENT

SOURCE	SOUND LEVEL (DBA AT 15 METERS)
Heavy Duty Truck	91
Barge	83
Jetting Equipment	86
Bucket Dredge	88
Crane	88
Bulldozer	86
Pile Driver	106

Source: Environmental Impact Assessment, Bucktown Harbor, Jefferson Parish, Louisiana 1979.

TABLE III

²
 NOMALIZED COMMUNITY NOISE EQUIVALENT LEVELS (dBA)
 GENERALIZED DURING ONE DAY OF CONSTRUCTION ACTIVITIES

STRUCTURE/ACTIVITY	DISTANCE FROM SOURCE (METERS)				
	15	30	50	100	200
Bulkheads and Fill					
Bulkheads	92	86	82	76	69
Dredge and Fill	85	79	75	69	62
Pile-Supported Struture	92	86	82	76	69
Dredging	89	83	79	73	66
Pier	96	90	86	80	73
Concrete Boat Ramp	80	74	70	64	57

Source: EIA, Bucktown Harbor, Jefferson Parish, Louisiana 1979.

The 17th Street Canal is not used by recreation boaters. The only boats present in the canal are those moored behind the residences of the Bucktown fishermen on the Jefferson Parish side of the canal.

No known recreational or sport fishing is being conducted in the canal.

6. Public Health and Safety. The proposed project will have little adverse impact on public health or safety. Dredging of the canal will produce objectionable odors temporarily. There should be no adverse health impacts from hauling the dredged material in leak-proof trucks to a non-wetland site, approved by the Corps, and covering the disposal site with fresh fill. Covering the disposed fill material site with such fills will eliminate the possibilities of emission of objectionable odors and possibility of the sediments becoming an intermittent source of toxic material due to elutriation by rainfall.

The dredging of the canal to increase its capacity will improve drainage and prevent street floodings which are causing the residents of both Orleans and Jefferson Parishes considerable property damages. In this regard, the project will have beneficial impact on public health and safety.

The increased discharge and velocities under improved canal conditions below Bucktown area will present a health and safety hazard to the Bucktown area. If no improvements are made within the Bucktown reach of the canal, many of the existing structures in the area will wash away with time. An alternative was presented by Linfield, Hunter and Gibbons, Inc. study of 1983, authorized by the State of Louisiana, in which the Bucktown structures along the west bank of the canal could be relocated and rebuilt in a protected area at approximately their same locations after completion of canal dredging. At the present time, negotiations are underway between Jefferson Parish officials and the applicant to determine the best alternative to resolving impacts of the proposed project on Bucktown residents.

7. Land Use. There will be no change in land use pattern as a result of this project. The project abuts the Bucktown Harbor area where Jefferson Parish has acquired a Department of Army permit to construct a marina and a breakwater. The project will have no impact on the marina.

8. People Displacement. Nine residences and two businesses in the Bucktown reach of the canal will be temporarily displaced. However, after completion of the bulkheads on this area, these residences and businesses can be rebuilt at approximately their original locations. Thus, the proposed project will cause considerable inconveniences to affected Bucktown residents.

9. Community Cohesion. The residents of the Bucktown area are opposed to the project. The Jefferson Parish Council by resolution dated July 13, 1983, opposed the dredging of that reach of the canal between Hammond Highway and the Lake Pontchartrain contending that the removal of the existing sand shoal at the mouth of the canal will accomplish the same objectives. For the Bucktown residents, the Seventeen Street Canal project has been highly controversial. On the other hand, residents of the Uptown area in Orleans Parish and those in east Jefferson Parish, a population of approximately

200,000 people, whose homes have been flooded several times during the heavy rains in 1983 alone, are favoring the project. During the public hearing conducted by the Corps on March 31, 1981, and public information hearing conducted by Sewerage and Water Board of New Orleans on July 20, 1983, there were heated debates between these two opposing groups (Bucktown vs. other area residents) concerning the project. At the present time, negotiations between Jefferson Parish officials and the Sewerage and Water Board of New Orleans are underway to resolve the Bucktown controversy and to decide on the best alternative to follow with regards dredging and improvements to the reach of the canal between Hammond Highway and Lake Pontchartrain to reduce the impacts of the project on Bucktown residents.

10. Coastal Zone Management. By letter of January 6, 1982, the Louisiana Department of Natural Resources, Division of State Lands, has determined that the proposed drainage improvements of the 17th Street Canal will not require a coastal use permit. The coastal management programs for Orleans and Jefferson Parishes have not been approved.

B. Economic Impacts.

1. Property Values and Taxes. Due to the present frequent flooding in the Uptown area of Orleans Parish and East Jefferson Parish, there has been a substantial reduction in the property values in these areas. The proposed project will improve the drainage in these areas and thereby improve property values. However, the improvement in drainage will not be accomplished by merely dredging the canal; the Sewerage and Water Board of New Orleans and Jefferson Parish will have to improve the water collection and the transport systems in the affected areas as called for in the engineering studies conducted by Linfield, Hunter and Gibbson, Inc. dated January 1983.

2. Employment. This project will have only minimal beneficial impact on employment. Construction workers will be employed while the project is being constructed and subsequently when other improvements to the street water collection and transport system are made.

3. Commercial Navigation. There is no commercial navigation in the 17th Street Canal and therefore there will be no impact. The reach of the 17th Street Canal between Pumping Station No. 6 and Lake Pontchartrain is considered a navigable water because it is influenced by the tidal action of Lake Pontchartrain. Within this reach, the Bucktown fishermen moor their fishing vessels. It is planned by the applicant to allow these vessels to moor in the canal after completion of dredging and canal enlargement construction activities.

4. Recreation Navigation. The 17th Street Canal is not used for recreational navigation. The reach of the canal within the Bucktown area is used for mooring of commercial and sportfishing vessels owned by the fishermen of Bucktown fishing village.

5. Flood Damage Prevention. The dredging of the canal, along with associated improvements of the drainage water collection and transport systems in both Orleans and Jefferson Parishes, should prevent flood damages to the residences and businesses in these parishes.

6. Flood Plain Use. The project will have no additive adverse effect on flood plain use.

C. Natural Resources Impact.

1. Air Quality. The probable impact of the proposed action on air quality will be from increased emissions from construction activities. A temporary reduction in air quality will result from emissions from heavy duty diesel-powered construction equipment during the dredging, levee realignment and sheet pile driving. Objectionable odors will emanate from the dredged material during dredging and transport to the disposal site.

2. Water Quality. There will be only temporary interference with the normal interchange of lake and canal waters because of the proposed project. Turbidity caused by dredging will impact the aquatic life. By letter dated February 19, 1982, the State of Louisiana has certified that the proposed project will not violate state water quality standards. While the canal sediment analyses indicate high levels of some contaminants (bulk sediment and bacteriological test data is attached as Inclosure 3), removal of these sediments by bucket dredging will not result in any significant permanent degradation of water quality in the canal or the lake.

3. Public Water Supplies. The 17th Street Canal is not used as potable water source. The project will not affect any aquifer used for municipal or industrial water supplies.

4. Irrigation Supplies. The 17th Street Canal is not used as a water source for agricultural or domestic irrigation.

5. Ground Water. No data is available to determine this impact. However, no significant impact on ground water table is expected from the dredging or levee construction activities.

6. Soil Erosion. There will be no impact on soils. The levees will be sodded and the grass will be maintained as needed. The hauled dredged material will be deposited on a non-wetland site and covered with fresh fill and compacted to eliminate the possibility of erosion.

7. Energy Distribution and Production. The proposed project will have no significant effect on energy production and distribution.

8. Food Production. Since the project will not interfere with the normal interchange of canal and lake waters except during construction phase, there will be no significant adverse impact on marine food production. Some adverse impacts are possible when contaminated sediments of the canal are suspended and enter Lake Pontchartrain.

D. Biological Impacts.

1. Existing Vegetation. The existing terrestrial vegetation consists of grassed levees. The proposed realignment of the levees and installation of sheet pile floodwalls will destroy these grasses. However, at the completion of the construction, these levees will be resodded and maintained.

No important aquatic vegetation are present in the canal, therefore, no adverse impact.

Bucket dredging of the canal will destroy submerged vegetation, if such vegetation are present.

2. Terrestrial Habitat. Because the vegetation characterizing the project area is regularly maintained, only a limited amount of habitat is available for the more opportunistic or adventive species. Mammals other than small rodents, are not likely to frequent the area, therefore, the impact of the project on these habitats will be minimal. The numbers and variety of birds visiting the project area will temporarily decrease due to increased human activity during construction. Various species of reptiles and amphibians in the vicinity of the canal will either be destroyed or relocate during levee construction activities.

3. Aquatic Habitat. Invertebrates found in the vicinity of the project area will be destroyed during the dredging operation, however, the area will repopulate after a short period of time.

Numerous species of phytoplankton and zooplankton will either be destroyed or relocate due to turbidity in the canal area.

Numerous species of fish found in the canal and Lake Pontchartrain will have to relocate during the dredging operation and some may be killed or adversely affected by turbidity.

The value of the 17th Street Canal as a nursery and spawning area has not been determined. The dredging activity will likely affect the general metabolism of adult zooplankton and both the metabolism and metamorphosis of fish eggs, larvae and other developmental stages in the lake.

4. Habitat Diversity. The proposed project would have little adverse impact on the terrestrial habitat.

The aquatic habitat of the project area would be impacted directly by elimination of the benthic organisms as result of dredging. However, the area should be repopulated and recolonized in a short period of time after the bottom and the slopes of the canal stabilize.

5. Biological Productivity. Biological productivity would be temporarily impacted during the construction period. Increased turbidity as result of dredging would reduce light penetration and decrease the primary productivity. A short-term reduction in the oxygen level of the lake and

canal in the immediate area of the dredging will also result, due to the decrease in primary productivity. This will also cause a temporary overall alteration in the community structure and secondary productivity of the immediate area. Consequently, there will be a temporary impact on the aquatic food webs dependent on this primary productivity.

6. Endangered and Threatened Species. No animals listed in the February 22, 1977 Federal Register are likely to frequent the project area. However, the project area lies within the range of the following Threatened/endangered species.

- a. the peregrine falcon (Falco peregrinus),
- b. the southern bald eagle (Halaeetus leucocephalus),
- c. the American alligator (Alligator mississippiensis).

Due to the limited amount of habitat in the project area, it is felt that the proposed activity would neither affect any endangered species, nor affect any habitat considered to be critical to the survival and recovery of any endangered species.

No Louisiana plants listed in the June 16, 1976 Federal Register as threatened, endangered, or possibly extinct are known from the project area, nor are they likely to occur in the study area.

V. Alternatives.

A. No Action. This course of action would have the following advantages and disadvantages:

1. Advantages.

- a. No impacts on the canal, the lake, and the residences in Bucktown and adjacent areas to the canal.
- b. No expenditures of public funds or fuel energy.

2. Disadvantages.

a. Continuation of the existing frequent flooding of residences of approximately 50,000 families and many business establishments in Orleans and Jefferson Parishes and associated financial losses and depreciated property values and possible personal injuries and loss of human lives.

b. Restrictions would have to be imposed on further residential and commercial developments within the canal drainage basin, which consists of approximately 7,850 acres in Orleans Parish and 2,550 acres in Jefferson Parish, to alleviate further discharges of runoff storm waters into the drainage canals.

c. Without improving the capacity of the outfall (17th Street Canal) downstream, no improvements can be made to local street drainage to improve collection and transport systems which are integral parts of the overall drainage system.

B. Project as Proposed. The implementation of the project as proposed would have the impacts as described under Section V above. However, the cost would be less compared to other alternatives addressed below in C and D.

C. Dry-dredging of the Canal. This alternative involves placement of physical barriers (cofferdams) across and at the mouth of the canal and pumping the water out of the canal into perhaps the sewerage lines or other outlet. This could be accomplished by segmentation of the canal beginning at the mouth and progressing upstream toward the pumping station. The dredged material would be loaded on leak-proof trucks and hauled to a non-wetland area as proposed by the applicant. One such site is located near the Sewerage and Water Board's treatment plant near Florida Avenue.

This alternative would have the least impact on water quality provided that appropriate alternative means for discharging water into the lake will be provided if the need arises to operate the pumps during the dredging operations in the canal. This alternative will be very costly and very disruptive to normal drainage operations in the canal and could cause additional flooding.

D-Hydraulic (cutterhead) dredging and transporting the dredge material by barges via Lake Pontchartrain - Inner Harbor (Industrial Canal) to a non-wetland site. This alternative will require the transport of approximately 2.3 million cubic yards of dredge material which will require a large number of barges and substantial amount of fuel energy will be expended. Furthermore, additional transfer of dredge material from the barges for surface transport at the destination point will be needed, unless there is a disposal site available near the destination point to pump the dredged material directly from the barges onto the site. Furthermore, the presence of several obstructions in the canal itself, such as railroad trestles and bridges, will pose considerable problems.

This alternative, if it could be implemented, would have less adverse effect on water quality and other biological resources, however, the cost will be very high.

E. Hydraulic Dredging and Disposal of Dredged Material in Open Water (Lake). This alternative would cause the most adverse impact on water quality and lake biota due to the high concentrations of contaminants in the canal bottom sediments. This alternative will have the lowest cost. The U. S. Environmental Protection Agency did not approve this alternative. Also, due to the presence of bridges and railroad trestles, only portions of the canal can be dredged by this method.

F. Project as Proposed, but with Modifications. Under this alternative, the dredging will be accomplished by means of mechanical (bucket) dredge with placement of silt screen or barrier at the mouth of the canal, or near the dredge operation area to trap the contaminated sediments from entering the Lake. However, some of the contaminants held in suspension will still filter through the screen when the need arises to operate the pumps.

This alternative would be more economical and with no significant impact on water quality in the canal or the lake, provided that no dredging will be done when the pumps are in operation.

3 Inclosures
As Stated

JUN 22, 1992

hmk



DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT CORPS OF ENGINEERS

P.O. BOX 60267

NEW ORLEANS, LOUISIANA 70160-0267

FILE COPY

REPLY TO
ATTENTION OF

2

Operations and Readiness Division
Eastern Evaluation Section

SUBJECT: SE(17th Street Canal)2

Sewerage and Water Board of New Orleans
625 St. Joseph Street
New Orleans, Louisiana 70165

Gentlemen:

As requested in your letter dated May 27, 1992, the authorization granted by the Secretary of the Army in permit dated June 13, 1984, from the District Engineer at New Orleans, Louisiana, to dredge to enlarge and maintain an area and install and maintain flood walls and mooring structures, in the 17th Street Canal (Metairie Relief Canal) from Pumping Station No. 6 to a point about 400 feet north of the Bucktown Pedestrian Bridge, in Lake Pontchartrain, at Metairie, Louisiana, in Jefferson Parish, is specifically extended to June 13, 1997.

The permittee is reminded of special conditions v through hh of the subject permit. These and all other conditions to which the work is made subject, excepting the time limit for completion, remain in full force and effect.

BY THE AUTHORITY OF THE SECRETARY OF THE ARMY:

Albert J. Guillot
Assistant Chief, Operations and
Readiness Division
for

James V. Hall
Lieutenant Colonel, U.S. Army
Deputy District Engineer

BAEHR
OD-SE

[Signature]
VENTOLA
OD-7

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DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT CORPS OF ENGINEERS

P.O. BOX 60267

NEW ORLEANS LOUISIANA 70160-0267

OFFICE OF
ATTENDING ENGINEER

CELMN-OD-SE

Department of the Army Permit Evaluation

and Decision Document

Applicant: Sewerage and Water Board of New Orleans

Application No.: SE (17th Street Canal)2

This document constitutes the Environmental Assessment, Statement of Findings, and, if applicable, review and compliance determination according to the 404(b)(1) guidelines for the proposed work.

The applicant has requested Department of the Army permit approval to complete project authorized June 13, 1984.

I have determined that the proposed work need not be advertised by public notice for the reason indicated below.

(X) The proposed request is for a time extension to continue work previously authorized. Regulations under 33 CFR 325.6(d) allow granting of time extensions without the need to readvertise a project by public notice if there have been no significant changes in the attendant circumstances since the authorization was issued.

() The proposed work is a minor modification or addition to work previously permitted. The impacts of the proposed work are expected to have no adverse impacts or only very minor impacts.

() The proposed work qualifies for approval under 33 CFR 325.2(c)(1) by a letter of permission.

Although the proposed work is being authorized in accordance with abbreviated procedures allowed under

regulations found under 33 CFR 320 through 330, the project has been assessed to include all the evaluation factors cited in 33 CFR 325.3(c) even though a detailed Environmental Assessment and a detailed Statement of Findings have not been prepared.

(X) Alternatives to include no action, other project designs, and other sites were considered but not found to be practical or feasible.

Other factors relevant to the review of the applicant's proposal, if any, are listed below.

The permittee indicated by letter dated May 27, 1992, that Phase I and III of the project work has been completed. Phase II of the project was delayed due to the permittee trying to negotiate a joint agreement between Jefferson Parish and Orleans Parish Levee Districts to combine the flood protection work with the permittee's dredging operation (Phase IIA & IIB). Once after the agreement has been settled, approximately 60 per cent of Phase IIA has been completed, and Phase IIB of the project commenced the first week in June, 1992. In the approval, the permittee was reminded that special conditions v through hh and all other conditions of the permit, which the work is made subject, still remain in full force and effect.

Having reviewed the information provided by the applicant, the permit file, and the assessment of environmental impacts, I find this permit action will not have a significant impact on the human environment. Therefore, an Environmental Impact Statement will not be required.

I find that issuance of a Department of the Army permit, as prescribed by regulations published in 33 CFR 320 to 330 and 40 CFR 230, is not contrary to the overall public interest.

June 14, 1992
Date

Miranda R. Weston
Preparer

18 June 92
Date

L. F. O. L.
Reviewer

June 23, 1992
Date

Albert J. Simant
Approving Officer

L A K E

P O N T C H A R T R A I N

Jefferson
Parish

Orleans
Parish

Pumping Station No.6

Site Map

17th St. Canal Drainage
Basin

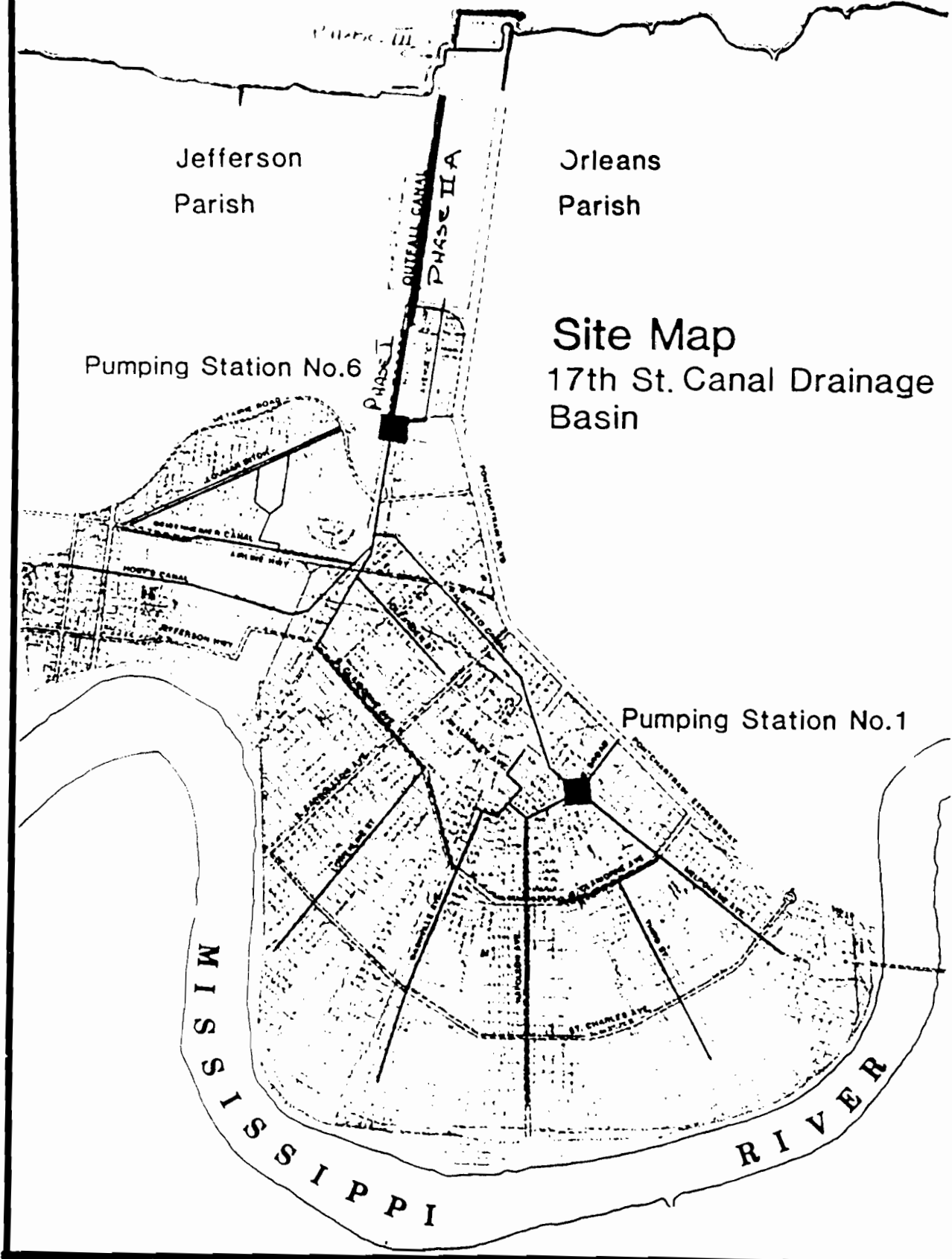
Pumping Station No.1

M I S S I S S I P P I

R I V E R

Phase III

OUTFALL CANAL
PHASE II
PHASE I



Application No. LMNOD-SP (17th Street Canal)
Name of Applicant Sewerage & Water Board of New Orleans
Effective Date August 23, 1983
Expiration Date (if applicable) _____

Mrs. Lucas/vm/2285
P-0062/#52G

FILE COPY

LMNOD-SP
1522-15
17th Street Canal
3/2
P-83-A-85

**DEPARTMENT OF THE ARMY
PERMIT**

Referring to written request dated September 8, 1982 for a permit to:

(A) Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403);

(*) Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344);

() Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052; P.L. 92-532);

Sewerage & water board of New Orleans
City Hall, Civic Center
New Orleans, Louisiana 70165

is hereby authorized by the Secretary of the Army:
to

install and maintain a pile supported floodwall, discharge pipes and fill
for hurricane protection of existing drainage pumps,

in the 17th Street Canal (Metairie Relief Canal), at a point about 2.6 miles
below Lake Pontchartrain,

at
Metairie, Louisiana, in Jefferson Parish,

in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit (on drawings, give file number or other definite identification marks.)

in three sheets, dated September 1982,

COPY TO U S C G AUG 24 1983

COPY TO INSPECTOR AUG 24 1983

subject to the following conditions:

I. General Conditions:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit; and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

ENG FORM 1721, Sep 82

EDITION OF 1 JUL 77 IS OBSOLETE

(ER 1145-2-303)

WARRS AT PUMP STATION #6

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (33 U.S.C. 1344), the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532, 86 Stat. 1082), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, or any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the term of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementation plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that he will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall allow the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in reasonable accordance with the plans and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

j. That this permit does not obviate the requirement to obtain state or local assent required by law for the activity authorized herein.

k. That this permit may be either modified, suspended or revoked in whole or in part pursuant to the policies and procedures of 40 C.F.R. 121.7.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be materially false, materially incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

o. That if the activity authorized herein is not completed on or before _____ day of _____, 19____ (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition 1 hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

u. That if the permittee during prosecution of the work authorized herein, encounters a previously unidentified archeological or other cultural resource within the area subject to Department of the Army jurisdiction that might be eligible for listing in the National Register of Historic Places, he shall immediately notify the district engineer.

ii. Special Conditions: *(Here list conditions relating specifically to the proposed structure or work authorized by this permit):*

v. That this permit approval does not obviate the permittee from obtaining any required permit from the appropriate levee board.

The following Special Conditions will be applicable when appropriate:

STRUCTURES IN OR AFFECTING NAVIGABLE WATERS OF THE UNITED STATES:

- a. That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.
- b. That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.
- c. That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.
- d. That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.
- e. Structures for Small Boats: That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.

MAINTENANCE DREDGING:

- a. That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for _____ years from the date of issuance of this permit (*ten years unless otherwise indicated*);
- b. That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.

DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES:

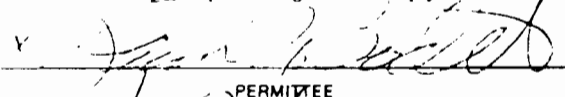

- a. That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the Clean Water Act and published in 40 CFR 230;
- b. That the discharge will consist of suitable material free from toxic pollutants in toxic amounts.
- c. That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution.

DISPOSAL OF DREDGED MATERIAL INTO OCEAN WATERS:


- a. That the disposal will be carried out in conformity with the goals, objectives, and requirements of the EPA criteria established pursuant to Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, published in 40 CFR 220-228.
- b. That the permittee shall place a copy of this permit in a conspicuous place in the vessel to be used for the transportation and/or disposal of the dredged material as authorized herein.

This permit shall become effective on the date of the District Engineer's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

 
_____ PERMITTEE _____ DATE

BY AUTHORITY OF THE SECRETARY OF THE ARMY:


_____ August 23, 1983 _____
Henry R. Schorr, Asst Chief, Operations Division DATE
for Robert G. Lee, Colonel
DISTRICT ENGINEER
U.S. ARMY, CORPS OF ENGINEERS

Transferee hereby agrees to comply with the terms and conditions of this permit.

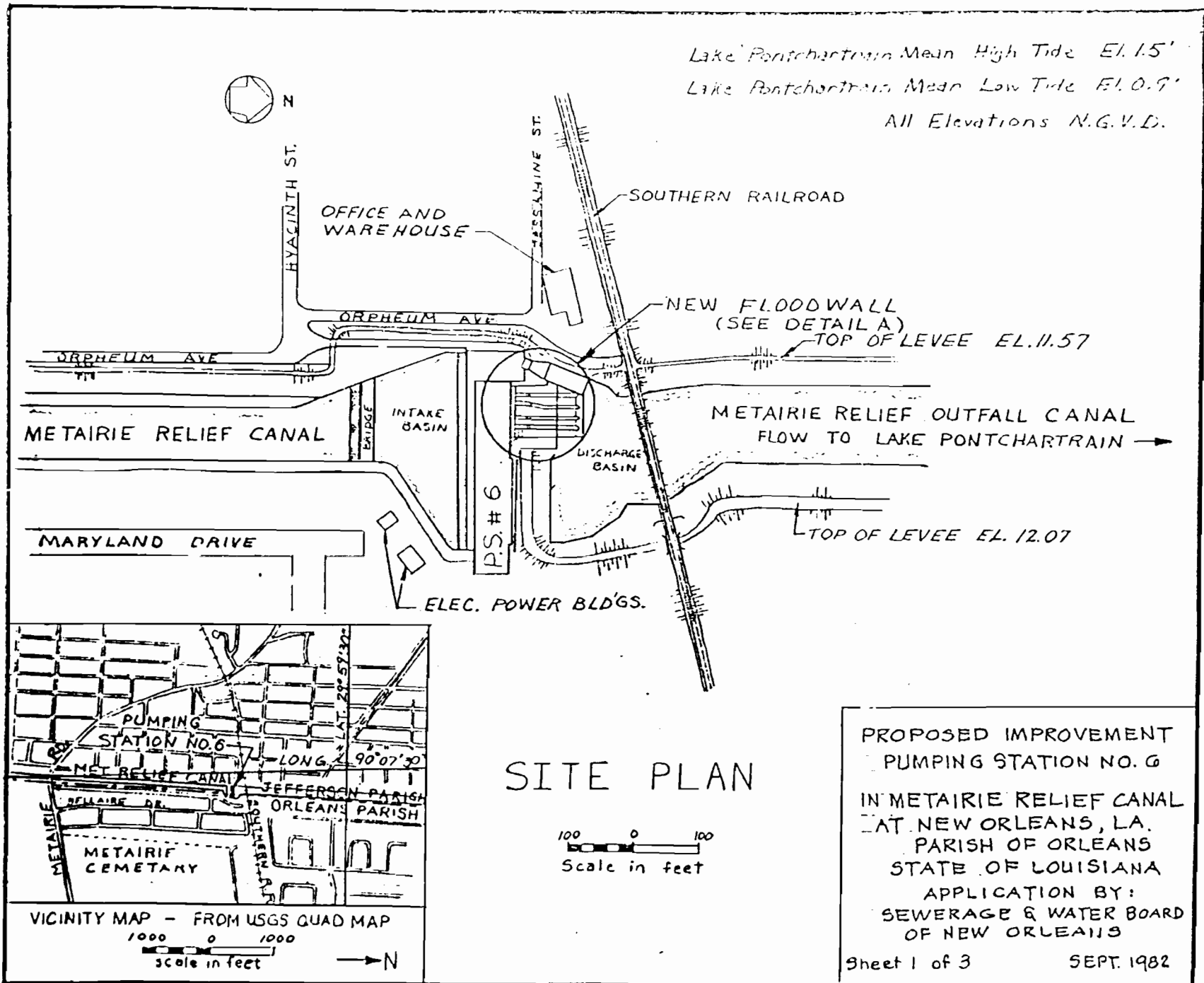
TRANSFEEE

DATE

Enclosure
Set of dwg (3 sheets)

4

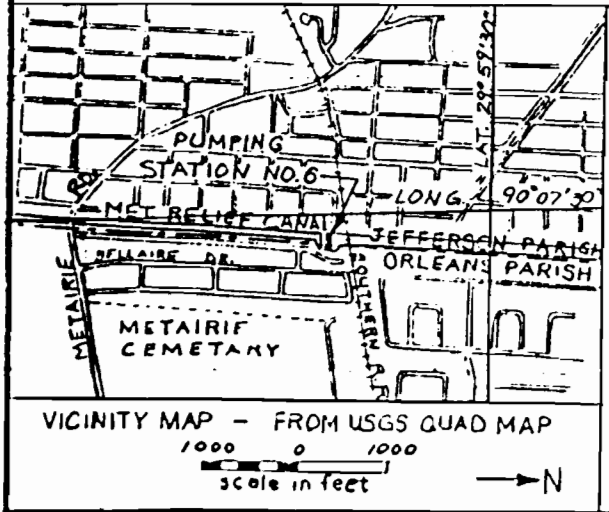
Lake Pontchartrain Mean High Tide El. 15'
 Lake Pontchartrain Mean Low Tide El. 0.9'
 All Elevations N.G.V.D.

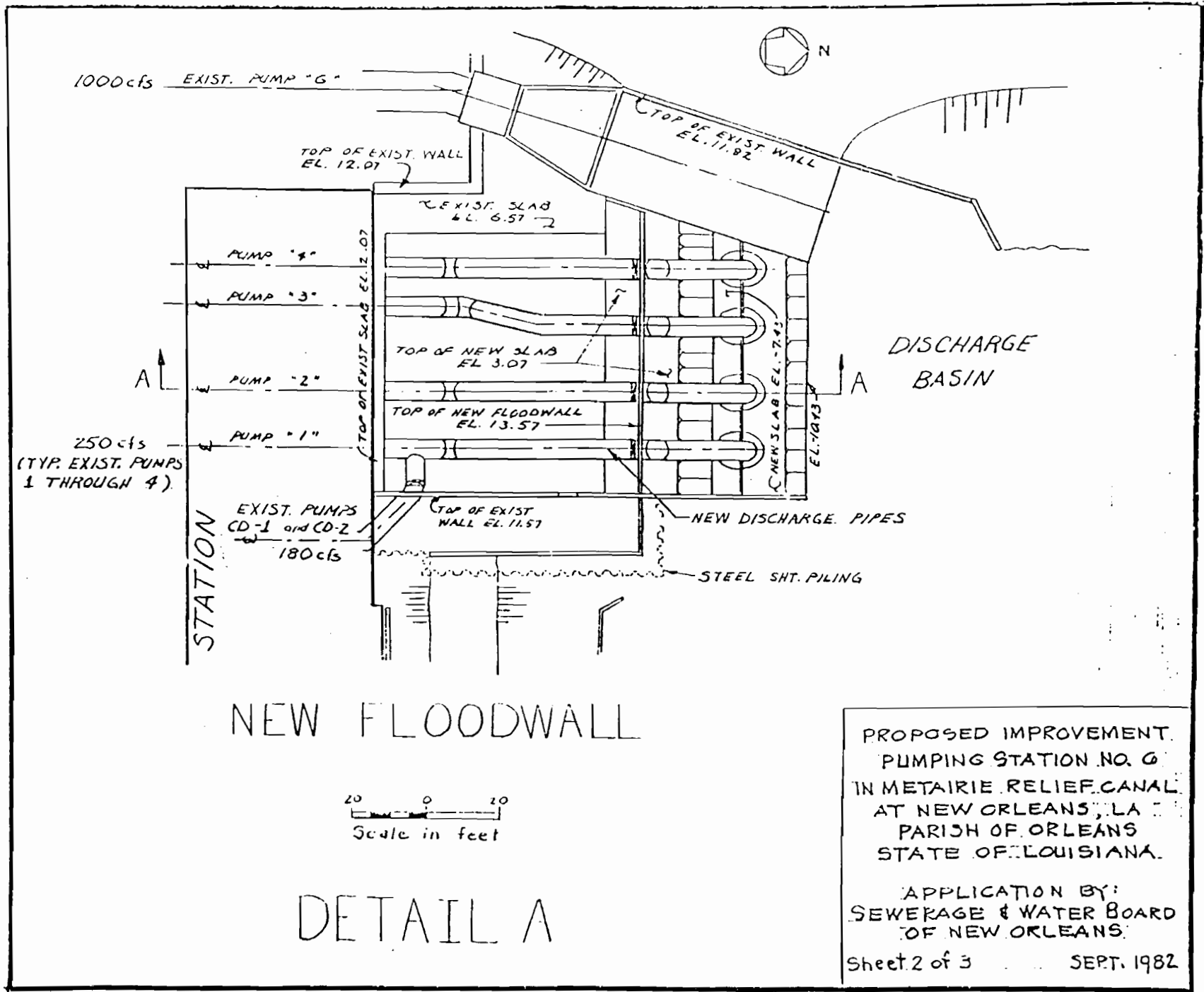


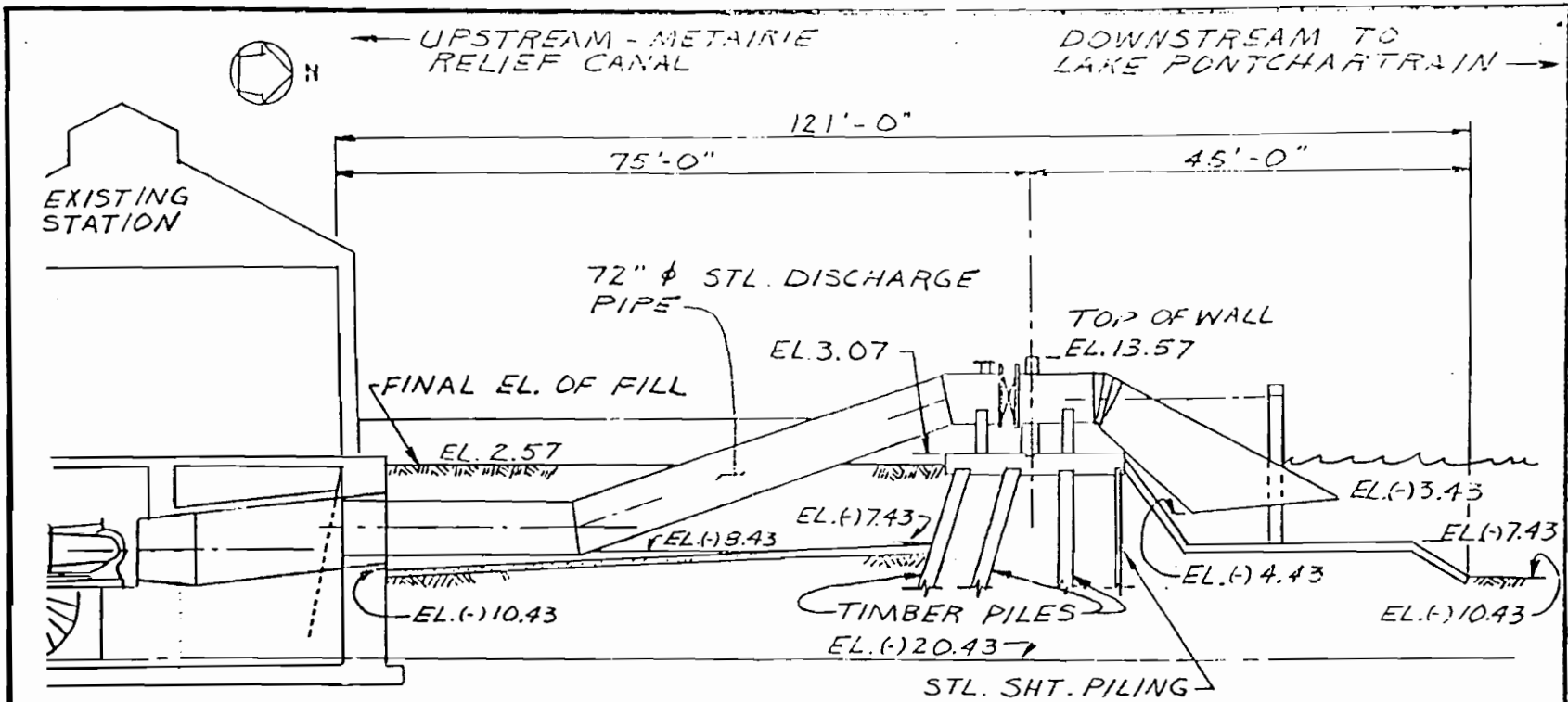
SITE PLAN

100 0 100
 Scale in feet

PROPOSED IMPROVEMENT
 PUMPING STATION NO. 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS
 STATE OF LOUISIANA
 APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS
 Sheet 1 of 3 SEPT. 1982







NOTE:
 PARISH PUMPING STATION
 APPROX. 1550 CU. YDS. OF
 FILL TO BE TRUCKED TO THE
 SITE FROM BORROW SOURCE.

SECTION A-A

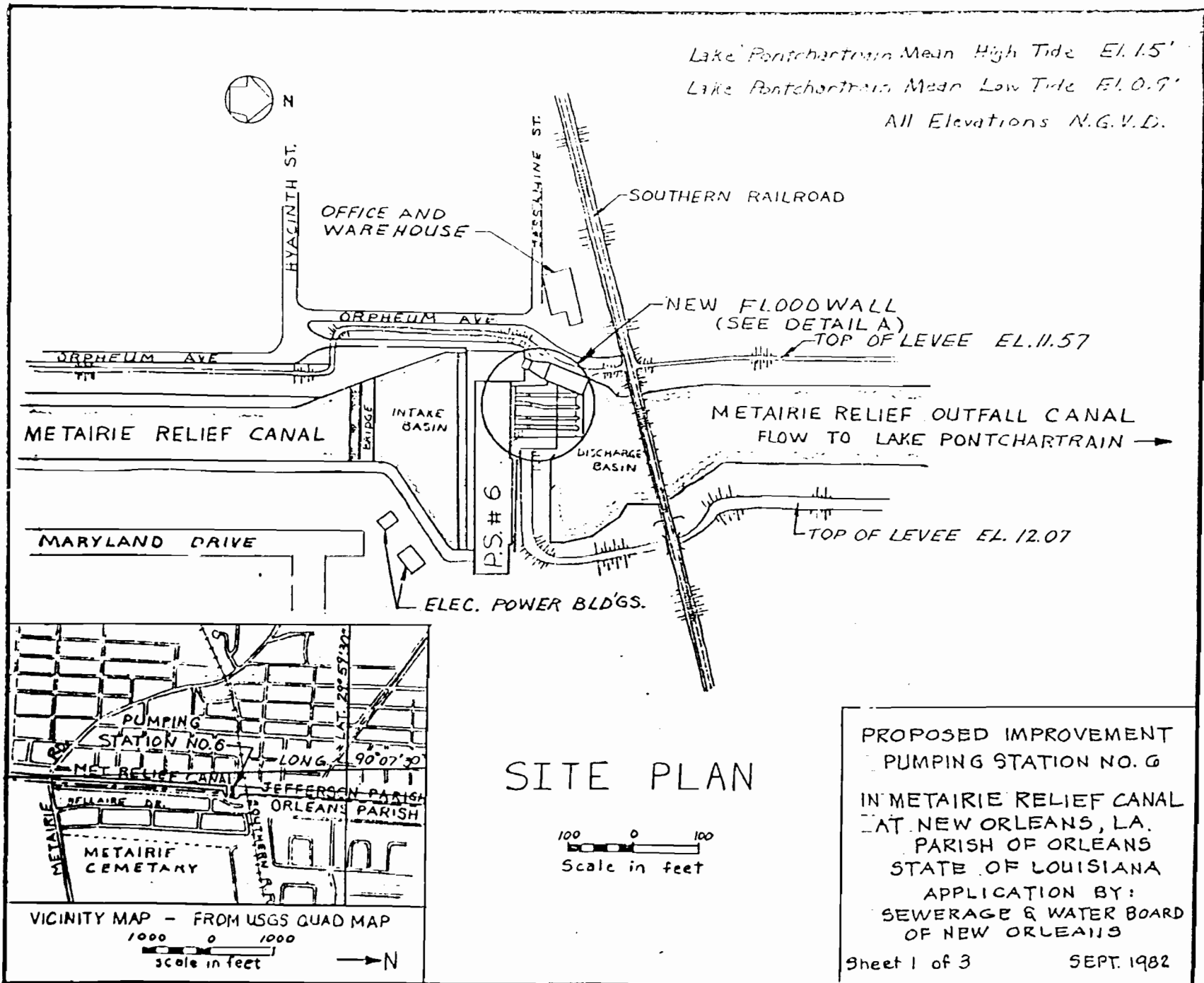
Scale in feet

PROPOSED IMPROVEMENT
 PUMPING STATION NO. 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS
 STATE OF LOUISIANA

APPLICATION BY
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS

Sheet 3 of 3 SEPT. 1982

Lake Pontchartrain Mean High Tide El. 15'
 Lake Pontchartrain Mean Low Tide El. 0.9'
 All Elevations N.G.V.D.

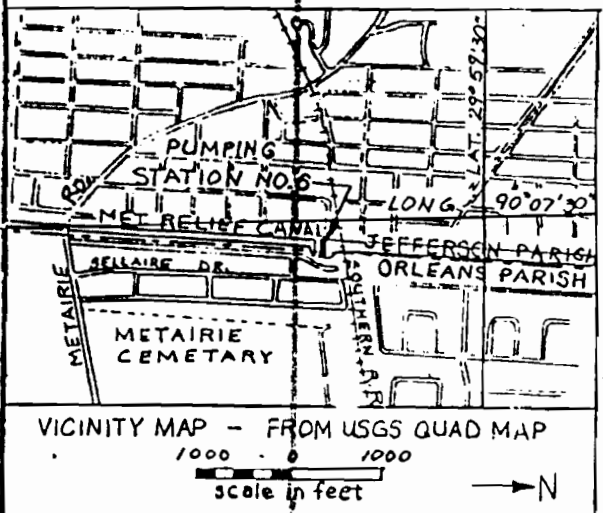
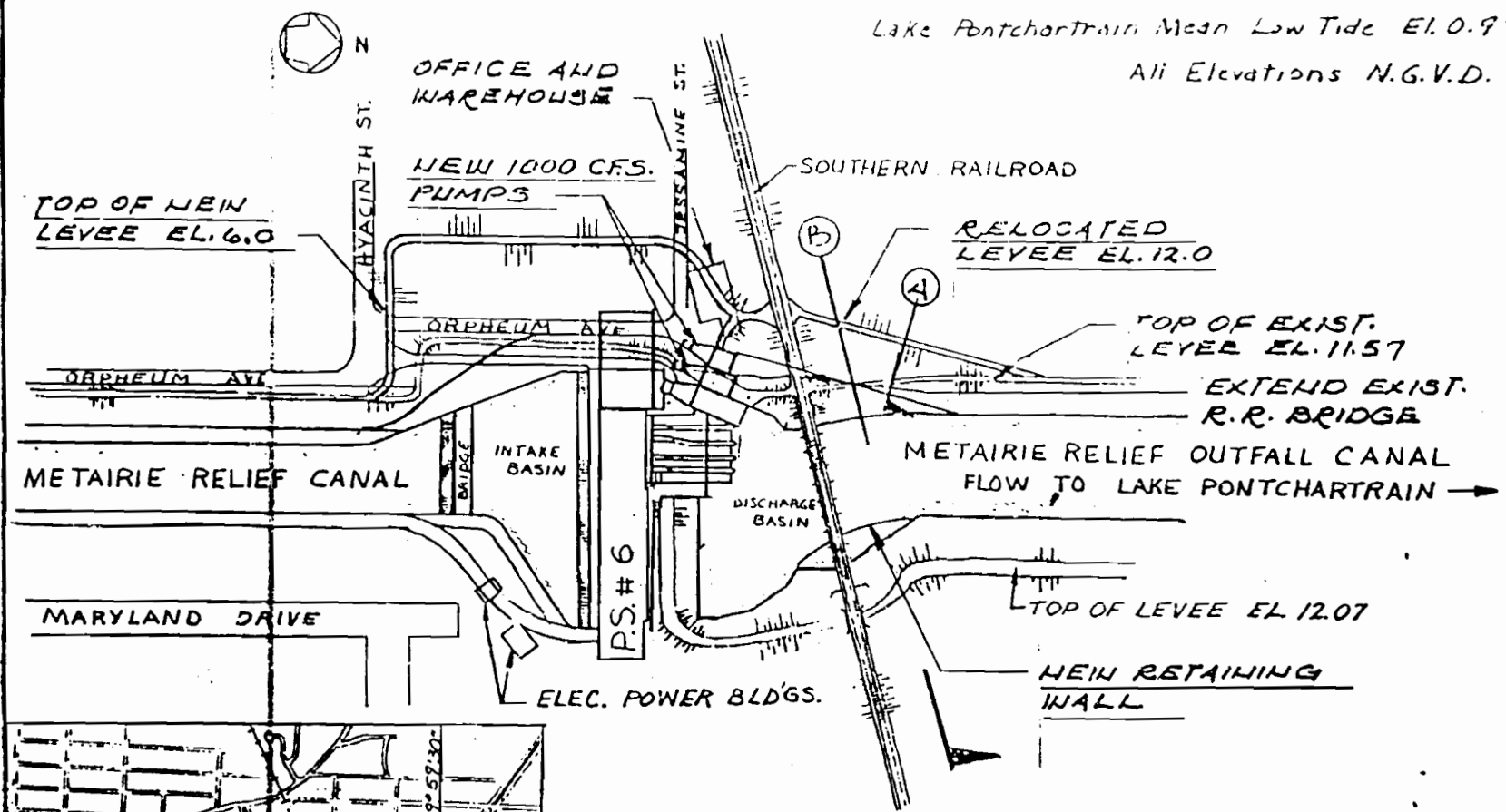


SITE PLAN

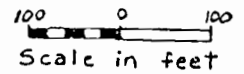
100 0 100
 Scale in feet

PROPOSED IMPROVEMENT
 PUMPING STATION NO. 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS
 STATE OF LOUISIANA
 APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS
 Sheet 1 of 3 SEPT. 1982

Lake Pontchartrain Mean High Tide EL. 15'
 Lake Pontchartrain Mean Low Tide EL. 0.9'
 All Elevations N.G.V.D.

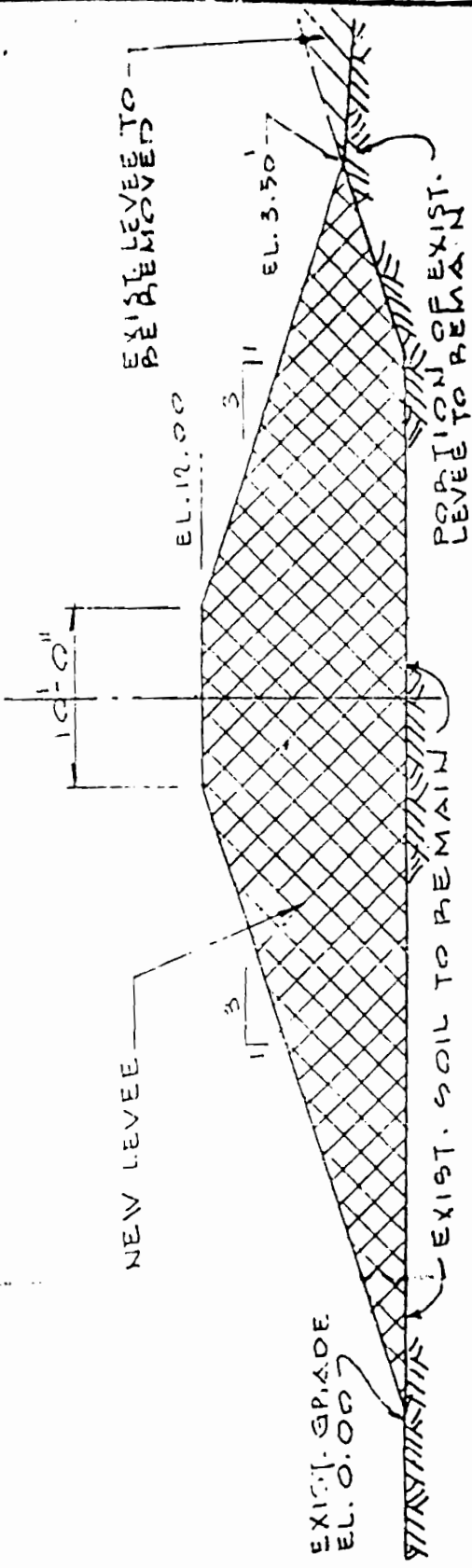


SITE PLAN





NOTE:
 LEVEE MATERIAL; APPROXIMATE QUANTITY OF NEW LEVEE FILL IS 9000 C.Y. AND 10,000 C.Y. TO BE REUSED.

PROPOSED IMPROVEMENT
 PUMPING STATION NO. 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS
 STATE OF LOUISIANA
 APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS
 Sheet 1 of 3
 JUNE, 1983



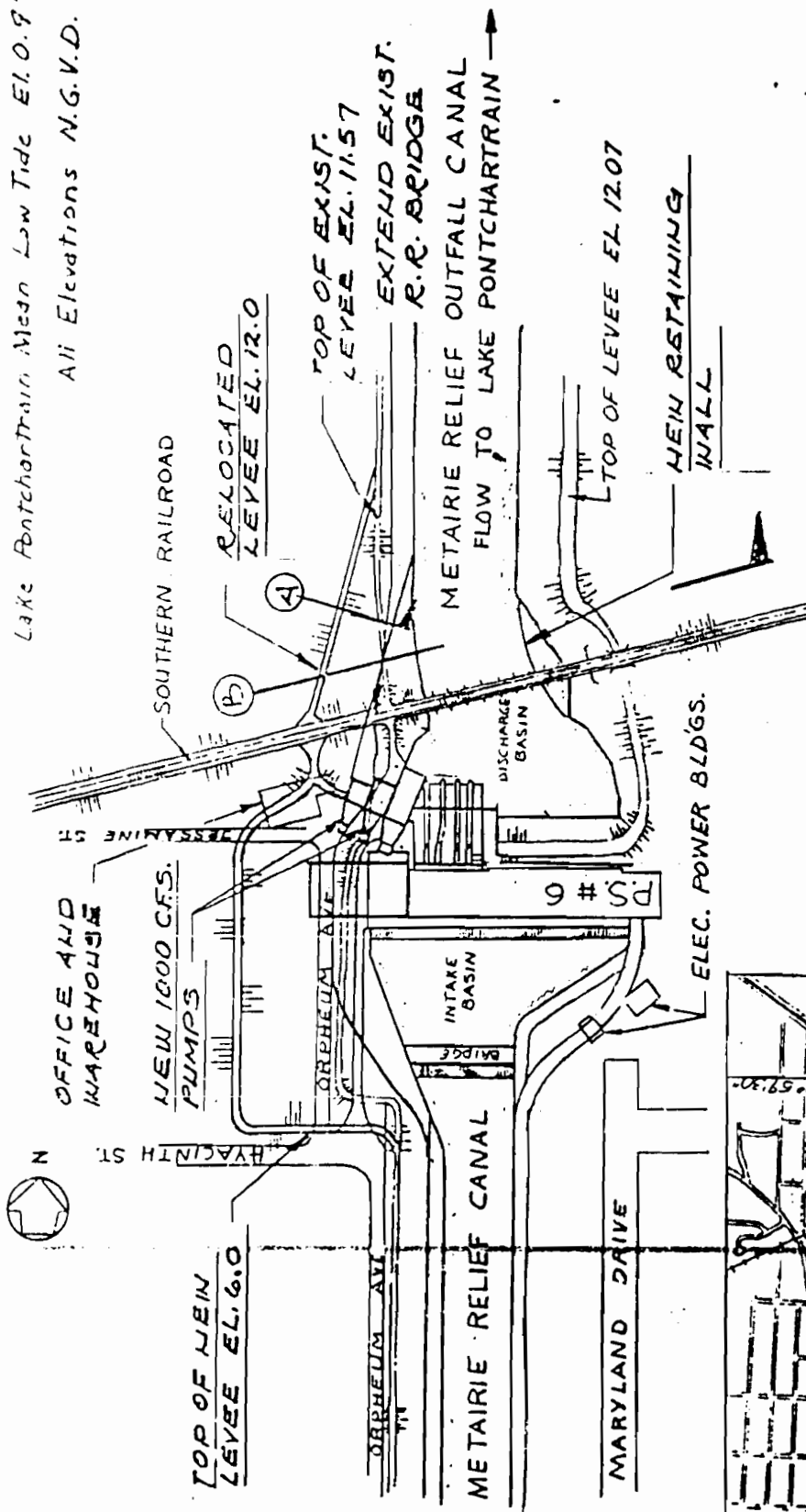
SECTION "A" SCALE 1"=10'-0"
 TYPICAL LEVEE CROSS SECTION

LEGEND

-  EXIST. SOIL TO BE REMOVED AND RE-UPPED TO CONSTRUCT NEW LEVEE.
-  NEW LEVEE

PROPOSED IMPROVEMENT
 PUMPING STATION N^o 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS,
 STATE OF LOUISIANA
 APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS
 Sheet 2 of 3 JUNE, 1983
 S.V. K.V.

Lake Pontchartrain Mean High Tide El. 15'
 Lake Pontchartrain Mean Low Tide El. 0.9'
 All Elevations N.G.V.D.

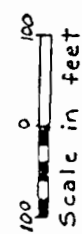


PROPOSED IMPROVEMENT
 PUMPING STATION NO. 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS
 STATE OF LOUISIANA

APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS

Sheet 1 of 3 JUNE, 1983

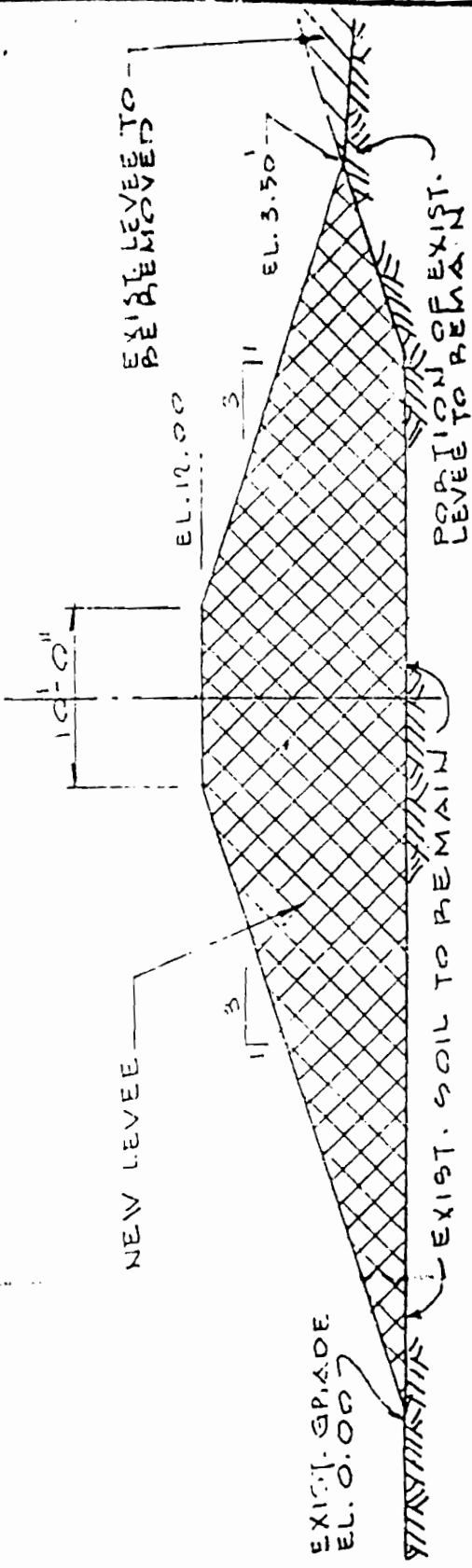
SITE PLAN



NOTE:
 LEVEE MATERIAL; APPROXIMATE
 QUANTITY OF NEW LEVEE FILL IS 9000
 C.Y. AND 10,000 C.Y. TO BE REUSED.





VICINITY MAP -- FROM USGS QUAD MAP
 Scale in feet
 0 1000 1000



SECTION "A" SCALE 1"=10'-0"
TYPICAL LEVEE CROSS SECTION

LEGEND

-  EXIST. SOIL TO BE REMOVED AND RE-UPPED TO CONSTRUCT NEW LEVEE.
-  NEW LEVEE

PROPOSED IMPROVEMENT
 PUMPING STATION N^o 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS,
 STATE OF LOUISIANA
 APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS
 Sheet 2 of 3 JUNE, 1983
 S.V. K.V.

FILE COPY

August 29, 1983

Operations Division
Permits

1983.07. 13-00-52 (17th Street Canal)

Concrete and Water Board of New Orleans
City Hall, Civic Center
New Orleans, Louisiana 70165

Gentlemen:

Additional drawings attached (sheets 1, 2, and 3 of 3), furnished with your application dated June 22, 1983, covering dredging to maintain a -10.5 NGVD depth relocation of an existing levee and floodwall and installation and maintenance of a floodwall and fill to add two 1000 c.f.s. pumps and discharge pipes to increase pump station capacity to 10,400 cubic feet per second, are approved and will be included in your plans for the work authorized by the Secretary of the Army in permit dated August 23, 1983 from the District Engineer at New Orleans, Louisiana. This permit authorized installation and maintenance of a pile supported floodwall, discharge pipes and fill for hurricane protection of existing drainage pumps, in the 17th Street Canal (Detourin Relief Canal), at a point about 2.6 miles below Lake Pontchartrain, at Metairie, Louisiana, in Jefferson Parish.

The following special conditions are added to the permit:

w. That no work may be performed under this permit approval until the Chief or Acting Chief of Operations Division of the New Orleans District, Corps of Engineers, states in writing that all concerns addressed in comment 2, dated July 27, 1983 from the Engineering Division have all been resolved.

x. That the applicant is aware that as a result of special condition "v" above, the drawings attached to this approval may be modified, additional drawings added, and/or ~~corrections or special conditions~~ made a part of this permit.

y. That the applicant receives approval from the Jefferson Levee District for that portion of the work which is under jurisdiction of their board.

All other conditions to which the work is made subject remain in full force and effect.

FILE COPY

pel
FILE COPY

The attached Notice of Authorization, ENG Form 4336, is to be conspicuously displayed at the site of work.

BY AUTHORITY OF THE SECRETARY OF THE ARMY

[Handwritten Signature]
Henry K. Schorr
Assistant Chief, Operations Division
for
Robert C. Lee
Colonel, Corps of Engineers
District Engineer

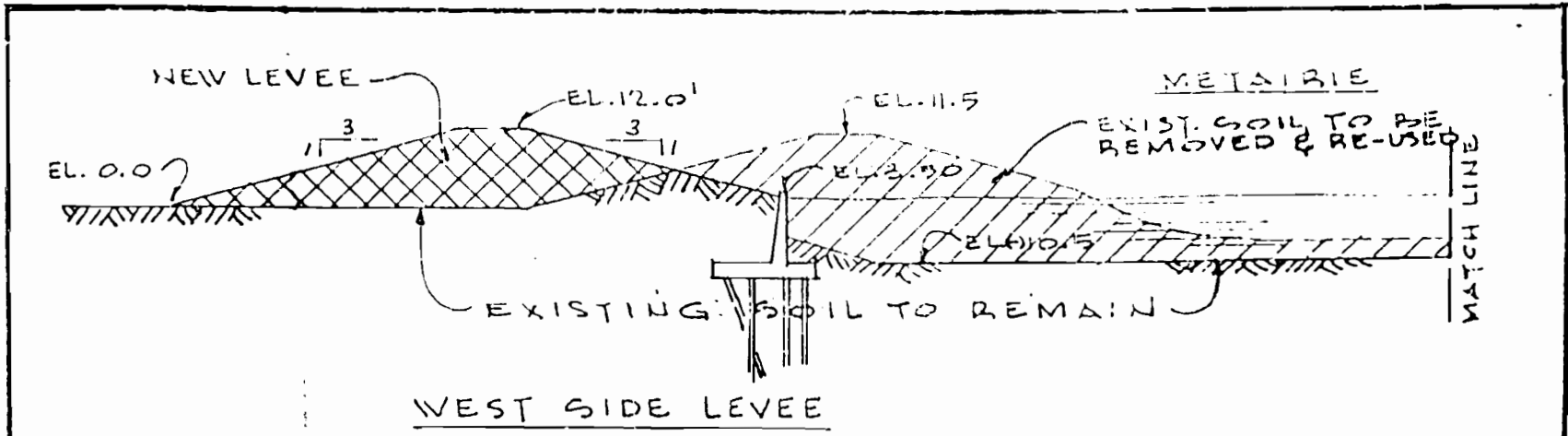
[Handwritten Signature]
SWINDLER
LMNOD-SP
[Handwritten Signature]
VENTOLA
LMNOD-S

Attachments

CFE: *[Handwritten Signature]*
LMNOD-S



Department of Commerce, NOAA
National Marine Center
ATTN: GLENN
430 West York Street
Norfolk, Virginia 23510

[Handwritten Signature]
FILE COPY



SECTION "B"
SCALE 1" = 30'-0"

LEGEND

-  EXIST. SOIL TO BE REMOVED AND RE-USED TO CONSTRUCT NEW LEVEL
-  NEW LEVEL

PROPOSED IMPROVEMENT
 PUMPING STATION NO. 6
 IN METAIRIE RELIEF CANAL
 AT NEW ORLEANS, LA.
 PARISH OF ORLEANS
 STATE OF LOUISIANA
 APPLICATION BY:
 SEWERAGE & WATER BOARD
 OF NEW ORLEANS
 Sheet 3 of 3 JUNE, 1983
 W.K.K.

Microfilm : Table

blip#	Old permit number system	mvn	#	pm	rams number	applicant	nw	pl	act	date	cart
19	17STC3					PHOFJEFF		26	1	11/19/1993	839
61	17THSTC2					S&WB		26	1	06/13/1984	467
24	17THSTC2					S&WB		26	7	06/13/1984	479
51	17THSTC2					S&WB		26	5	02/20/1987	609
149	17THSTC2					SW&BNO		26	5	06/22/1992	760
33	17THSTC3					BURK&ASSOC			7	10/09/1984	482
62	17THSTC3					S&WB			1	08/23/1983	412
55	17THSTC3					S&WB			3	08/29/1983	415
30	17THSTC3					S&WB			7	10/23/1984	489
109	17THSTC3					S&WB			5	06/16/1986	569
32	17THSTC4					USSPRINT			1	06/01/1987	615
74	17THSTC4					USSPRINT			7	07/09/1987	621
76	17THSTC4					USSPRINT			7	07/09/1987	621
160	17THSTC4					USSPRINT			8	08/17/1987	644
137	17THSTC5					JEFFPPHDEPTOFWWKS		26	8	10/24/1990	723
*					0						

TJAW 08

DEPARTMENT OF THE ARMY PERMIT

Permittee Jefferson Parish Department of Drainage Pump Stations

Permit No. SE (17th Street Canal) 5

Issuing Office New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Install and maintain a siphon from the 17th Street Canal to the dead end of the West Esplanade drainage canal to improve air and water quality during insufficient drainage flow in the West Esplanade Canal, in accordance with the drawings attached, in three sheets, dated September 10, 1987.

Project Location: In the 17th Street Canal, west bank, at a point about 0.7 of a mile above the mouth of the waterway, at Metairie, Louisiana, in Jefferson Parish.

Permit Conditions

General Conditions

1. The time limit for completing the work authorized ends on JANUARY 31, 1991. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions

7. The construction of work authorized by this permit shall be coordinated with the New Orleans Sewerage and Water Board and the East Jefferson Levee District.

Further Information

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

Section 404 of the Clean Water Act (33 U.S.C. 1344).

Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization:

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITEE)

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

January 7, 1988

(DATE)

~~XXXXXXXXXXXXXXXXXXXX~~

Henry E. Schorn, Assistant Chief, Operations and Readiness Division
Col. Edgar E. Brown, District Engineer

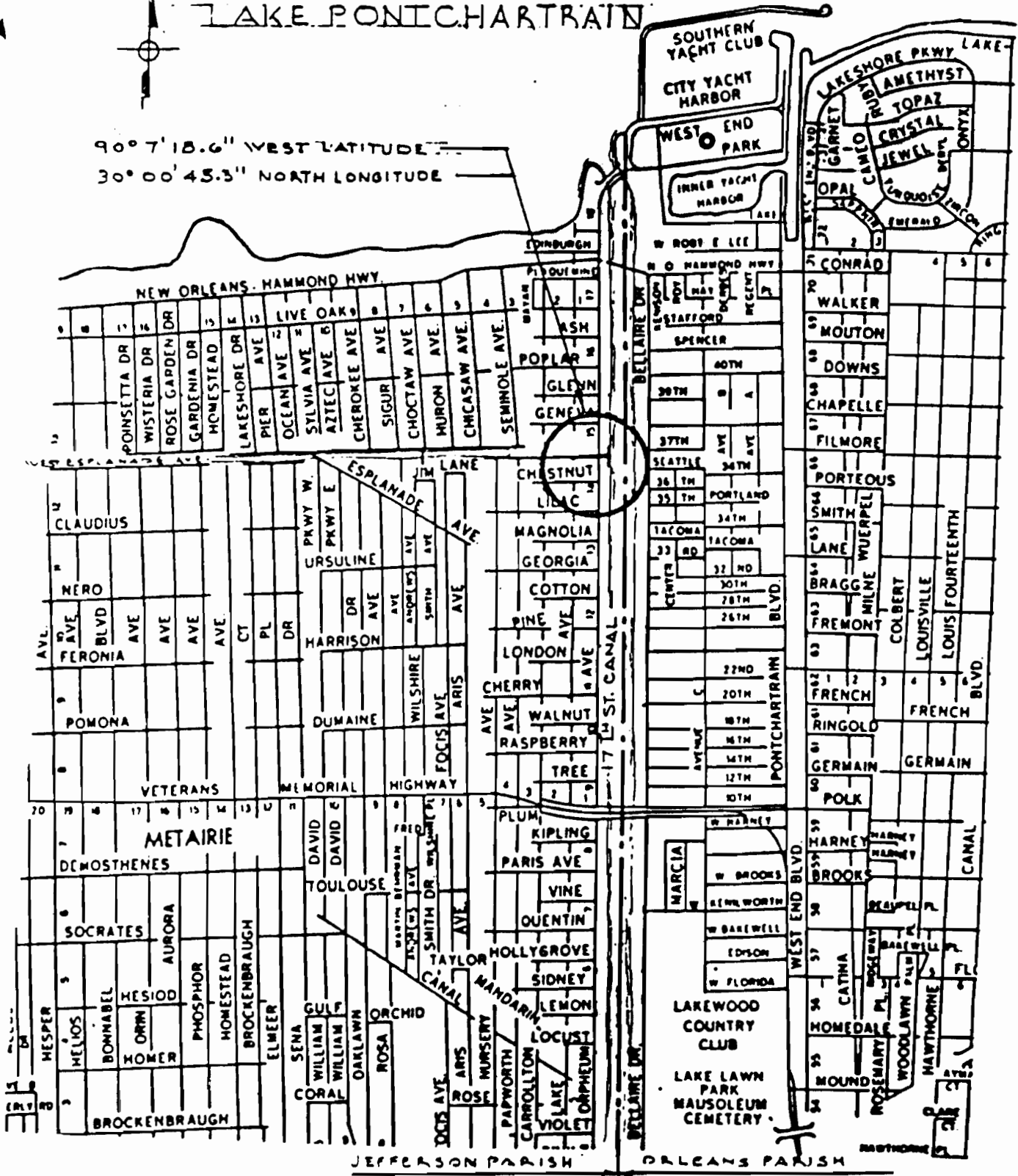
When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below

(TRANSFEEE)

(DATE)

LAKE PONTCHARTRAIN

90° 7' 18.6" WEST LONGITUDE
30° 00' 45.5" NORTH LONGITUDE

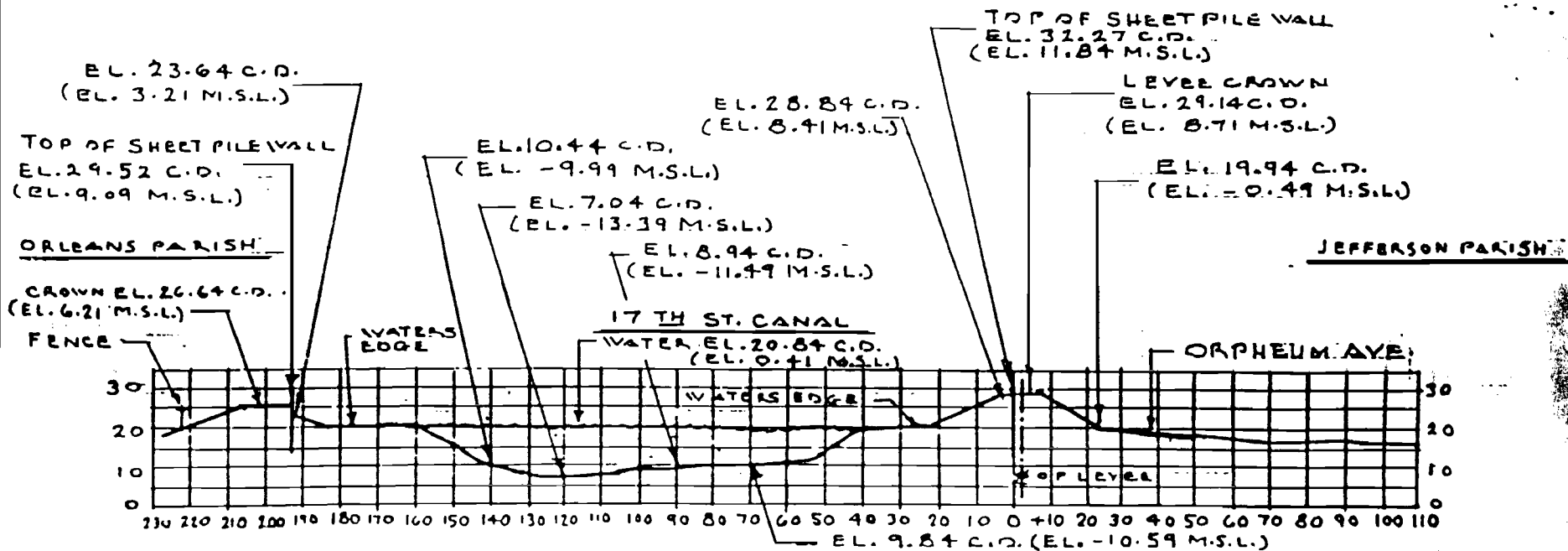


DR. BY: PHM
 CR. BY: D.D.M.
 APP. BY: D.D.M.
 DATE: 9-10-87

PROPOSED 10" FRESH WATER SIPHON
 FOR THE WEST ESPLANADE AVE. CANAL
 LOCATED AT THE INTERSECTION OF
 WEST ESPLANADE AVE. AND 17TH ST. CANAL

SHEET NO.
 1 OF 3

DEPARTMENT OF PUBLIC UTILITIES
 ENGINEERING DIVISION
 600. HEBLOIS ST. METAIRIE, LA.



CROSS SECTION THRU 17TH ST. CANAL AT WEST ESPLANADE

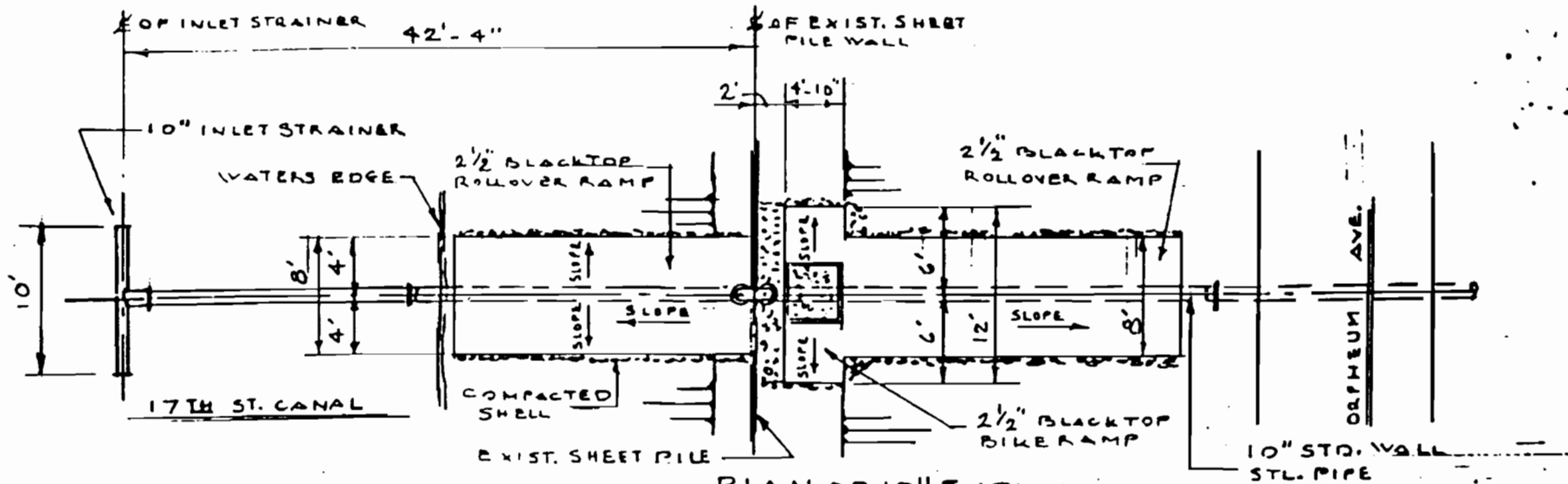
SCALE: 1" = 40'

DRAWN BY: P.H.H.
 CHECKED BY: D.D.M.
 APPROVED BY: D.D.M.
 DATE: 9.10.27

PROPOSED 10" FRESH WATER SIPHON
 FOR THE WEST ESPLANADE AVE. CANAL
 LOCATED AT THE INTERSECTION OF
 WEST ESPLANADE AVE. AND 17TH ST. CANAL

SHEET NO
 2 OF 3

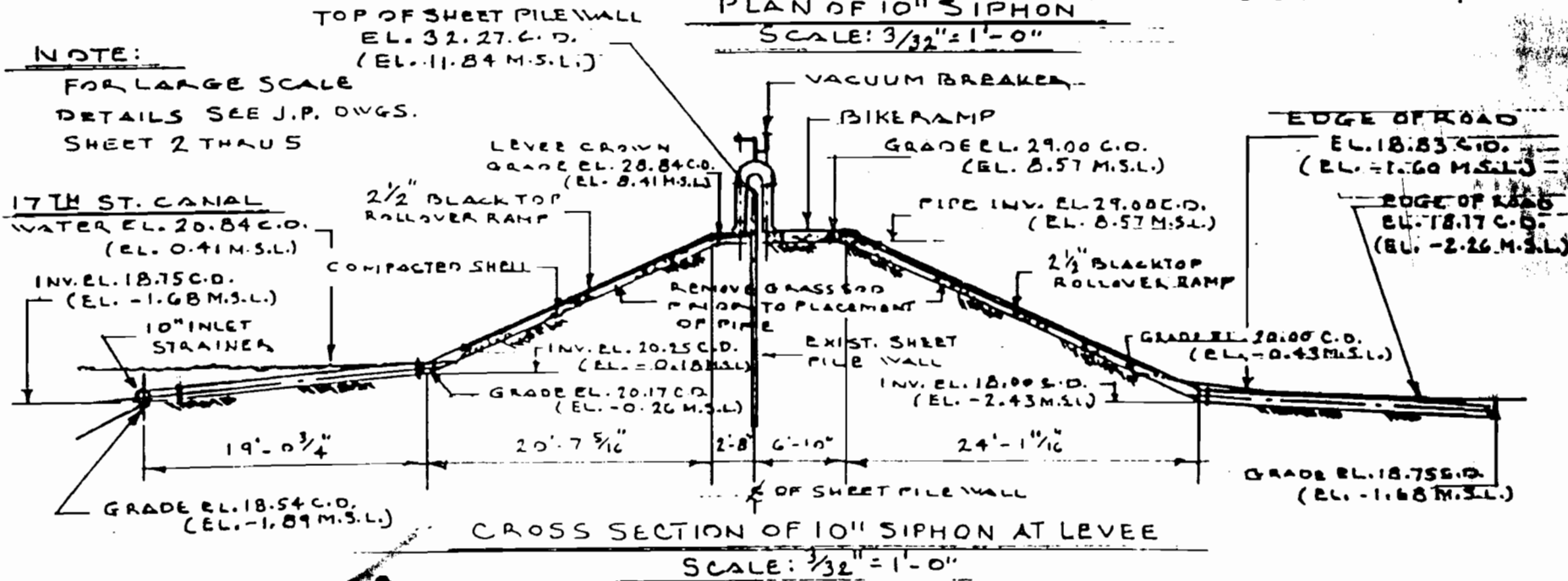
DEPARTMENT OF PUBLIC UTILITIES
 ENGINEERING DIVISION
 600 HELOIS ST. METAIRIE, LA.



PLAN OF 10" SIPHON
SCALE: 3/32" = 1'-0"

NOTE:

FOR LARGE SCALE
DETAILS SEE J.P. DWGS.
SHEET 2 THRU 5



CROSS SECTION OF 10" SIPHON AT LEVEE
SCALE: 3/32" = 1'-0"

DRAWN BY: P.H.H.
CHECKED BY: D.O.M.
APPROVED BY: D.O.M.
DATE: 9-10-87

PROPOSED 10" FRESH WATER SIPHON
FOR THE WEST ESPLANADE AVE. CANAL
LOCATED AT THE INTERSECTION OF
WEST ESPLANADE AVE AND 17TH ST. CANAL

SHEET NO
3 OF 3

DEPARTMENT OF PUBLIC UTILITIES
ENGINEERING DIVISION
600 HELDRETH ST. METAIRIE, LA.