SUPPLEMENTAL LIST OF ILLUSTRATIONS

TO ACCOMPANY

HOUSE DOCUMENT No. 652

66th CONGRESS, 2d SESSION

REPORT ON WATER TERMINAL AND TRANSFER FACILITIES

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AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. ARMY

U. S. ENGINEER OFFICE NEWPORT, R. I.

WATER TERMINALS
FALL RIVER HARBOR, MASS.

SCALE

1000 0 3000 FEET

1919

To accompany report of Col J H Willard, dated June 13, 1919 (R.& H.M. 2-2411)

SYMBOLS

- Freight Shed
- Coal Pocket
- Storage Warehouse
- Shed (Brick, Lumber etc.)
- Steam Hoist (Grab Bucket)
- Electric Hoist " "
- Steam Derrick (Bucket)

MOUNT HOPE BAY

ENTRANCE CHANNEL

DREDGED TO 25 FEET BELOW M. L. W.

U. S. HARBOR LINE

Borden Flats Light

FALL RIVER HARBOR

DREDGED TO 25 FEET BELOW M. L. W.

SOMERSET

N. Y. N. H. & H. R. R.

Crowninshield Shipbuilding Co

TAUNTON RIVER

Slades Ferry Bridge

Braltman St. Bridge

Peoples Coal Co

Fall River Gas Works Co.

AMERICAN LINEN Co

AMERICAN PRINTING Co

MASSASOIT

W. C. ATWATER

STEAMER

CITY OF FALL RIVER

COOK & KEELER

FALL RIVER ELEC LT Co

BORDEN & REMINGTON Co

FALL RIVER GAS WORKS Co

R.R. Sta.

FALL RIVER

F.R. 11/9

Drawn by CAB

71°11' 41°41' 71°10' 41°42' 71°09' 41°43'

WAR DEPARTMENT

CORPS OF ENGINEERS, U. S. ARMY

41°40' 41°39' 41°38' 41°37' 70°55' 70°54'

ACUSHNET RIVER

FAIRHAVEN

NEW BEDFORD

BELLEVILLE

Monomet Mill

Whitmon Mill

Soule Mill

Bennett Mill

Bristol Mill

Pierce Mill

Wamsutta Mill

Coggeshall St. Bridge

U. S. HARBOR LINE

MARSH ISLAND

POPES I.

CROW I.

NEW BEDFORD AND FAIRHAVEN HARBORS

DREDGED TO 25 FEET BELOW M. L. W.

ENTRANCE CHANNEL

DREDGED TO 25 FEET BELOW M. L. W.

Butler Flats Light

PALMERS I.

SS LIGHT

John Duff

Pocahontas Fuel Co

FREIGHT YARD

N. Y. N. H. & H. R. R.

NEW BEDFORD

OLD SOUTH WHARF

UNION WHARF

CENTRAL WHARF

T. & E. FACTORY WHARF

COMMERCIAL WHARF

STEAMBOAT WHARF

MERRILL WHARF

PHILLIPS & REYNOLDS COAL Co

GREEN & WOOD

EASTERN EDISON Co

EASTERN GAS & ELEC Co

CASTNERS WHARF

U. S. ENGINEER OFFICE NEWPORT, R. I.

WATER TERMINALS
NEW BEDFORD AND FAIRHAVEN HARBORS, MASS.

SCALE IN FEET

1000 0 3000

1919

To accompany report of Col. J. H. Willard, dated June 13, 1919 (R.& H.M. 2-2411)

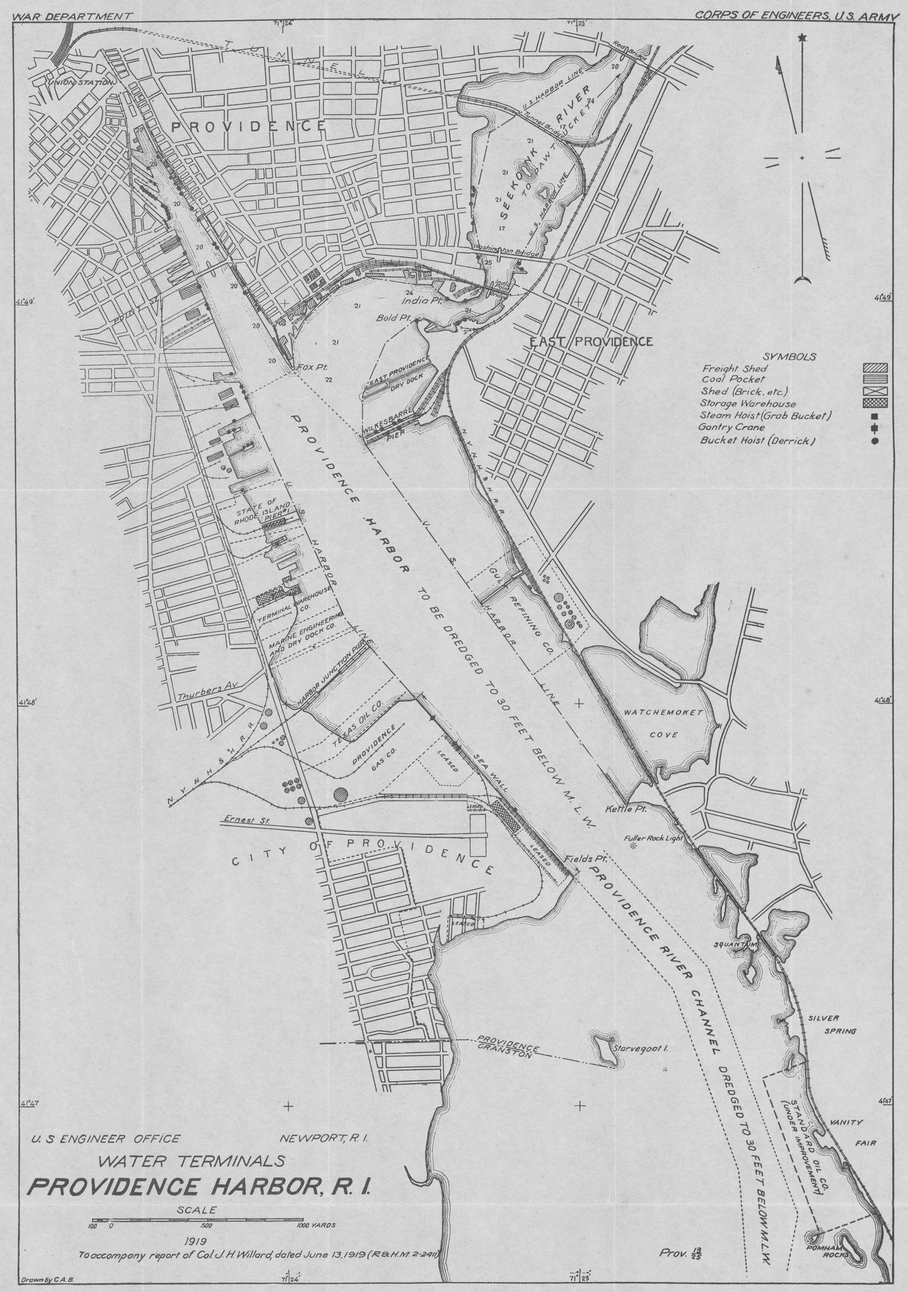
SYMBOLS

- Freight Shed
- Coal Pocket
- Storage Warehouse
- Steam Hoist (Grab Bucket)

NB 15/8

Drawn by C.A.B.

WAR DEPARTMENT — CORPS OF ENGINEERS, U.S. ARMY



U. S ENGINEER OFFICE — NEWPORT, R. I.

WATER TERMINALS
PROVIDENCE HARBOR, R. I.

SCALE
100 0 500 1000 YARDS

1919

To accompany report of Col. J. H. Willard, dated June 13, 1919 (R.B.H.M. 2-241)

Prov. 4/69

Drawn By C.A.B.

War Department

Corps of Engineers, U. S. Army.



WIND CHART
1871 TO 1904

Direction from which wind blows indicated by arrows
Frequency of Directions is given in percentage
Frequency of Velocities of 0 - 10 Miles per Hour 77.9 %
" " " = 11-20 " " 19.7 %
" " " = 21-40 " " 2.3 %
" " over 40 " " 0.05 %
Average daily wind movement ..... 145 Miles
Maximum " " ..... 259 "
Minimum " " ..... 85 "
Maximum velocity for 5 minute period 70 Miles per hour
Average duration of Storm Winds ..... 2.83 hours
Greatest duration of Storm Wind ..... 46.4 hours
Usual Storm Wind is North West.

Tide gauge is at Fort Carroll, 0 - mean low water
Mean rise and fall of Tide = 1.2 ft.
Topography and hydrography are from Baltimore City, U.S.C.& G. Survey Maps, Surveys by the U.S. Engineer Department and data from various other sources.

TERMINALS
BALTIMORE HARBOR
MARYLAND.

Scale

1000 Feet 0 1000 ft.
1 Miles

U.S. Engineer Office, Baltimore, Md., February 1920.

Submitted John M. Doyle
Assistant Engineer

Submitted J. Langfitt
Col. of Engrs, U.S.A.

Drawn by H.A.W.
Traced by H.C.
Checked by S.C.D.

To accompany 1st indorsement of District Engineer of Feb. 2nd 1920, on letter of Board of Engineers for Rivers and Harbors of Nov. 14 - 1919.

3.—FOR USE AT PAGE 622.

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. ARMY.

HAMPTON ROADS

Ebb tide
NANSEMOND RIVER
Pig Pt.
PIG POINT ORDNANCE DEPOT
True North
ATLANTIC COAST LINE R.R.

PIG POINT ORDNANCE DEPOT
ATLANTIC COAST LINE R.R.
Craney I.
* CRANEY I. LIGHT.
Existing Channel 35' deep, 400' wide.
Proposed Channel 40' deep, 750' wide.
Ebb tide
ELIZABETH RIVER
PIERHEAD LINE
Basin under construction.
BULKHEAD
Area to be reclaimed.
Sewall Pt.
NAVAL OPERATING BASE
Pipe Lines
STANDARD OIL CO.
N.&P.B.L.R.R.
ARMY SUPPLY BASE
V.A. RY.
Broush Creek
TANNER CREEK
LINE
PIERHEAD
West Norfolk
Lovett Pt.
Existing and proposed Channel 24' x 300'
24' x 600'
WESTERN BRANCH
PIERHEAD LINE
Southern Ry.
Lambert Pt.
N.&W. Ry.
Pier 5
Pier 6
Existing and proposed channel 35' x 300'
Port Norfolk
Pinner Pt.
SOUTHERN RY.
A.C.L. RR.
S.A.L. RY.
ATLANTIC COAST LINE R.R.
NORFOLK & PORTSMOUTH BELT LINE R.R.
Naval Hospital
PORTSMOUTH
SEABOARD AIR LINE R.R.
N.C.F. CO.
Proposed Channel 40' deep, 450' wide
U.S. NAVY YARD
ST. HELENA
SOUTHERN BRANCH
BERKLEY
NORFOLK SOUTHERN R.R.
Norfolk Berkley Bridge
N.&W. R.R. Bridge
N.&P.B.L.R.R.
Back Cr.
THE TEXAS CO.
SOUTH NORFOLK
Existing and proposed channel 25' deep and 300' wide.
VIRGINIAN RY.
Paradise Cr.
VA. RY. Bridge
NORFOLK & WESTERN RY.
NORFOLK & WASHINGTON S.B. CO.
NORFOLK WAREHOUSE CORP.
Smith Cr.
A.C.L. R.R. DEPOT.
CHESAPEAKE & OHIO RY. WHARF.
NEW YORK PHILADELPHIA & NORFOLK R.R. WHF.
WASHINGTON SOUTHERN TRANSPORTATION CO.
MERCHANTS & MINERS TRANSPORTATION CO.
BALTIMORE STEAM PACKET CO.
SEABOARD AIR LINE R.R. WHF.
SOUTHERN RY. WHF.
CHESAPEAKE S.S. CO.
NORFOLK SOUTHERN R.R. WHF.
NORFOLK COUNTY FERRIES CO.
OLD DOMINION S.S. CO.
CLYDE S.S. CO.
UNION DEPOT.
Existing and proposed channel
Ferry
N.&W. RY.
Spotico Cr.
Existing and proposed channel 25' x 300'
Existing and proposed channel 22' x 200'
PIERHEAD
EASTERN BRANCH
LINE
Steamboat Cr.
Broad Cr.
Indian River
VA. RY. Bridge
Money Pt.
St. Julian Cr.
Existing and proposed channel 22' deep and 200' wide.
N.&P.B.L.R.R.
Gilmerton
NORFOLK & WESTERN RAILWAY
NORFOLK SOUTHERN R.R.
True North

VICINITY SKETCH
FROM U.S.C.&G.S. CHART 376.
0 10 20 30 40 50 60000 FT.
James River
C.&O.RY.
Jamestown R.
Smithfield
(NEWPORT NEWS SHIPBUILDING & DRY DOCK CO.)
Back R.
NEWPORT NEWS
Hampton
C.&O.TER.
Ft. Monroe
Old Pt. Comfort.
HAMPTON ROADS
Nansemond R.
Pig Pt.
Sewall Pt.
Ocean View
A.C.L.R.R.
S.RY.
V.RY.
N.&W.RY.
PORTSMOUTH
NORFOLK
Southern Br.
Virginia Beach
Cape Henry
CHESAPEAKE BAY
True North
Cape Charles City
Cape Charles
Fisherman I.
Smith I.
ATLANTIC OCEAN

NORFOLK HARBOR
VIRGINIA
WATER TERMINALS.

In One sheet. Sheet No. 1

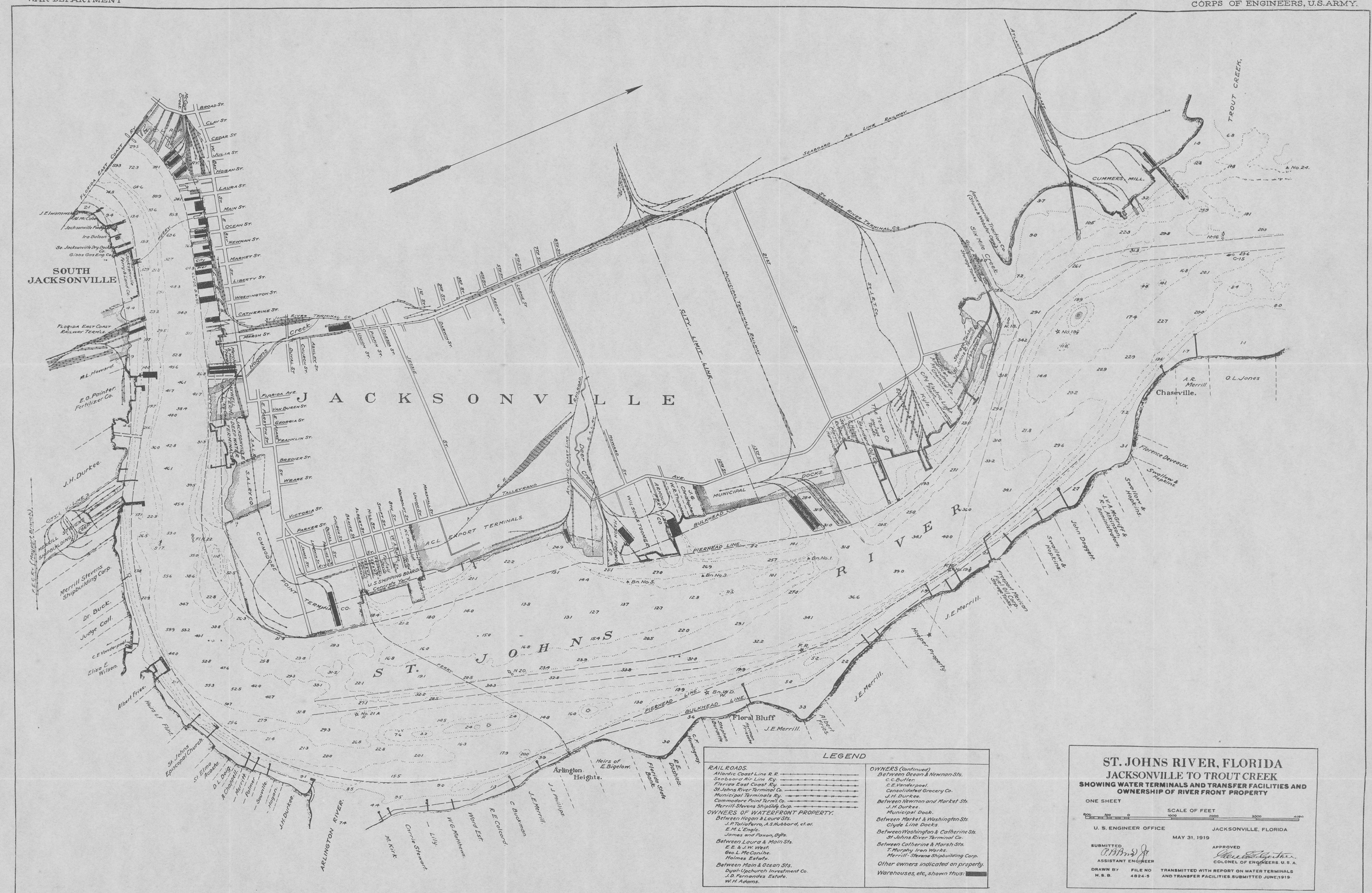
Feet.
1000 0 1 2 3 4 5 6 7 8 9000

U.S. ENGINEER OFFICE, Norfolk, Va. June 28, 1919.

Submitted: Sam'l N. Yonge, Assistant Engineer.

Submitted: D. C. Oakes, Colonel, Engineers, U.S. Army, District Engineer.

Drawn by G.A.J. File No. B-1-7256 Transmitted with report dated: June 30, 1919.



LEGEND

RAILROADS.
- Atlantic Coast Line R.R.
- Seaboard Air Line Ry.
- Florida East Coast Ry.
- St. Johns River Terminal Co.
- Municipal Terminals Ry.
- Commodore Point Terml Co.
- Merrill-Stevens Shipbldg Corp.

OWNERS OF WATERFRONT PROPERTY.

Between Hogan & Laura Sts.
- J.P. Fairbairn, A.S. Hubbard, et al.
- E.M. L'Engle.
- James and Paxon, Dfts.

Between Laura & Main Sts.
- E.E. & J.W. West.
- Geo. L. McConihe.
- Holmes Estate.

Between Main & Ocean Sts.
- Dyal-Upchurch Investment Co.
- J.D. Fernandez Estate.
- W.H. Adams.

OWNERS (Continued)

Between Ocean & Newnan Sts.
- C.C. Butler.
- C.E. Vanderpool.
- Consolidated Grocery Co.
- J.H. Durkee.

Between Newnan and Market Sts.
- J.H. Durkee.
- Municipal Dock.

Between Market & Washington Sts.
- Clyde Line Docks.

Between Washington & Catherine Sts.
- St. Johns River Terminal Co.

Between Catherine & Marsh Sts.
- T. Murphy Iron Works.
- Merrill-Stevens Shipbuilding Corp.

Other owners indicated on property.

Warehouses, etc., shown thus: ▬

ST. JOHNS RIVER, FLORIDA

JACKSONVILLE TO TROUT CREEK

SHOWING WATER TERMINALS AND TRANSFER FACILITIES AND OWNERSHIP OF RIVER FRONT PROPERTY

ONE SHEET

SCALE OF FEET

600 300 0 1000 2000 3000 4000

U. S. ENGINEER OFFICE JACKSONVILLE, FLORIDA

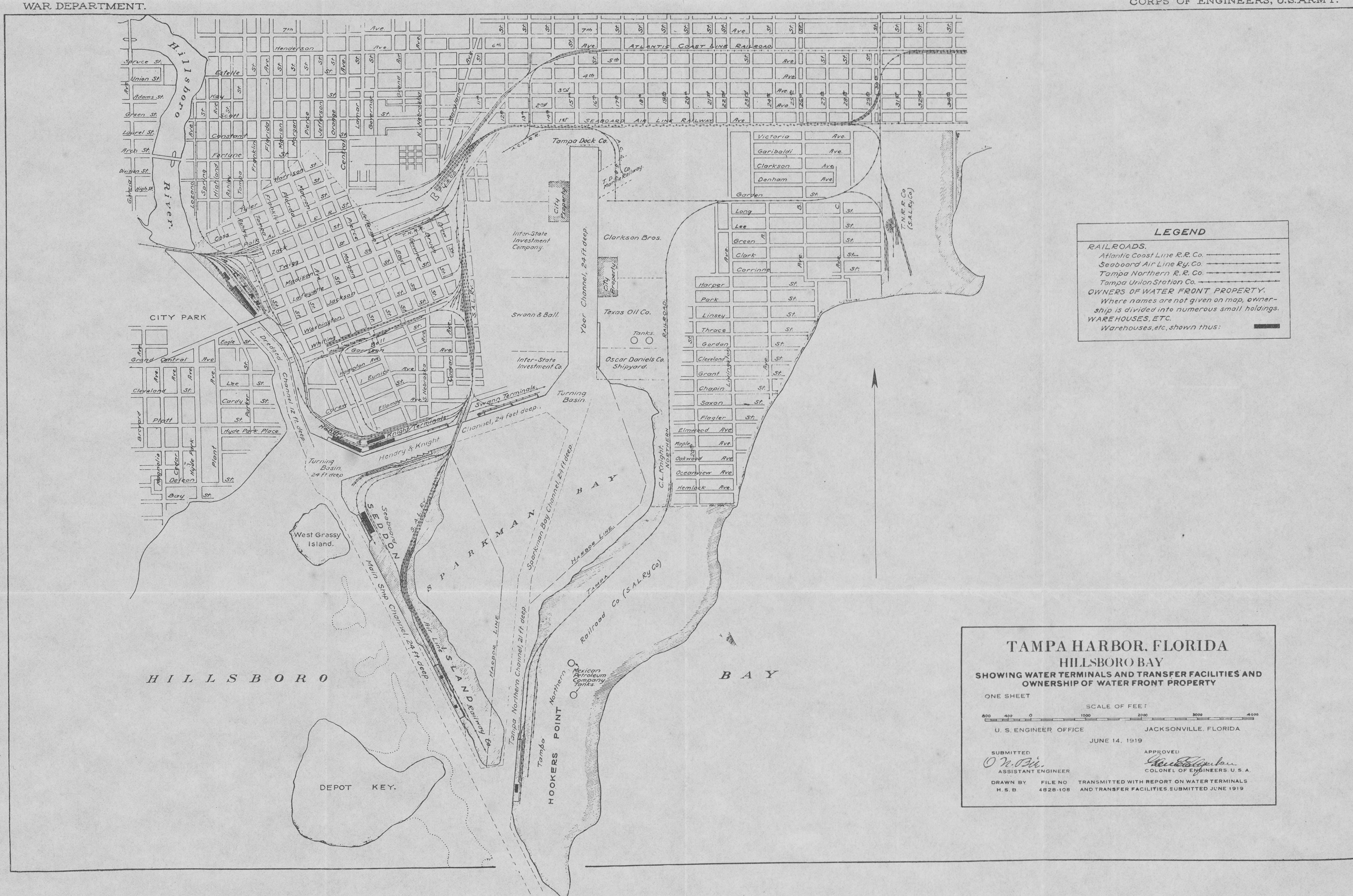
MAY 31, 1919

SUBMITTED
P. B. Bond Jr.
ASSISTANT ENGINEER

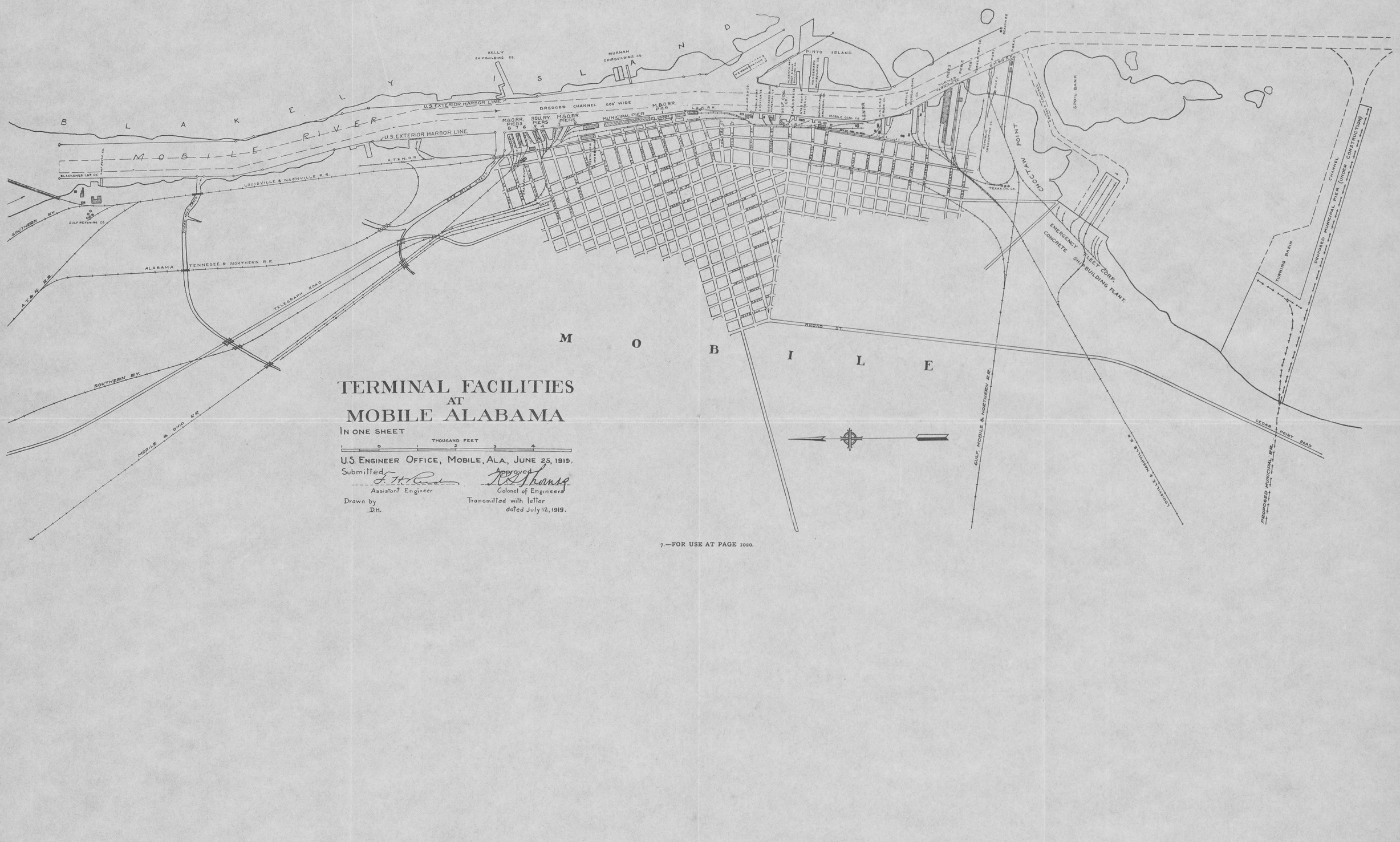
APPROVED
Clarence Edgerton
COLONEL OF ENGINEERS, U. S. A.

DRAWN BY H. S. B. | FILE NO 4824-5 | TRANSMITTED WITH REPORT ON WATER TERMINALS AND TRANSFER FACILITIES SUBMITTED JUNE, 1919.

WAR DEPARTMENT. CORPS OF ENGINEERS, U.S.ARMY.



6.—FOR USE AT PAGE 956.



TERMINAL FACILITIES AT MOBILE ALABAMA

IN ONE SHEET

THOUSAND FEET

0 1 2 3 4

U.S. ENGINEER OFFICE, MOBILE, ALA., JUNE 25, 1919.

Submitted
L. H. Reed
Assistant Engineer

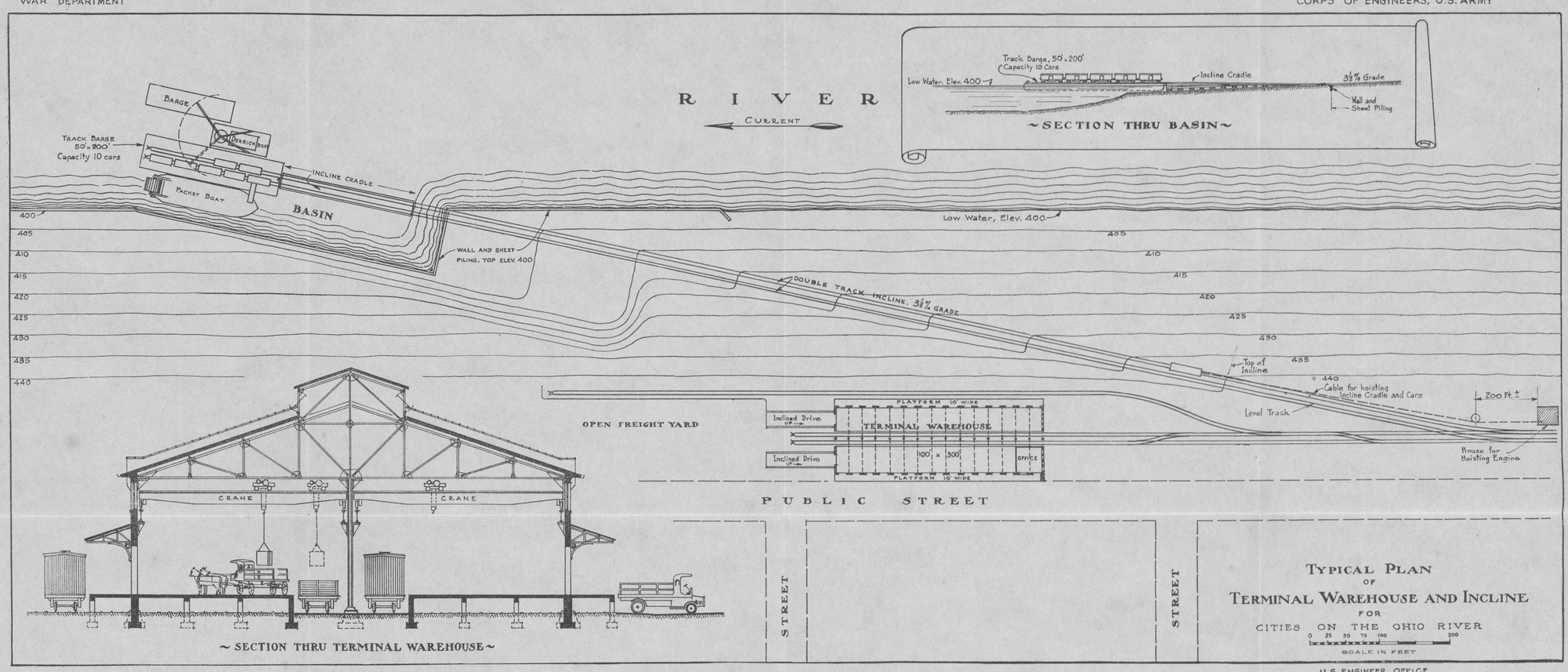
Approved
H. A. Young
Colonel of Engineers

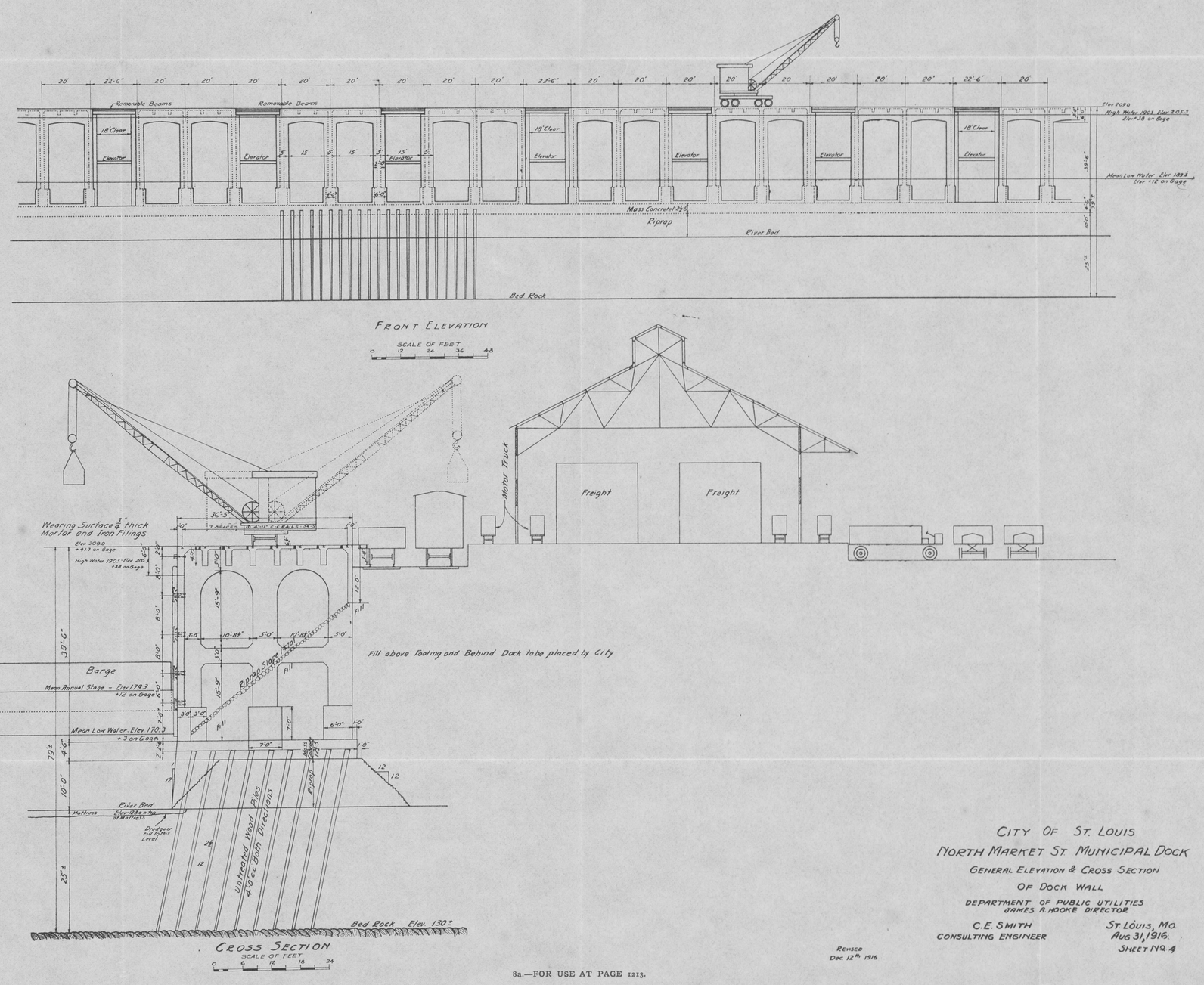
Drawn by
D.H.

Transmitted with letter
dated July 12, 1919.

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. ARMY





CITY OF ST. LOUIS

NORTH MARKET ST. MUNICIPAL DOCK

GENERAL ELEVATION & CROSS SECTION

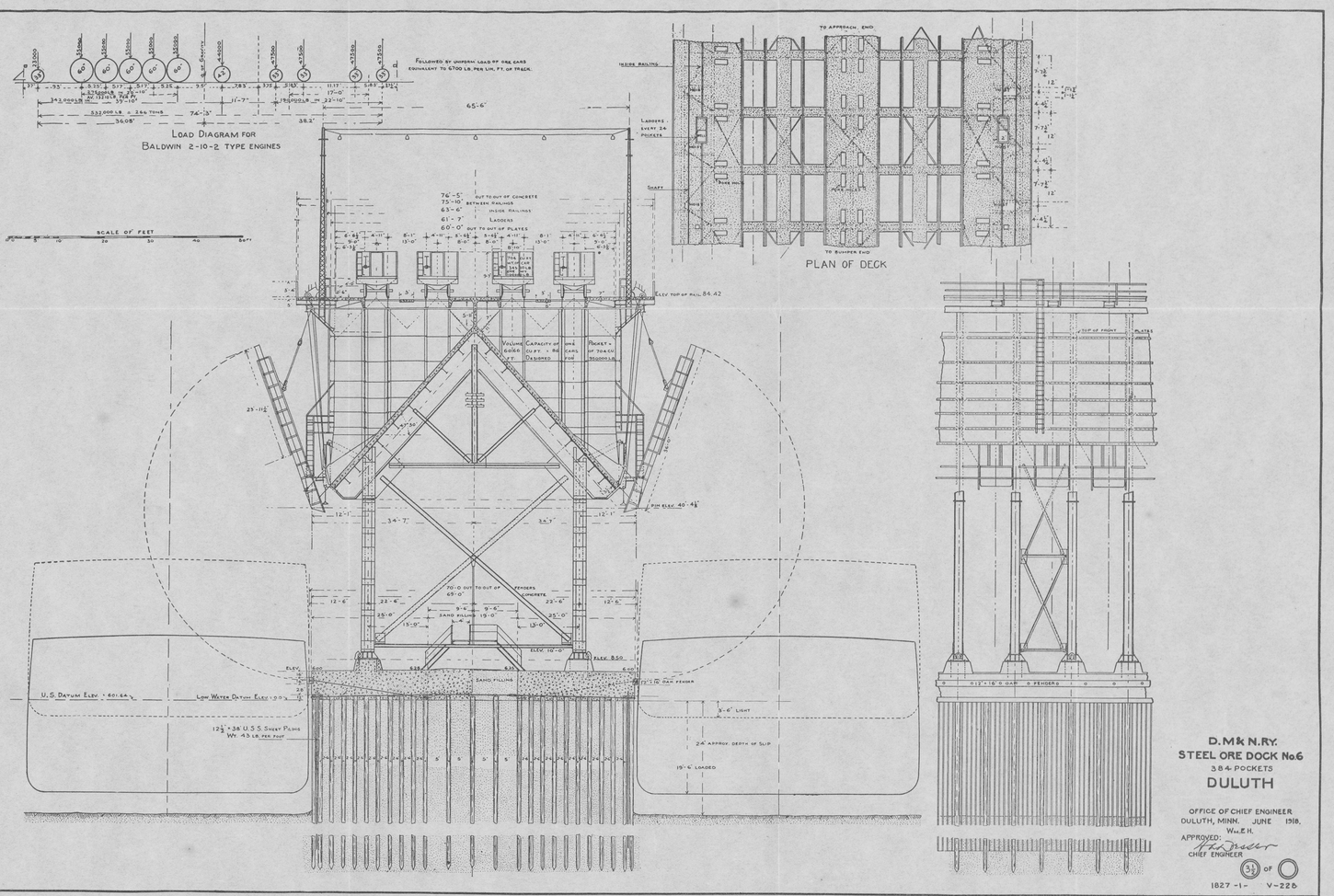
OF DOCK WALL

DEPARTMENT OF PUBLIC UTILITIES
JAMES A. HOOKE DIRECTOR

C.E. SMITH
CONSULTING ENGINEER

ST. LOUIS, MO.
AUG 31, 1916.
SHEET NO. 4

REVISED
DEC 12th 1916



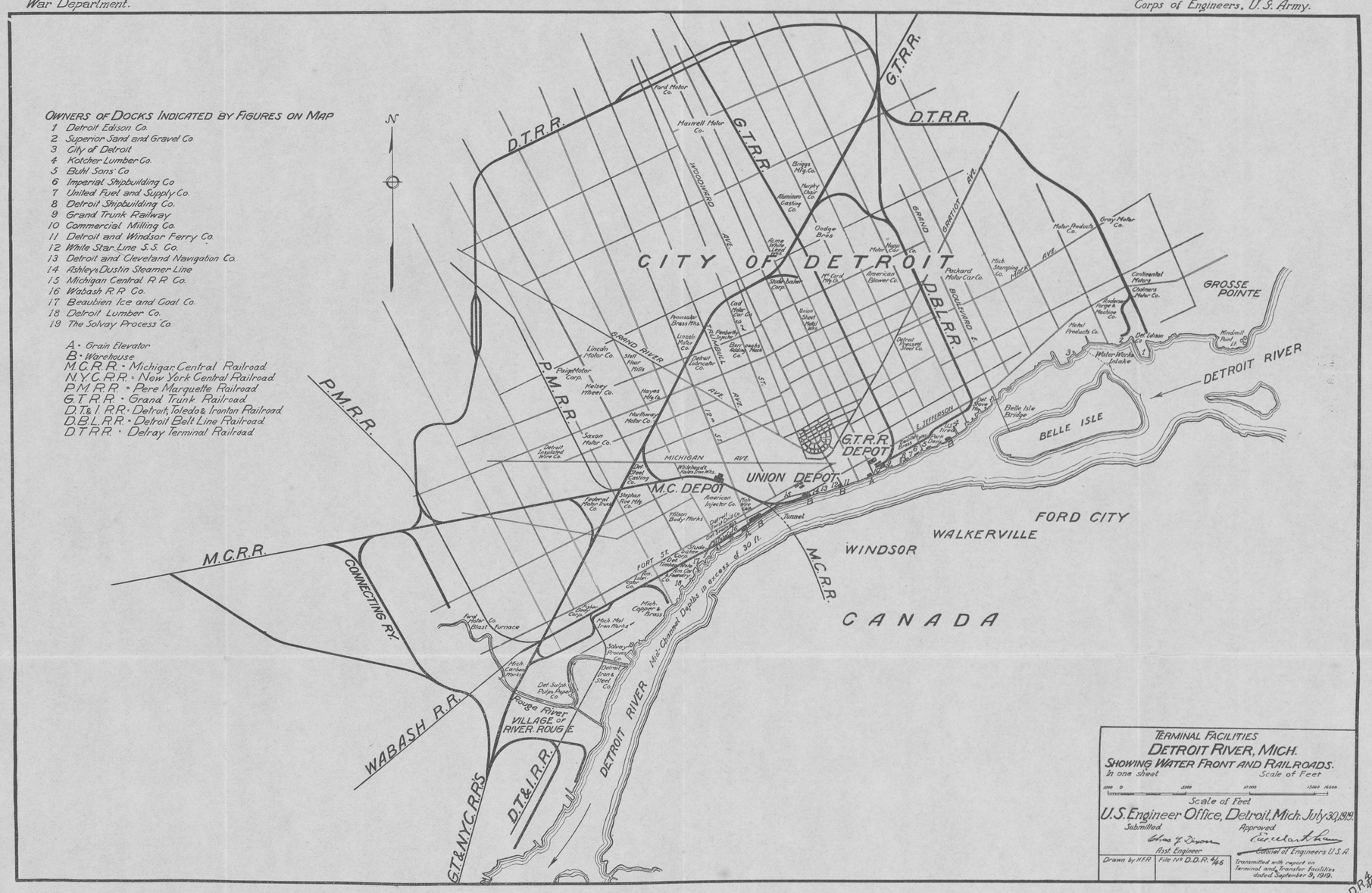
D. M & N. Ry.
STEEL ORE DOCK No. 6
384 POCKETS
DULUTH

OFFICE OF CHIEF ENGINEER
DULUTH, MINN. JUNE 1918.
W.M.E.H.
APPROVED:
CHIEF ENGINEER

33/34 of ○
1827 -1- V-226

EXHIBIT 'C'

War Department. Corps of Engineers, U.S. Army.



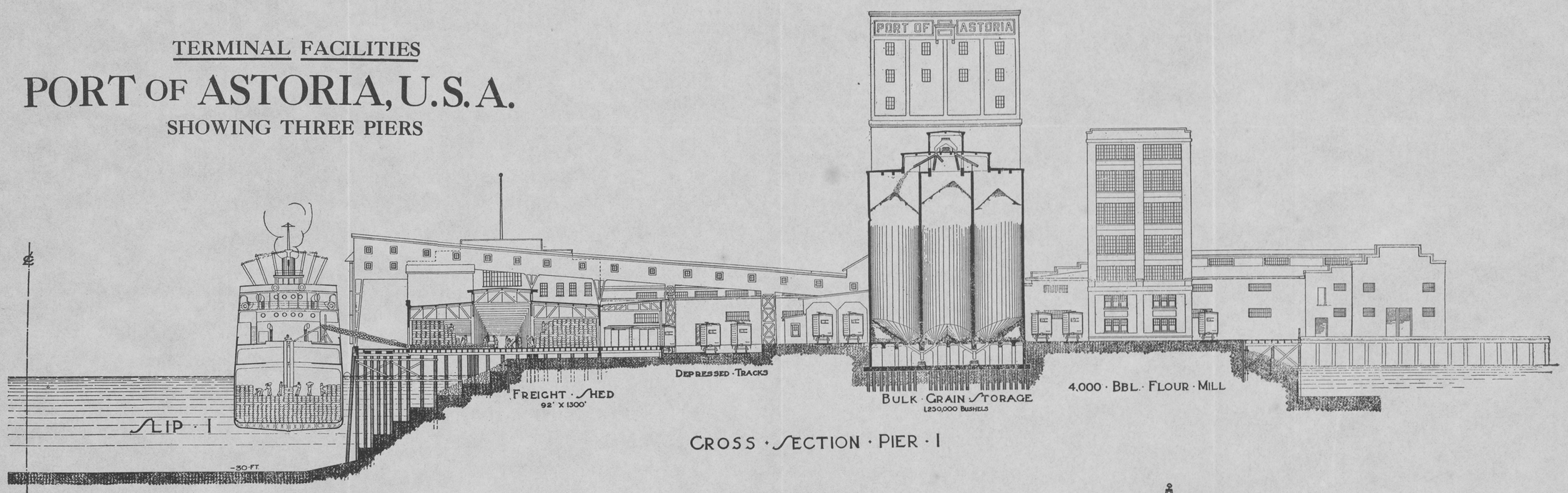
D.D.R. 4/6

11.—FOR USE AT PAGE 1764.

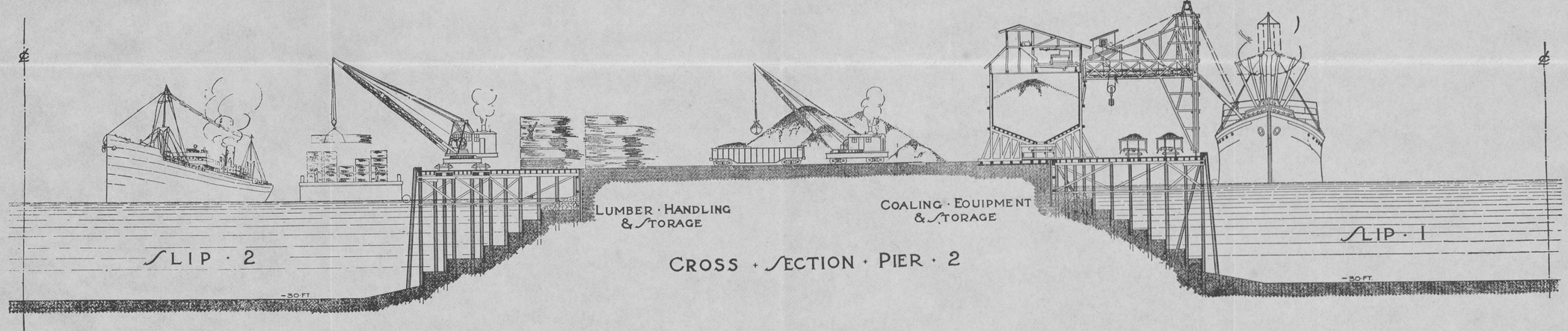
TERMINAL FACILITIES

PORT OF ASTORIA, U.S.A.

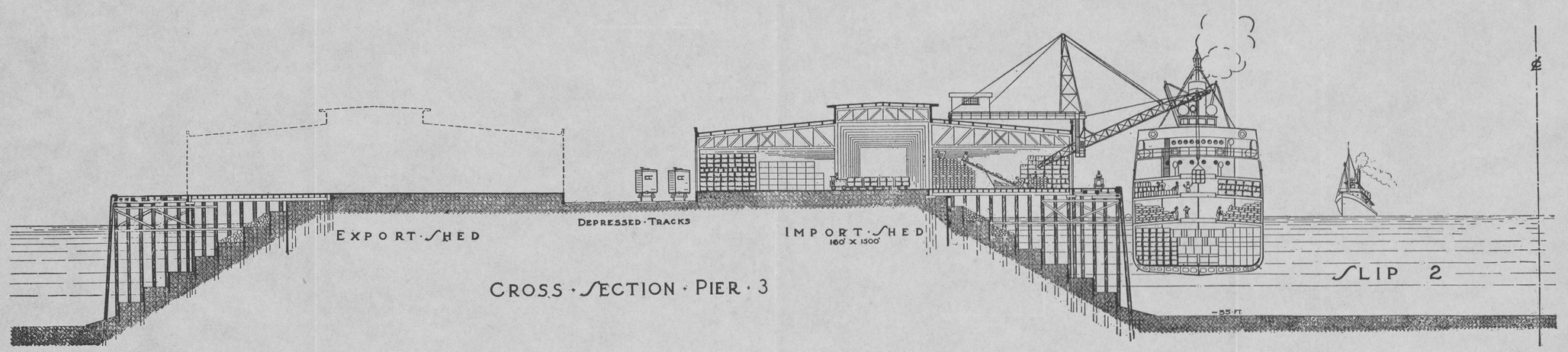
SHOWING THREE PIERS



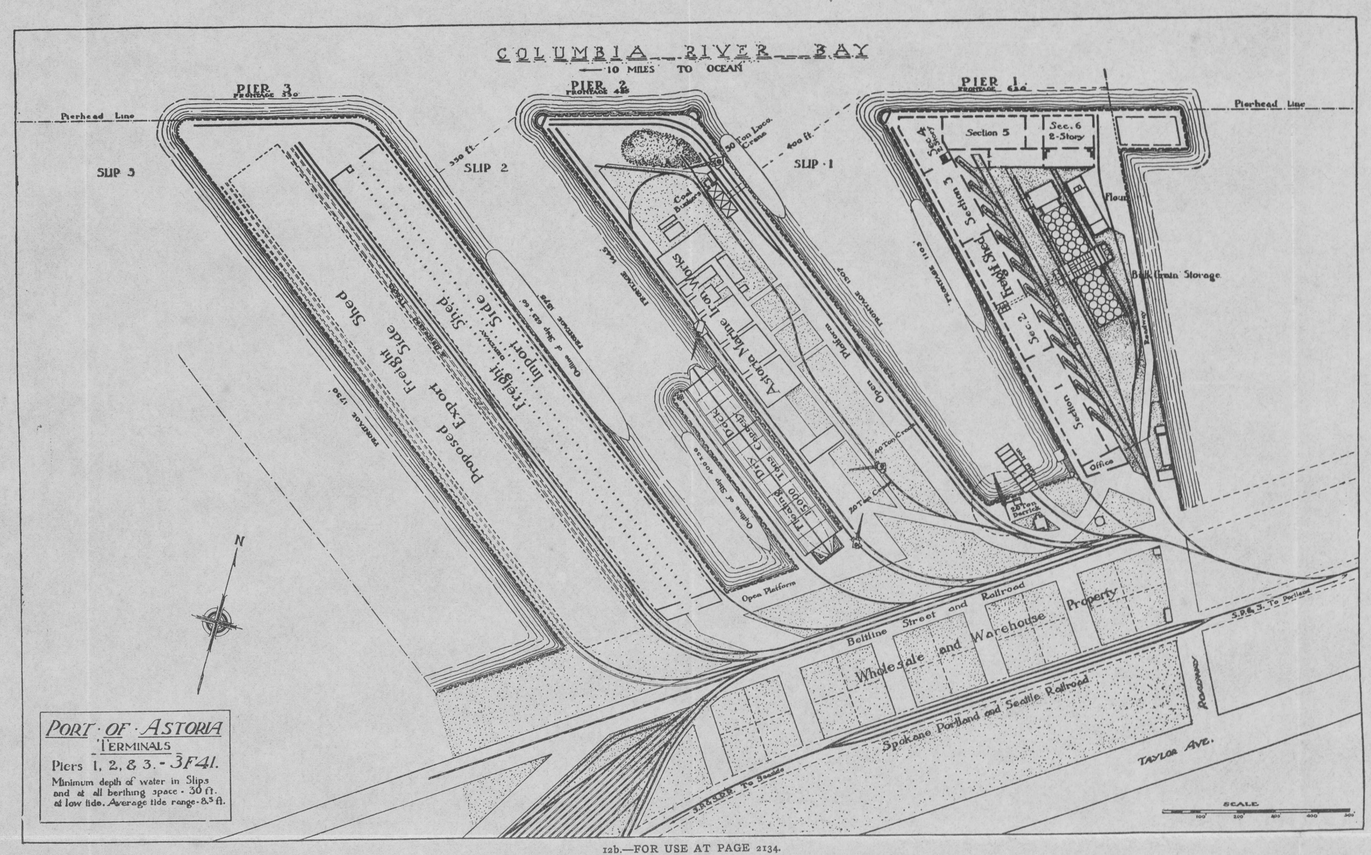
CROSS · SECTION · PIER · 1



CROSS · SECTION · PIER · 2



CROSS · SECTION · PIER · 3





13.—FOR USE AT PAGE 2292.

NEW YORK HARBOR, N. Y.

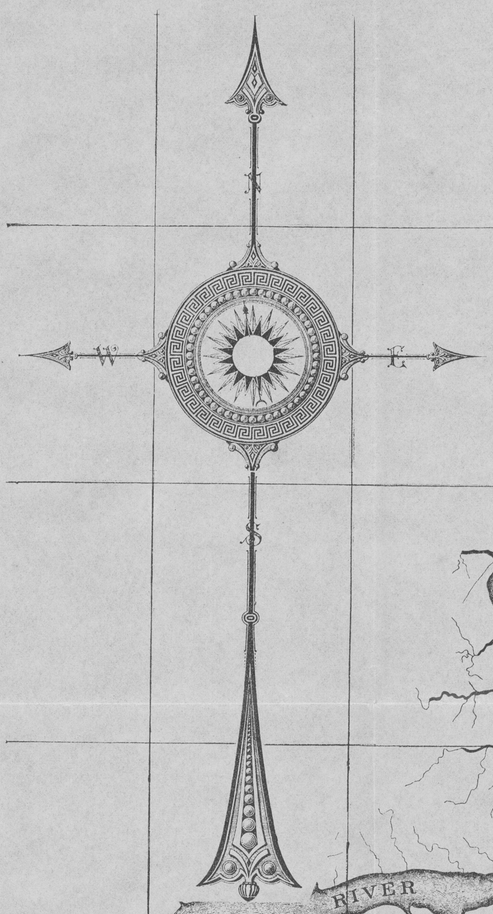
WATER TERMINAL & TRANSFER FACILITIES

IN 4 SHEETS SHEET NO 1

SCALE OF MILES

0

United States Engineer Office, First District, New York City, July , 1920.





14.—FOR USE AT PAGE 2292.

NEW YORK HARBOR, N. Y.

WATER TERMINAL & TRANSFER FACILITIES

IN 4 SHEETS SHEET NO 2

SCALE OF MILES

½ ¼ 0 ½ 1

United States Engineer Office, First District, New York City, July . 1920.

15.—FOR USE AT PAGE 2292.

NEW YORK HARBOR, N. Y.

WATER TERMINAL & TRANSFER FACILITIES

IN 4 SHEETS SHEET NO 3

SCALE OF MILES

½ ¼ 0 ½ 1

United States Engineer Office, First District, New York City, July 1920.

UPPER BAY

LOWER BAY

THE NARROWS

GRAVESEND BAY

BOROUGH OF BROOKLYN

ROBBINS REEF LIGHT

GOWANUS BAY

GREENWOOD CEMETERY

PROSPECT PARK

INSTITUTE PARK

PARADE GROUNDS

HOLY CROSS CEMETERY

SUNSET PARK

OWLS HEAD PARK

DYKER BEACH PARK

U.S. GOVERNMENT RESERVATION

FORT HAMILTON

FORT LAFAYETTE

FORT WADSWORTH

FORT WADSWORTH LIGHT

FORT TOMPKINS

U.S. GOVERNMENT RESERVATION

HOFFMAN ISLAND

SWINBURNE ISLAND

CONEY ISLAND

SEASIDE PARK

SHEEPSHEAD BAY

PLUMB ISLAND

MILL ISLAND

ROCKAWAY

WEST BANK LIGHT

RONER SHOAL LIGHT

NEW YORK AND NEW JERSEY BOUNDARY LINE

SANDY HOOK BEACON

FORT HANCOCK

NEW YORK HARBOR, N. Y.

WATER TERMINAL & TRANSFER FACILITIES

IN 4 SHEETS SHEET NO 4

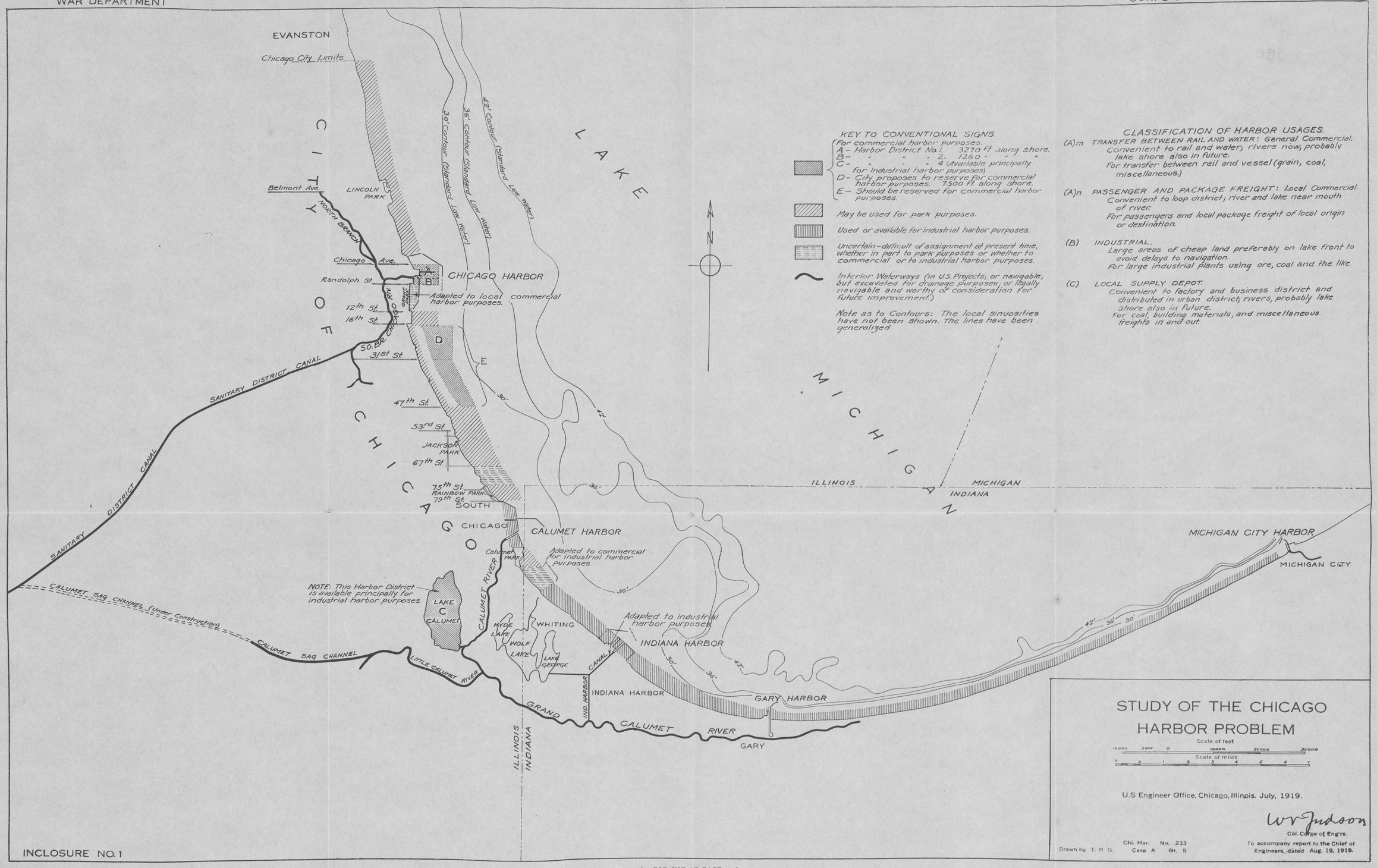
SCALE OF MILES

½ ¼ 0 ½ 1

United States Engineer Office, First District, New York City, July , 1920.

WAR DEPARTMENT

CORPS OF ENGINEERS, U. S. ARMY.



KEY TO CONVENTIONAL SIGNS.

For commercial harbor purposes.
A – Harbor District No. 1. 3270 ft along shore.
B – " " " 2. 1260 " " "
C – " " " 4 (Available principally for industrial harbor purposes)
D – City proposes to reserve for commercial harbor purposes. 7300 ft along shore.
E – Should be reserved for commercial harbor purposes.

May be used for park purposes.

Used or available for industrial harbor purposes.

Uncertain – difficult of assignment at present time, whether in part to park purposes or whether to commercial or to industrial harbor purposes.

Interior Waterways (in U.S. Projects; or navigable, but excavated for drainage purposes; or legally navigable and worthy of consideration for future improvement.)

Note as to Contours: The local sinuosities have not been shown. The lines have been generalized.

CLASSIFICATION OF HARBOR USAGES.

(A)m TRANSFER BETWEEN RAIL AND WATER: General Commercial.
Convenient to rail and water; rivers now, probably lake shore also in future.
For transfer between rail and vessel (grain, coal, miscellaneous.)

(A)n PASSENGER AND PACKAGE FREIGHT: Local Commercial.
Convenient to loop district; river and lake near mouth of river.
For passengers and local package freight of local origin or destination.

(B) INDUSTRIAL.
Large areas of cheap land preferably on lake front to avoid delays to navigation.
For large industrial plants using ore, coal and the like.

(C) LOCAL SUPPLY DEPOT.
Convenient to factory and business district and distributed in urban district; rivers, probably lake shore also in future.
For coal, building materials, and miscellaneous freights in and out.

STUDY OF THE CHICAGO HARBOR PROBLEM

Scale of feet
10000 5000 0 10000 20000 30000
Scale of miles
1 0 1 2 3 4 5 6 7

U.S Engineer Office, Chicago, Illinois. July, 1919.

W. J. Judson
Col. Corps of Eng'rs.

Drawn by T. R. G. Chi. Har. No. 233 Case A Dr. 5

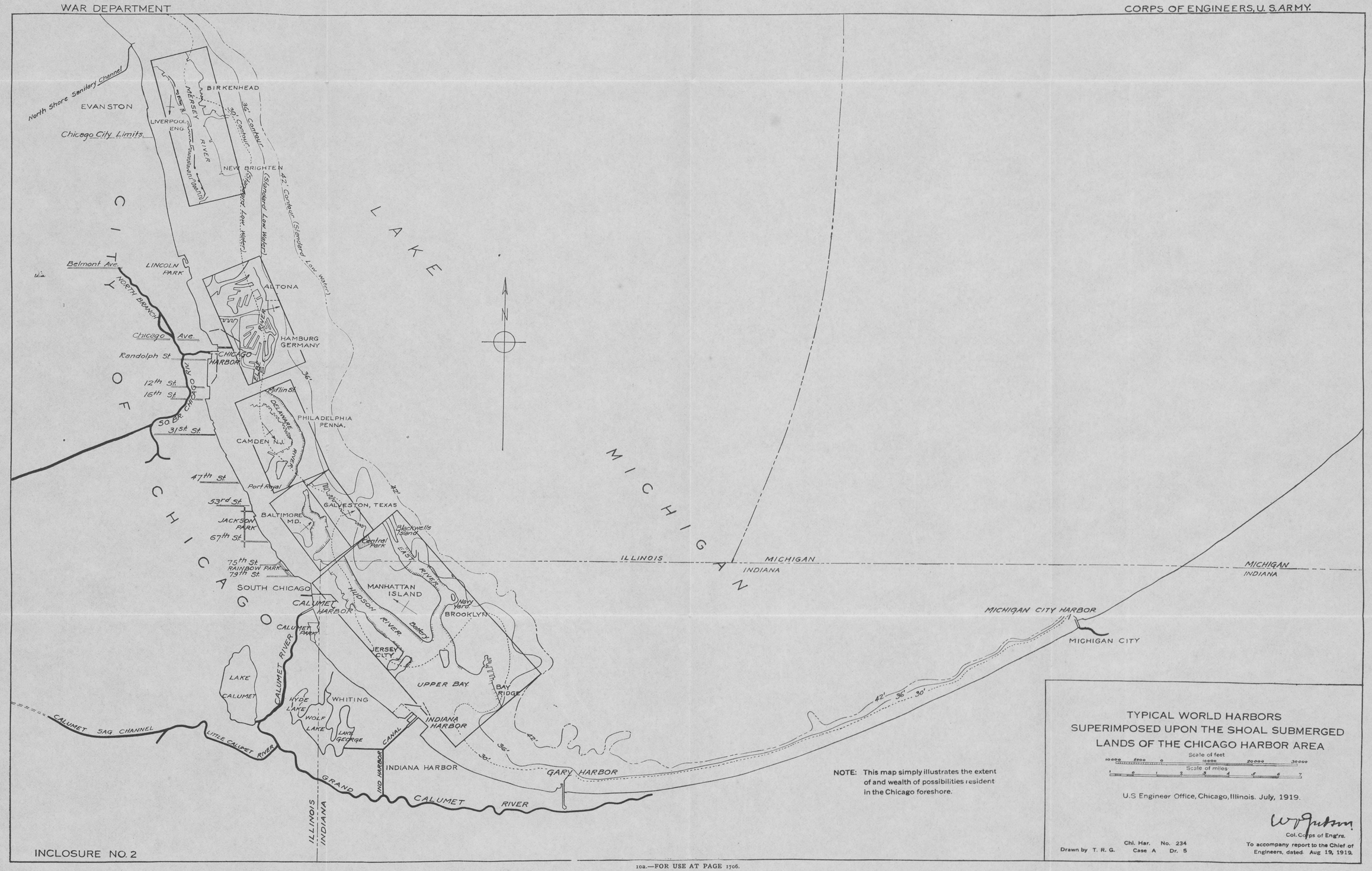
To accompany report to the Chief of Engineers, dated Aug. 19, 1919.

INCLOSURE NO. 1

10b.—FOR USE AT PAGE 1706.

WAR DEPARTMENT

CORPS OF ENGINEERS, U. S. ARMY.



NOTE: This map simply illustrates the extent of and wealth of possibilities resident in the Chicago foreshore.

TYPICAL WORLD HARBORS SUPERIMPOSED UPON THE SHOAL SUBMERGED LANDS OF THE CHICAGO HARBOR AREA

Scale of feet
10000 5000 0 10000 20000 30000
Scale of miles
1 0 1 2 3 4 5 6 7

U.S Engineer Office, Chicago, Illinois. July, 1919.

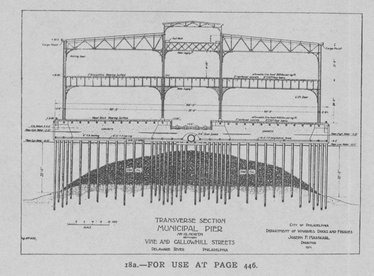
W. J. Judson
Col. Corps of Eng'rs.

Drawn by T. R. G. Chi. Har. No. 234 Case A Dr. 5

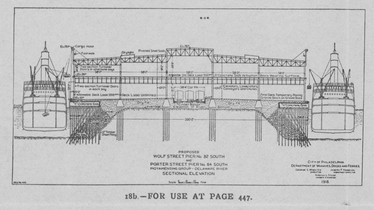
To accompany report to the Chief of Engineers, dated Aug. 19, 1919.

INCLOSURE NO. 2

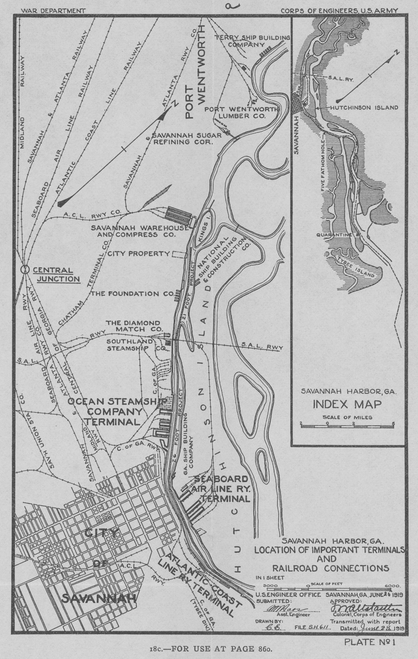
10a.—FOR USE AT PAGE 1706.



18a.—FOR USE AT PAGE 446.

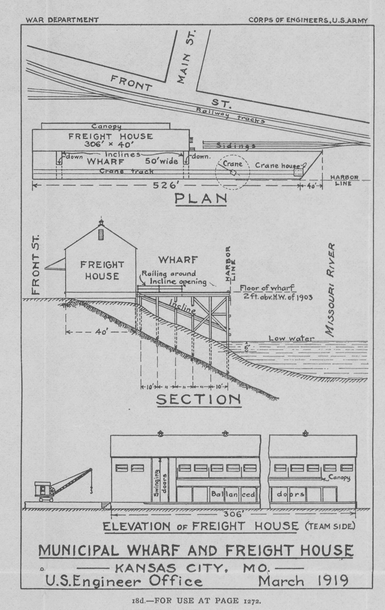


18b.—FOR USE AT PAGE 447.

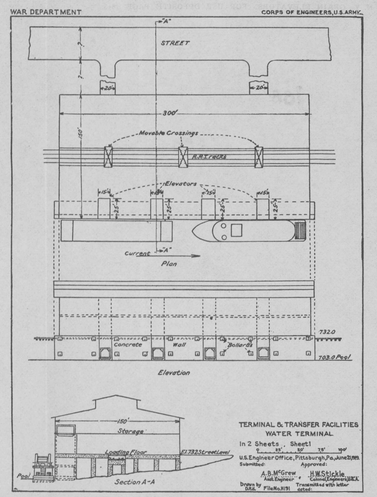


18c.—FOR USE AT PAGE 860.

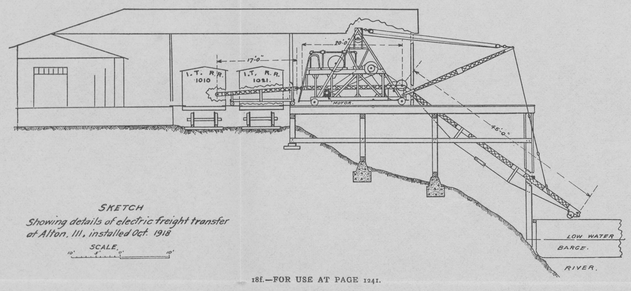
PLATE No 1



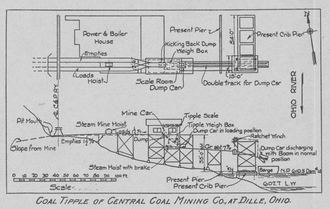
18d.—FOR USE AT PAGE 1272.



18e.—FOR USE AT PAGE 1337.

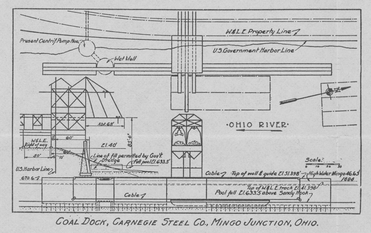


18f.—FOR USE AT PAGE 1241.



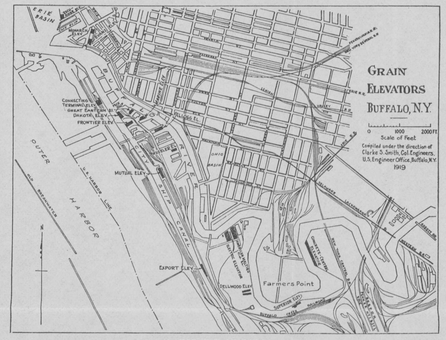
COAL TIPPLE OF CENTRAL COAL MINING CO. AT DILLE, OHIO.

18h.—FOR USE AT PAGE 1412.



COAL DOCK, CARNEGIE STEEL CO., MINGO JUNCTION, OHIO.

18g.—FOR USE AT PAGE 1407.



18i.—FOR USE AT PAGE 1856.