APPENDIX G
Lock Navigability Study

DEPARTMENT OF THE ARMY
ENGINEER RESEARCH AND DEVELOPMENT CENTER, CORPS OF ENGINEERS
COASTAL AND HYDRAULICS LABORATORY
WATERWAYS EXPERIMENT STATION, 3909 HALLS FERRY ROAD
VICKSBURG, MISSISSIPPI 39180-6199

CEERD-HN-N

23 JUN 2008

MEMORANDUM for Commander, US Army Engineer District, New Orleans (CEMVN-ED-H/Mr. Eric Glisch and CEMVN-ED-E/Ms Christie Nunez), PO Box 60267, New Orleans, LA 70160

SUBJECT: Letter Report for "Simulation Study for Preferred Construction Method for Proposed 1200-ft Lock on Inner Harbor Navigation Canal, Cast-in-Place Versus Float-in-Place"

Enclosed is the above referenced Letter Report. If you have any questions about this report, please contact Mr. Howard Park at 601-634-4011/facsimile 601-634-3218 email Howard.E.Park@usace.army.mil or Mr. Dennis Webb at 601-634-2225/email Dennis.W.Webb@usace.army.mil.

Encl

for THOMAS W. RICHARDSON
Director

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Preface

The model investigation described herein was conducted for the U.S. Army Corps of Engineers District, New Orleans, by the U.S. Army Corps of Engineers at the Engineering Research and Development Center (ERDC), Vicksburg, MS, which is a complex of five laboratories. The study was conducted in the Coastal and Hydraulics Laboratory (CHL) of ERDC during the period of November 2007 to February 2008. Mr. Thomas W. Richardson is the current Director of CHL.

During the course of the model verification, Mr. Don Alette, Mr. Eric Glisch, and Mrs. Christie Nunez, of the New Orleans District, and other navigation interest visited ERDC at different times to observe the model and discuss simulation tests.

The model study is being conducted under the direct supervision of Mr. Dennis W. Webb, Chief of the Navigation Branch. The principal investigator in immediate charge of the study is Mr. Howard E. Park, Research Hydraulic Engineer, assisted by Mr. Gary Lynch, Research Hydraulic Engineer and Ms Donna Derrick, Civil Engineering Technician. This report was prepared by Mr. Park and Ms Derrick.

Commander of ERDC during preparation and publication of this report was COL Richard Jenkins. This report was prepared and published at the ERDC complex.

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1 Introduction

Location and Description of Prototype

The Inner Harbor Navigation Canal Lock complex is located at the intersection of Urquhart Street and the Inner Harbor Navigation Canal (also called the Industrial Canal), New Orleans, LA (Figure 1). Construction of the lock complex was begun in 1918 and completed in 1923, when the canal was connected to the Mississippi River, Lake Ponchartrain, and opened to barge and ship traffic.

The principal existing structures at the project site are as follows:

1. A navigation lock with a clear chamber dimension of 75 ft by 640 ft. The lock utilizes gravity flow to raise and lower the water inside the lock chamber.
2. The Claiborne Avenue Bridge just north of the existing navigation lock.
3. The Florida Avenue Bridge just north of the location of the proposed new lock.

Figure 1. Location Map.

History of the Project

The Inner Harbor Navigation Canal and Lock (also known as the Industrial Canal) located within the limits of the city of New Orleans was completed by the Port of New Orleans in 1923. The five-mile canal was completed to provide navigation between the Mississippi River and Lake Pontchartrain in addition to stimulating industrial development in areas away from the Mississippi River.

During World War II the Gulf Intracoastal Waterway (GIWW) was rerouted through the IHNC, and the Federal Government assumed its operation and maintenance in 1944, ultimately purchasing the lock in 1986. Now a historic engineering landmark, it has served its purpose well for many decades.

Growth in waterway traffic over the years has made the IHNC Lock one of the nation's most congested locks with an average wait of 10 hours, but often as much as 24-36 hours. The current lock is simply too small to accommodate the volume of existing and future ship/tow traffic. The current lock is 75 ft by 640 ft with a floor elevation of -32.2 ft NGVD29. The lock to replace the existing lock will be 110 ft wide by 1200 ft long.with a floor elevation of -40 ft NGVD29.

The proposed lock structure was originally authorized in the Rivers and Harbors Act of 1956, but many years of planning and community involvement were required before Congress authorized construction in 1998. Planning for the new lock has been very controversial with earlier design alternatives involving significant loss of wetlands in St. Bernard Parish or major disruptions to the densely urbanized areas adjoining the existing lock in New Orleans. A product of community input and innovative design, the authorized project provides for construction of the new lock without residential relocations and with minimal disruption to navigation traffic in the canal and vehicular traffic on bridge crossings over the canal.

Need and Purpose of the Simulation Model Study

The main purpose of the simulation model study is to evaluate the navigability and preferred construction method for the new 1200 ft lock. The preferred method would provide the least disruptions and most acceptable navigation conditions to the navigation industry during construction of the lock. Typically, studies such as this would be performed with a physical model due to the interaction of the vessel and the current field. However, since the area of interest has virtually no current, a simulation study was determined to be the most effective and efficient tool to perform the objectives for this particular project.

The proposed 1200 ft lock structure between the Mississippi River and the Gulf Intra-Coastal Waterway and the Mississippi River Gulf Outlet will be used by both shallow- and deep-draft traffic. The specific purpose of the model study is to evaluate two construction methods for the proposed 1200 ft lock. The two construction methods are as follows:

a. Cast-In-Place (CIP) which would require construction of a conventional cofferdam around the construction site and the lock would be constructed in the dry.

b. Float-In-Place (FIP) which would require construction of the lock in several pieces off site, floating those portions of the lock to the new construction site, and sinking of the portions of the lock in place.

2 Simulation Model

ERDC Ship/Tow Simulator

The new ERDC Ship/Tow Simulators have been in operation since February 2002. The simulators are real-time ship/tow simulators, i.e. ship and tow movements require the same amount of time as they would in real life. The simulators are Computer Sciences Corporation (CSC) Virtual Ship 2000 models. Environmental forces such as wind, bank, currents, ship-to-ship interaction act upon the vessels. For this particular study, the environmental forces that the vessels were subjected to were wind and bank.

During simulation, the pilot controlled the vessel engine speed and rudder. The ship pilot (deep draft) also controlled, by radio, the assist tugs operated by personnel in the operation room of the simulator. Figure 2 shows the ship simulator being operated during testing of the IHNC study. Figure 3 shows the tow simulator being operated.

Figure 2. Pilot navigating the ship past the construction site, through the Claiborne Avenue bridge and toward the existing IHNC lock.

Figure 3. Pilot navigating the 2 x 2 barge flotilla ship past the Cast-In- Place construction site toward the Florida Avenue Bridge.

Description

The model study reproduced the area of interest from the existing IHNC lock to just beyond the Florida Avenue bridge. The model included structural features such as the Claiborne and Florida Avenue bridges, the existing IHNC lock and guide walls and the proposed new lock with the appropriate construction scheme. The general study area and the structural features are shown in Figure 4.

Navigation Evaluation and Vessel Performance

The vessel performance criteria for this study were evaluated using deep draft pilots and shallow draft pilots that frequent the area and are accustomed to handling vessels of this nature on a daily basis. Some adjustments were made to ship/tow handling characteristics prior to actual testing of the proposed concepts. The pilots felt like the vessels handled and responded realistically.

Navigation conditions were documented with several vessels and the vessels were subjected to numerous different wind effects by changing the wind's direction and speed. The navigability of the vessels around the construction site was the primary focus. In addition, observations were made regarding the length of time required to navigate the area, and improvements and aids to navigation that would improve safety and transit of the area during lock construction.

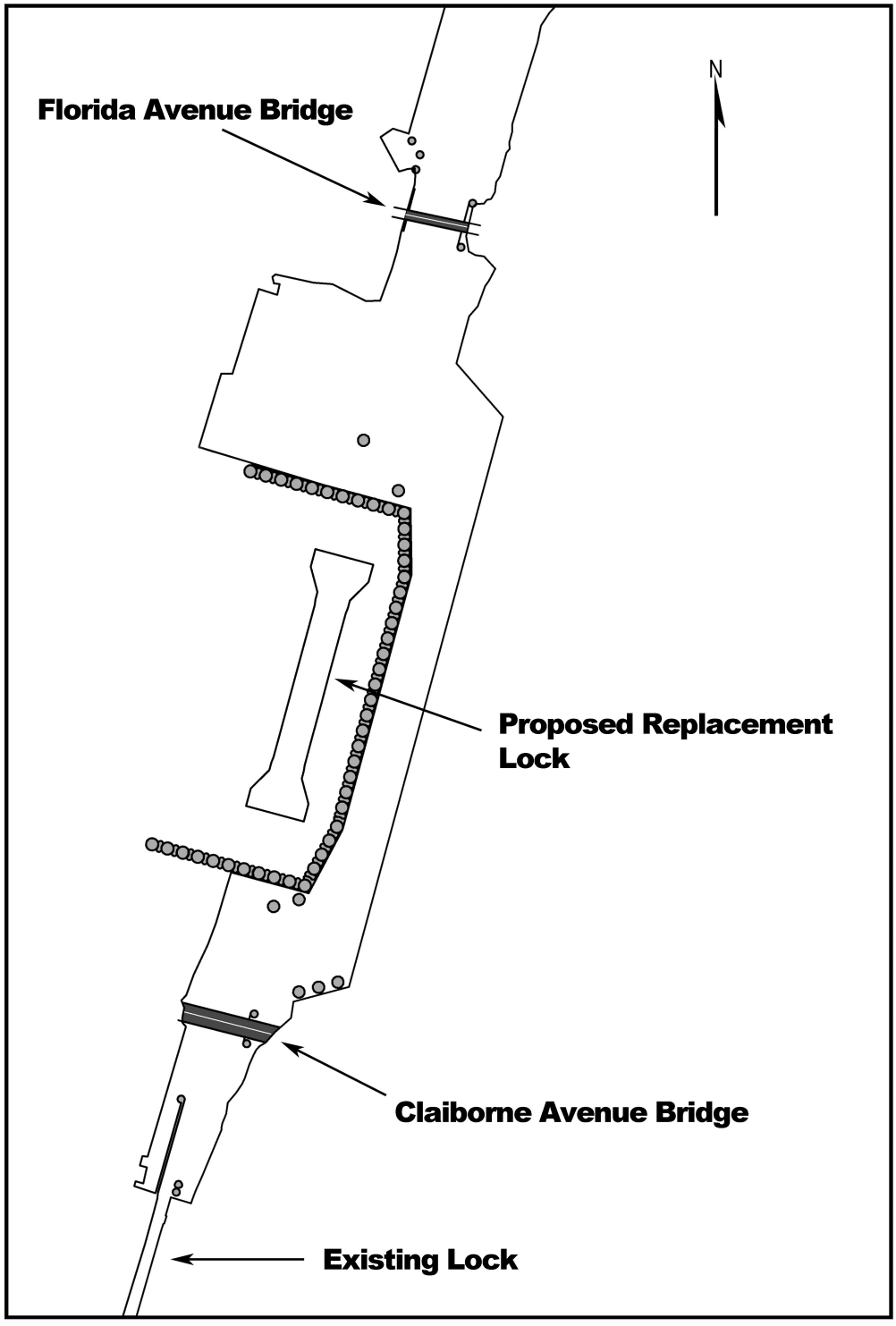


Figure 4. Study Area - Cast-in-Place Configuration

3 Tests

The study of vessel maneuvering requirements, time to transit the area, navigation aids that would improve the mariners' ability to transit the area, and the preferred construction method (CIP or FIP) from a navigability viewpoint were the primary concerns during the simulation study.

Test Procedures

Two ship configurations and four tow configurations were used for testing of the Cast-In-Place and Float-In-Place construction methods. The vessels were subjected to various wind conditions, i.e., different direction and speed during the course of the simulation study. The vessels chosen for this study were provided by industry personnel frequenting the area and agreed upon by representatives of the U.S. Army Corps of Engineers, New Orleans District. Table 1 shows the particulars of the vessels that were used during the study.

During testing, the vessels transited the study area in both directions, i.e. river bound and lake bound. There were no currents in the simulation model, reflecting real life conditions. However, the vessels were subjected to wind conditions. Table 2 shows the various wind directions and speeds that were used during the study

Table 1.

Vessel Type	Length (ft)	Width (ft)	Draft (ft)
650 TEU Container Ship ~ 9575 HP	400	67	30
1100 TEU Container Ship ~ 12850 HP	480	70	28
2 by 1 Standard Barge Flotilla Loaded ~ 1200 HP	463	35	9
2 by 1 Standard Barge Flotilla Light ~ 1200 HP	463	35	2
2 by 2 Standard Barge Flotilla Loaded ~ 1200 HP	463	70	9
2 by 2 Standard Barge Flotilla Light ~ 1200 HP	463	70	2

Table 2.

Wind Direction	Average Wind Speed (knots)
East	10, 15, 20, 30
Southeast	15
West	10, 20
North	20

Composite track plots for both ships and tows transiting past the construction area with the Cast-In-Place construction alternative are shown in Plates 1-6. These track plots illustrate the effect of all wind conditions that were tested for the CIP. Plates 1 and 2 are plots of deep draft vessels; 3 and 4 are of loaded shallow draft vessels; and 5 and 6 are of light shallow draft vessels.

Plates 7-12 are composite track plots for ships and tows transiting past the construction area with the Float-In-Place construction alternative. All wind conditions tested with the FIP are illustrated in these plots. Plates 7 and 8 are plots of deep draft vessels, 9 and 10 for loaded shallow draft vessels, 11 and 12 for light shallow draft vessels.

Plates 13-29 show composite track plots for the Cast-In-Place alternative with the 650 TEU and 1100 TEU container ships. Plate 13 for example, shows the northbound 650 TEU ship and a 20 knot east wind. Note the maneuvering time required in the area between the cofferdam and the Claiborne Avenue Bridge. In Plate 13, the ship images tend to bunch up in this area, which indicates additional maneuvering and an increase the time required to transit the construction area.

Plates 30-34 are composite track plots for loaded shallow draft vessel, both 2 x 1 and 2 x 2, with the Cast-In-Place alternative. Note the maneuvering required between the cofferdam and the Claiborne Avenue Bridge.

Plates 35-46 shows composite track plots for the Cast-In-Place alternative with both 2 x 1 and 2 x 2 light draft vessels. Note the encroachment of the vessels on the southeasterly corner of the cofferdam, the protection cells, and the east bridge fender at the Claiborne Avenue Bridge.

Plates 47-62 show composite track plots for the Float-In-Place alternative with the 650 TEU and 1100 TEU container ships. Note the trend that, the transit times for the deep draft vessels to and from the IHNC lock around the construction area are less than those observed with the Cast-In-Place alternative. This can be attributed to an increase in the area between the construction site and the Claiborne and Florida Avenue Bridges and an increase in the width of the by-pass channel.

Plates 63-70 are composite track plots for loaded shallow draft vessel, both 2 x 1 and 2 x 2, with the Float-In-Place alternative. As noted for the deep draft vessel, the increase in the area between the construction site

and the Claiborne and Florida Avenue Bridges and an increase in the width of the by-pass channel required less vessel maneuvers, and a decrease in transit times when compared to the Cast-In-Place alternative.

Plates 71-82 shows composite track plots for the Float-In-Place alternative with both 2 x 1 and 2 x 2 light draft vessels. In some instances, vessels encroached on the southeast corner of the construction site; however, it did not appear to be as severe as those observed with the Cast-In-Place alternative. Again this is attributed to the increase in area between the construction site and the Claiborne and Florida Avenue Bridges and an increase in the width of the by-pass channel.

General pilot comments and specific comments, suggestions, and recommendations can be found in Appendix A.

Summary and Conclusions

The summary and conclusions derived from the simulation to evaluate the two alternative construction methods, i.e. CIP and FIP is based on several factors. They are pilot comments, individual ship and tow track plots, and composite track plots.

1. Wind conditions in excess of 10 knots required more vessel maneuvering, more vessel speed to counter-act wind effects, and decreased the margin for error of the vessel transiting the area.
    a. East and southeast winds tended to cause the vessel to encroach on the southeasterly corner of the construction site.
    b. Westerly winds tended to cause vessels to encroach on the east fender of the Claiborne Avenue Bridge.
    c. North and south winds caused some problems, but did not seem to affect the vessels as much as the cross winds, i.e., east and west winds.
2. The 650 and 1100 TEU container ships used helper tugs more as the winds increased to 15 knots and above. The tugs in most cases were required to pull alongside the ship, and were not able to nose up (perpendicular to ship bow), and push due to the confines of the navigation channel around the construction area. Pulling alongside allows the pilot to keep the RPMs of the engine up, increasing steerage, while keeping the speed of the vessel under control for the confined space. One pilot commented that the east bank would need to be protected against prop wash both from the ship and the tugs (See Appendix A). The pilots felt like the navigable portion of the channel around the construction site needed to be very well defined for vessels transiting the area.
3. The amount of maneuvering in the dogleg just north of the Claiborne Avenue Bridge increased for the CIP versus the FIP; thus increasing the transit times for the ships with the CIP as

compared to the FIP. The area between the Claiborne Avenue Bridge and the cofferdam for the CIP alternative is smaller than that for the FIP alternative. For these reasons, the pilots preferred the FIP over the CIP alternative.

4. The area between the north end of the construction site and the Florida Avenue Bridge did not appear to cause any significant difficulties for ships aligning with and passing through either the bridge itself or the navigation channel around the construction site.
5. With the CIP alternative, the ship pilots felt that MIDSA may implement navigation restrictions, i.e. daylight navigation only, or no navigation when east winds exceeded 20 knots.
6. Shallow draft tow pilots agreed that navigating the CIP alternative with loaded 2 x 1 and 2 x 2 tows was acceptable since there is no current and the winds appear to have very little effect on the maneuverability of the vessel.
7. With the 2 x 1 and 2 x 2 light tows, the effects of the wind had a significant effect in the navigability of the vessels around the construction site. The wind speed and direction that affected the ships also affected the transits of the tows in much the same manner.
    a. The east and southeast winds tended to force the light draft tows to encroach on the southeasterly corner of the construction site and produced the most problems for the mariner.
    b. Westerly winds tended to cause the light draft tows to encroach on the east fender of the Claiborne Avenue Bridge.
8. The tow pilots commented that with the FIP alternatives that 10 knot east winds were manageable; however caution should be used. As the winds increased to about 15 knots and above, navigation conditions for light tows navigating the area would get more difficult. They also commented that if the winds were too high, they would restrict themselves and not attempt to transit the area until the winds subsided.
9. With the higher wind speeds, the light draft tows would require navigating the area at a much higher speed; thus reducing the margin of error, and increasing the risk of an accident.
10. Navigation conditions were much more difficult for the light draft tows with the CIP alternative and winds of any strength out of the east, southeast, west, and south, as compared to those observed with the FIP alternative. This is due to clearance between the cofferdam of the CIP alternative, the Claiborne and Florida Avenue Bridges, and the east bank of the channel around the construction area.
11. Both the ship pilots (deep draft) and tow pilots (shallow draft) preferred the Float-In-Place construction alternative over the Cast-In-Place alternative, because the FIP alternative provided a wider

navigation channel around the construction site, more clearance between the Claiborne and Florida Avenue Bridges and the construction area, less maneuvering in confined areas, and faster transit times.

Recommendations

1. The preferred construction alternative from a navigation viewpoint is the Float-In-Place method for reasons listed in the summary and conclusion portion of this report.
2. Navigation aids that would assist the mariner in transiting the construction area are as follows:
    a. Wind socks on the protection cells at each end of the construction site. It would be extremely helpful if wind speed could be displayed. The Real Time Current Velocity (RCTV) can display wind direction and magnitude on a vessels electronic chart. The ERDC will provide the district with information on this new technology under separate cover.
    b. Ranges near each of the bridges that would delineate the centerline of the by-pass channel.
    c. Delineate the navigable depths of the by-pass channel for deep draft vessels, assist tugs for the deep draft vessels (particularly along the east bank of the by-pass channel), and shallow draft vessels.
    d. If night time navigation takes place, lighting of the construction area would be imperative.
3. With the FIP alternative, the timber cribbing running parallel to the navigation channel should be transitioned into the protection cells. The additional timber cribbing was recommended by one of the pilots and was so documented in the 2 Feb 08 trip report in Appendix A. See Figure 5 for conceptual idea and Appendix A for pilot sketches.
4. With both construction alternatives, the protection cells should be buffered with some sort of rubber protection to allow the vessel to lie alongside if needed.
5. The east bank of the by-pass channel needs protection against assist tug, ship, and tow propeller wash. See Appendix A for pilot sketch.
6. If the FIP alternative is the chosen construction method and the construction fleet is operating in the by-pass channel, then navigation traffic would cease. Communication between the

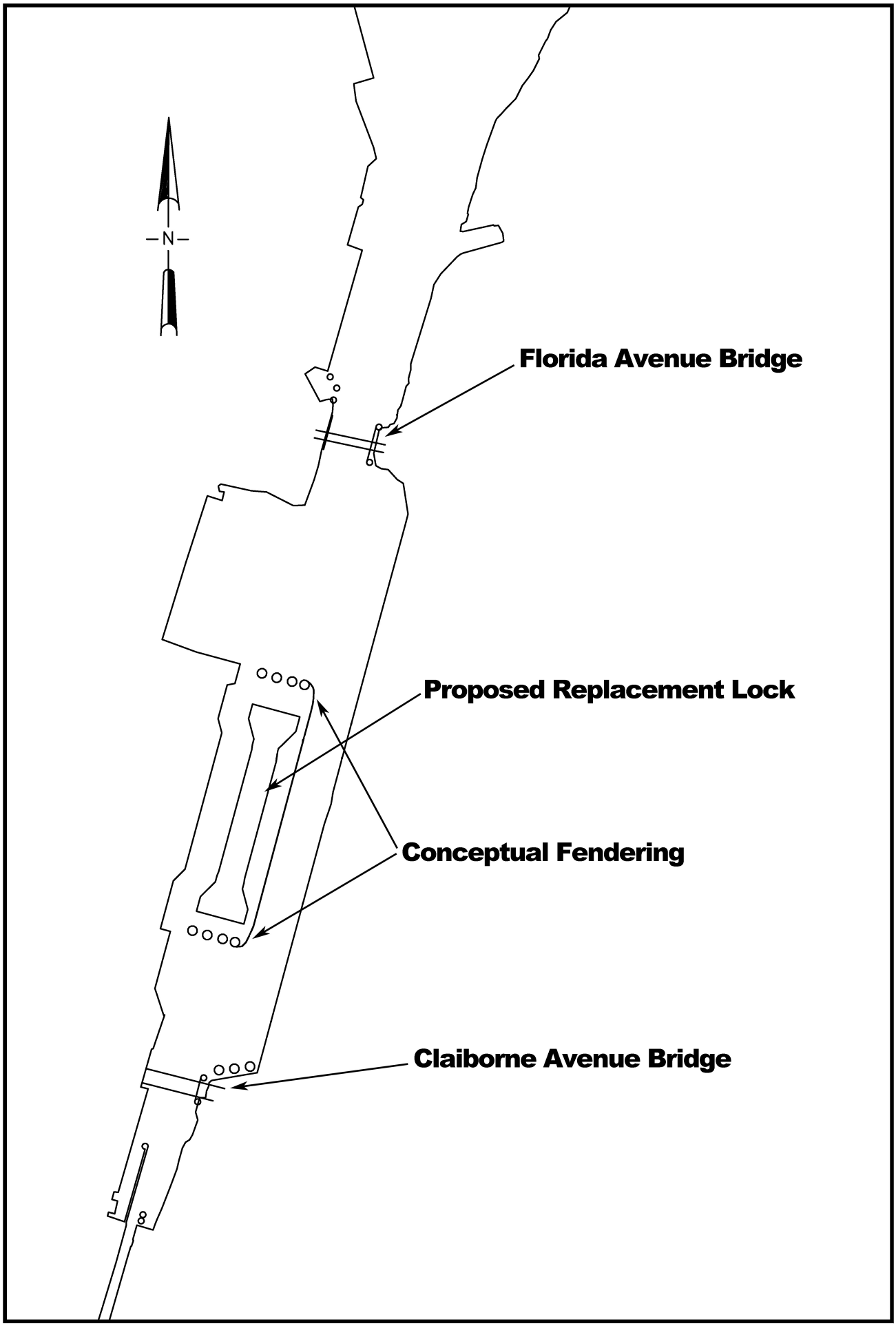
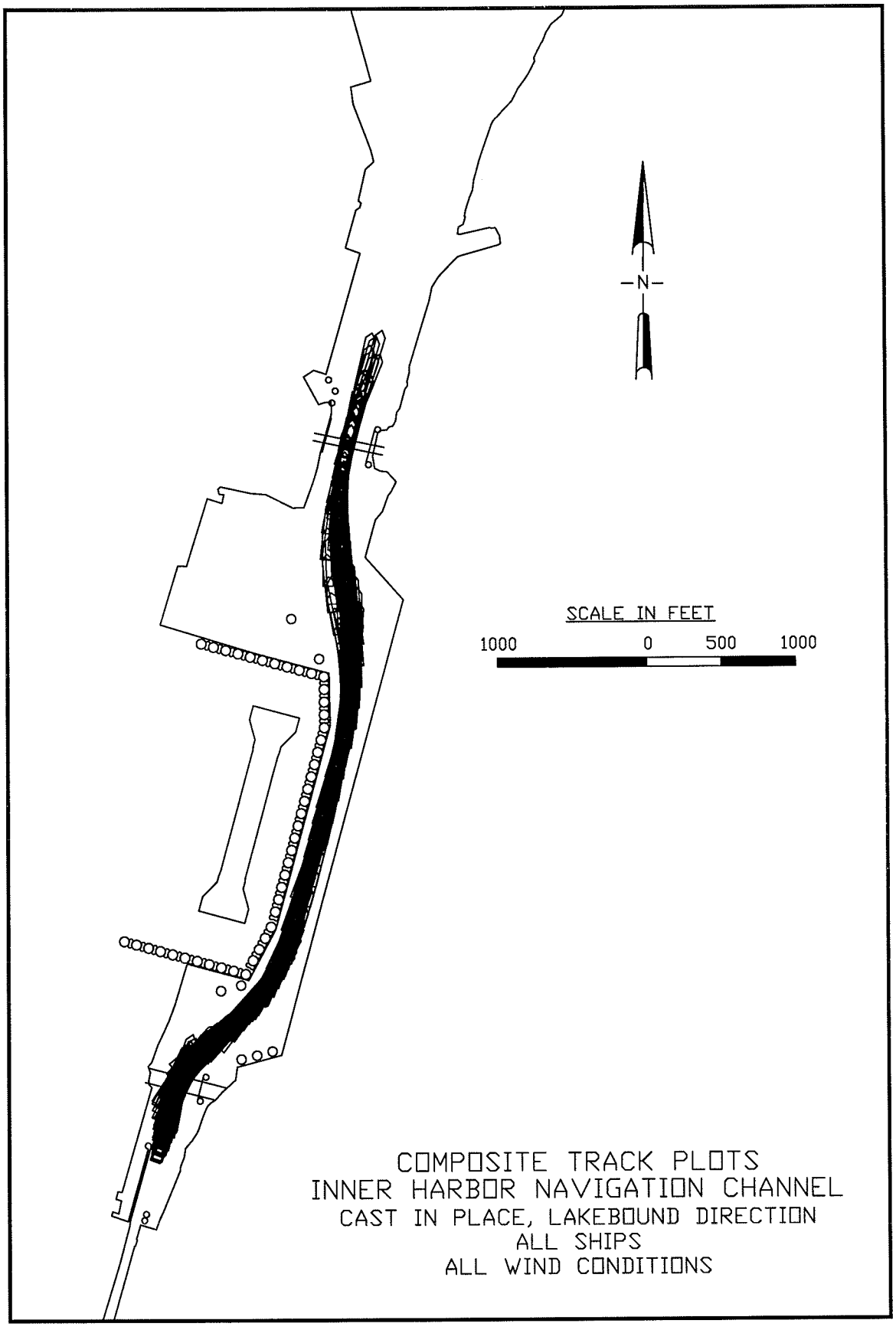


Figure 5. Conceptual Fendering to tie into protection cells for the Float-in-Place Construction Alternative

construction fleet and the mariner is important, such that the mariner does not attempt a transit while fleeting operations are ongoing. While this would be a consideration for the CIP alternative during cofferdam construction, it would not be a factor once the cofferdam is complete and lock construction has commenced.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CAST IN PLACE, LAKEBOUND DIRECTION
ALL SHIPS
ALL WIND CONDITIONS

Plate 1

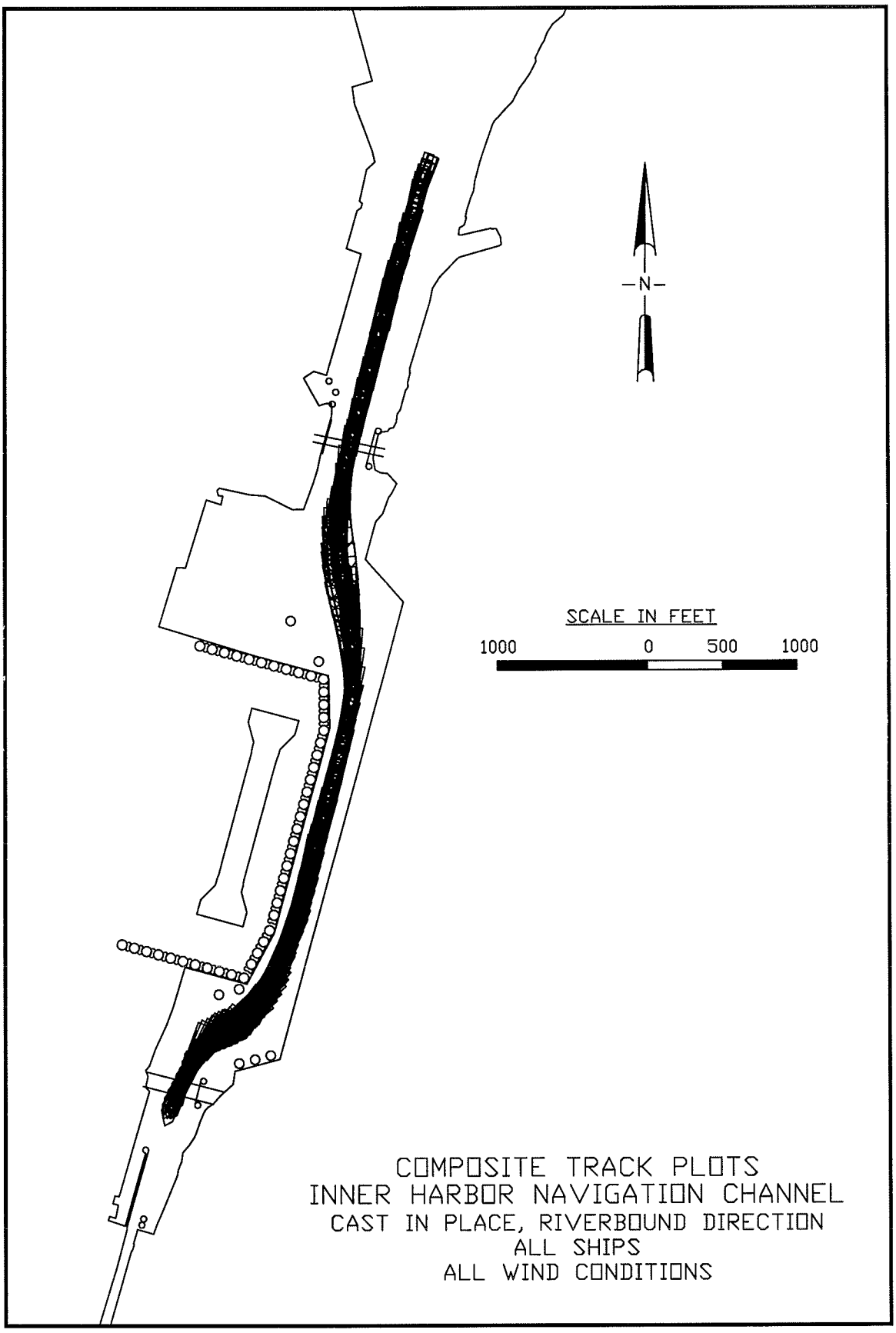
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Plate 2

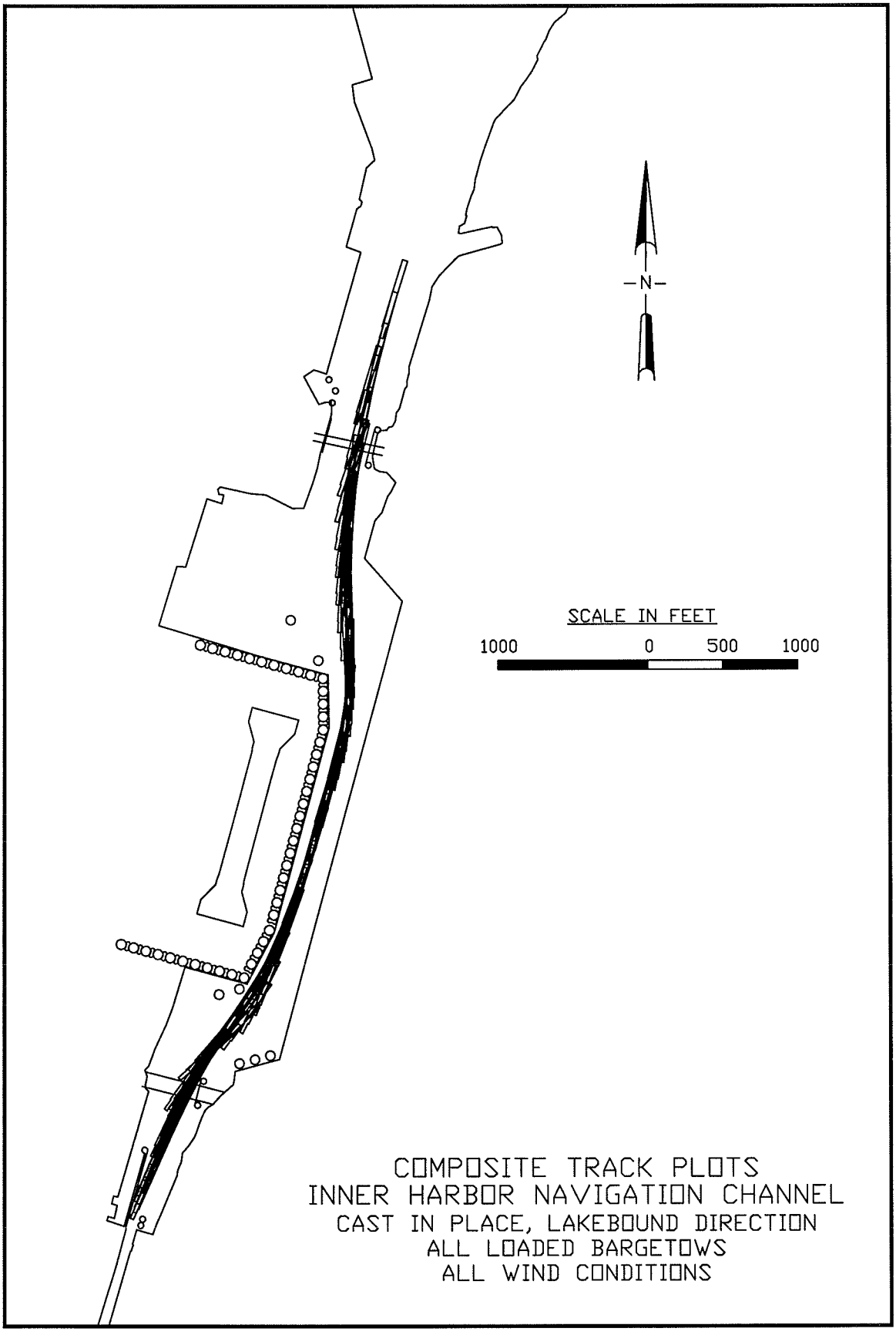
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Plate 3

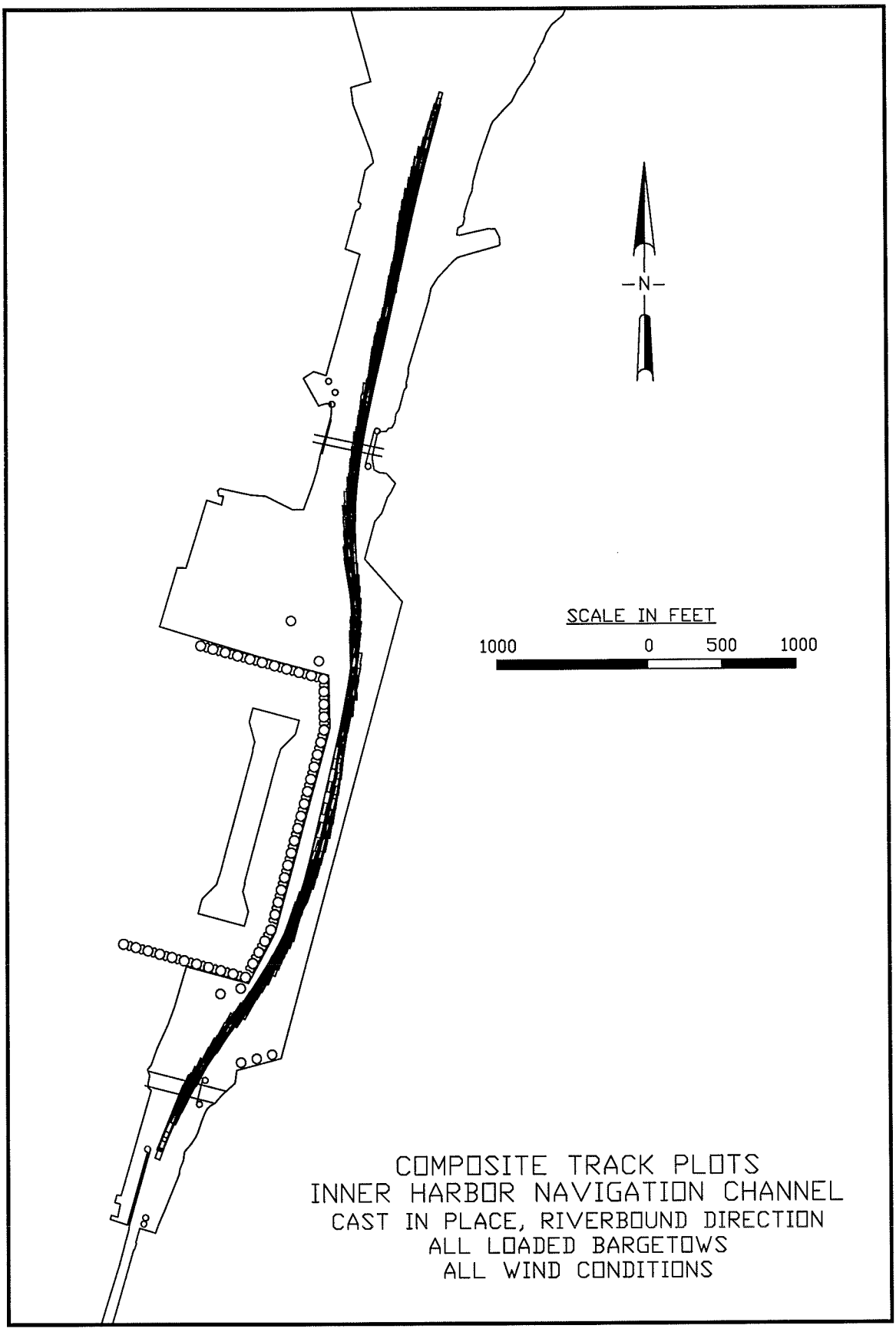
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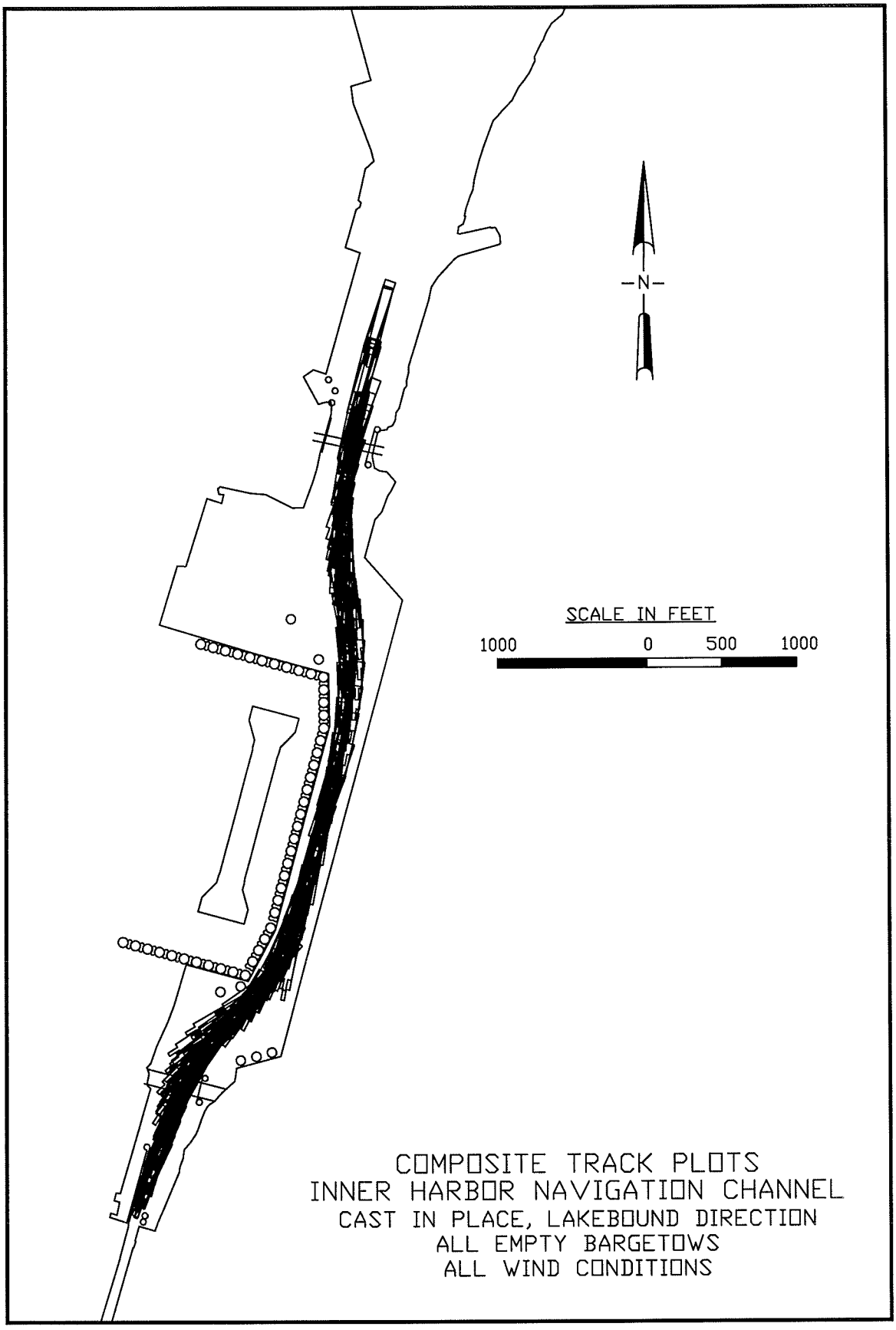
Plate 4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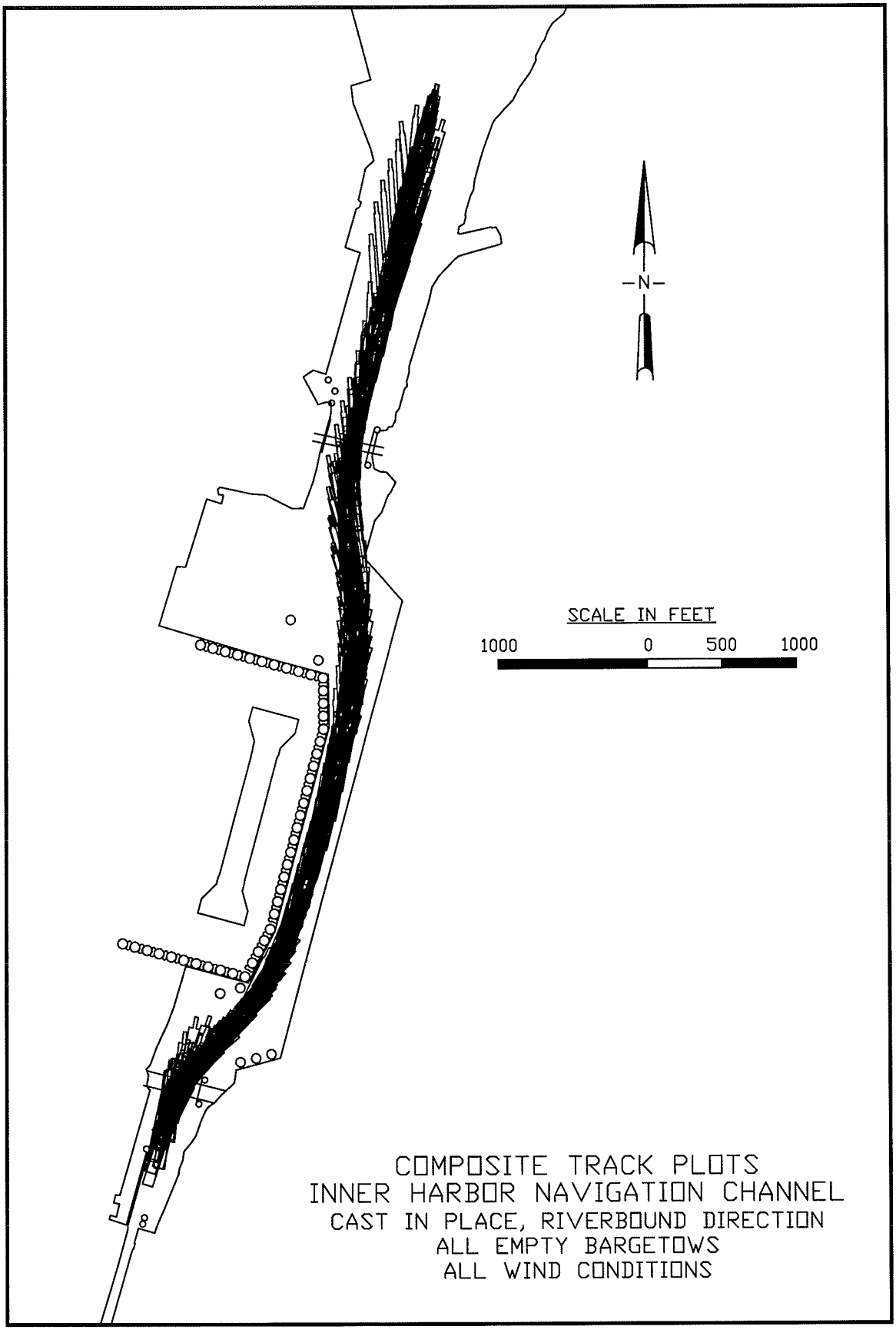
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ALL WIND CONDITIONS

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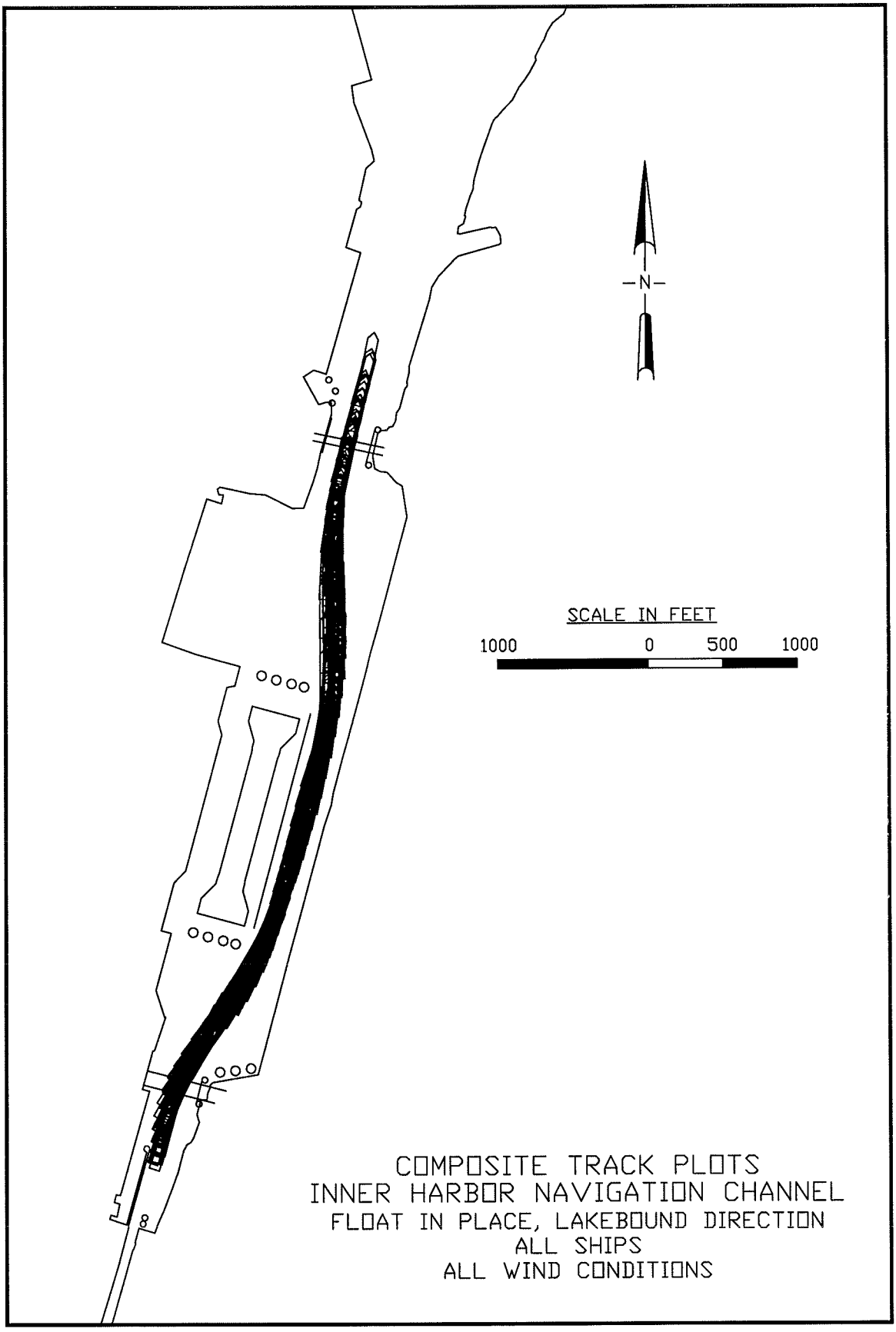
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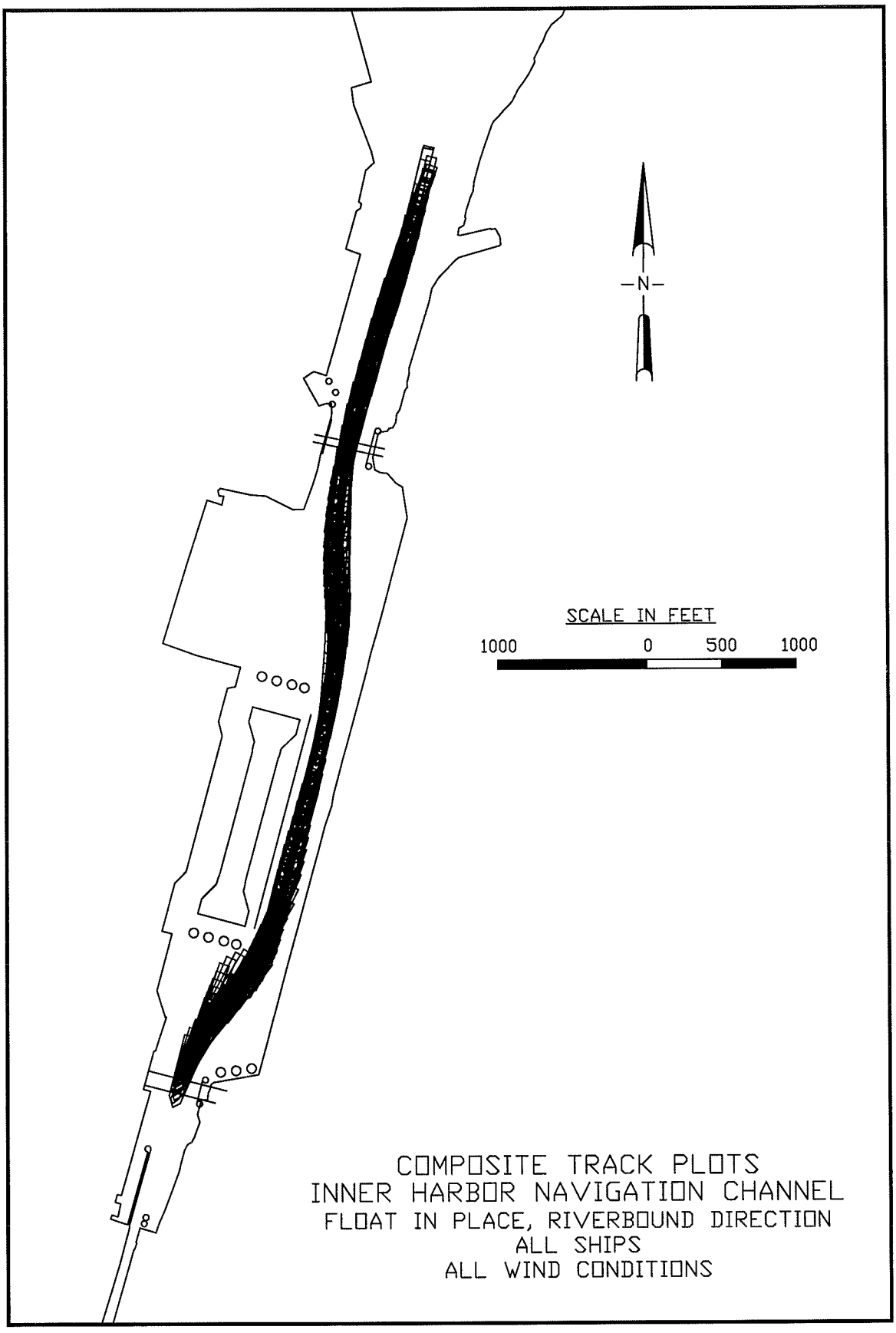
ALL WIND CONDITIONS

Plate 7



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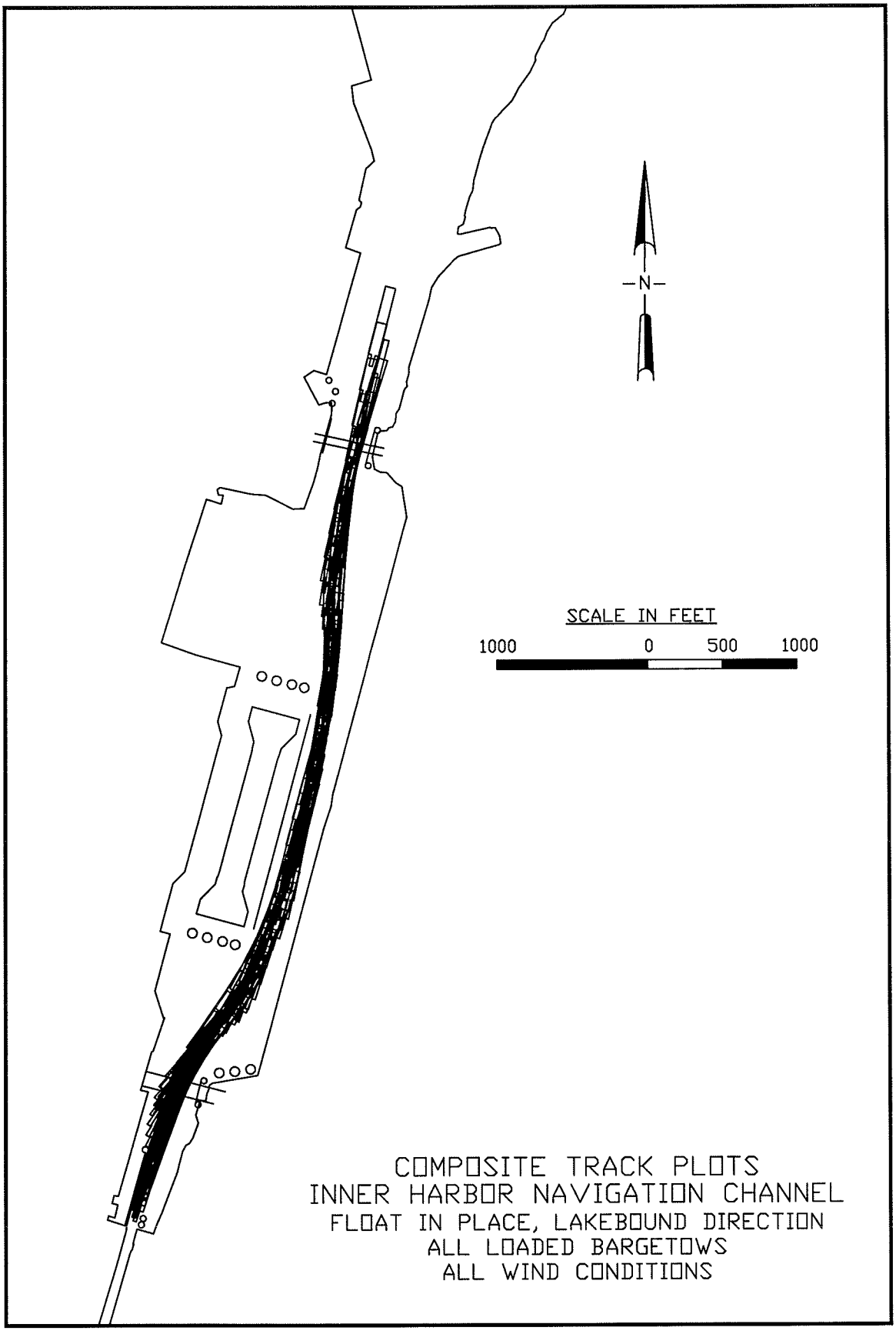
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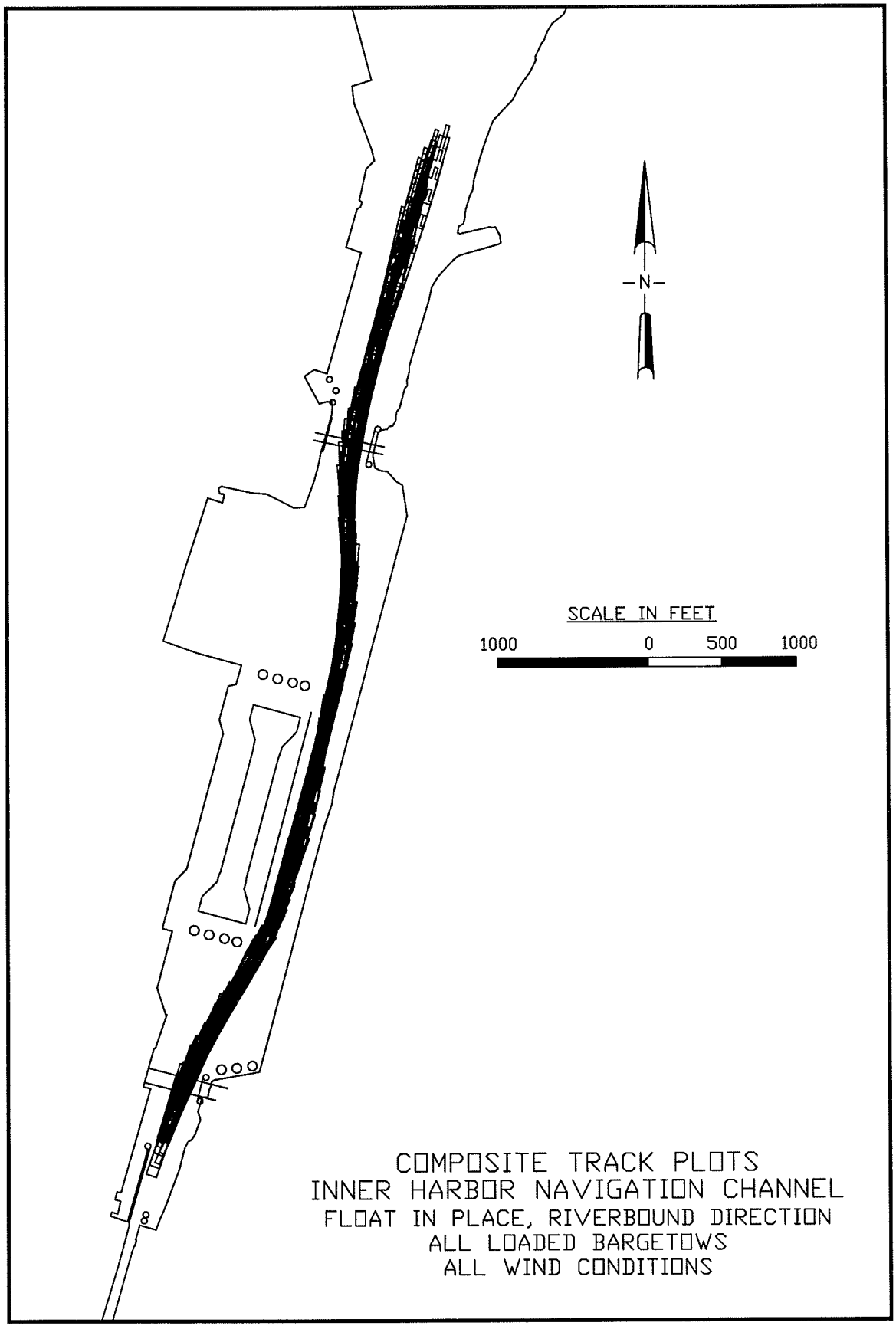
ALL LOADED BARGETOWS
ALL WIND CONDITIONS

Plate 9



COMPOSITE TRACK PLOTS
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FLOAT IN PLACE, RIVERBOUND DIRECTION
ALL LOADED BARGETOWS
ALL WIND CONDITIONS

Plate 10

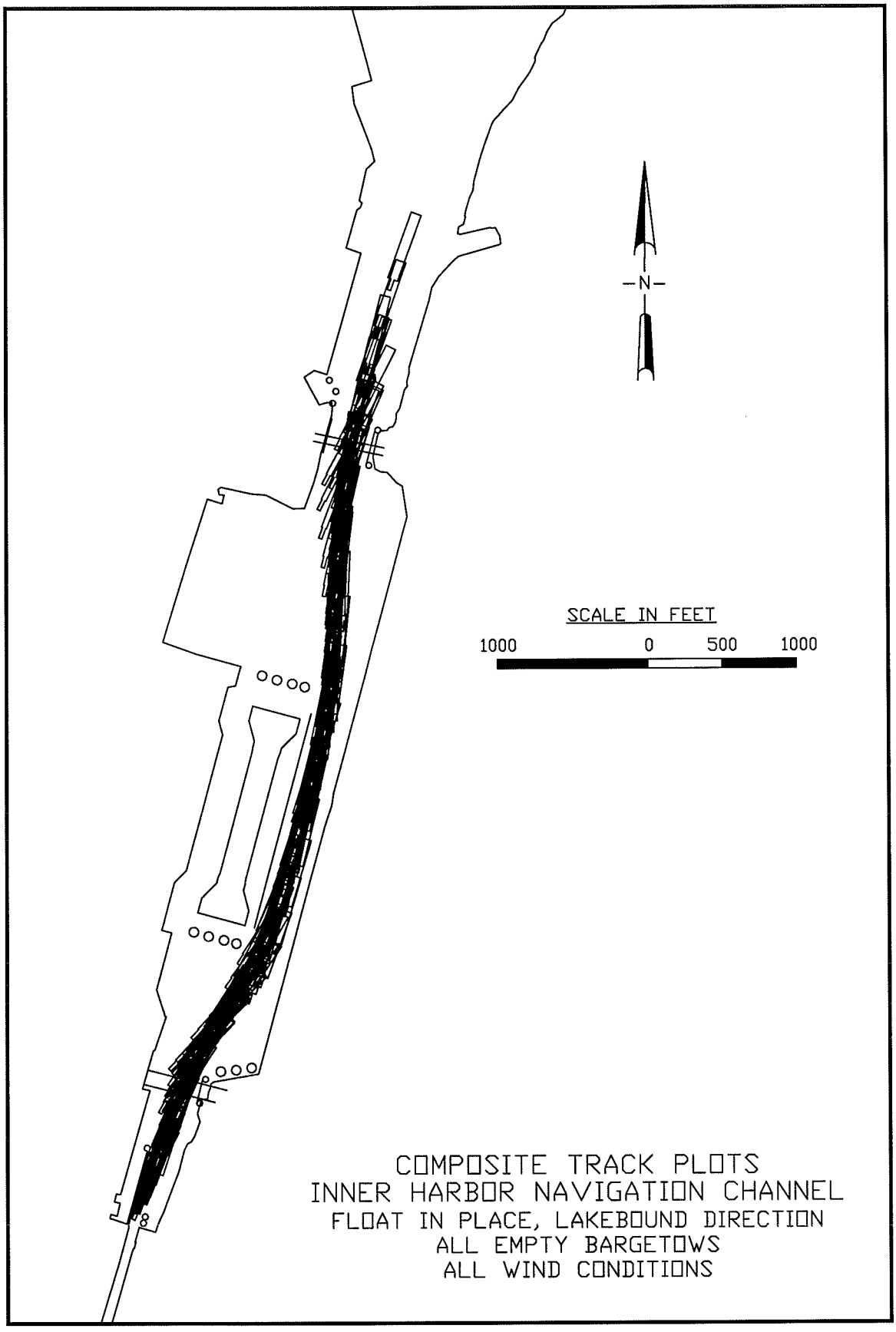
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Plate 11

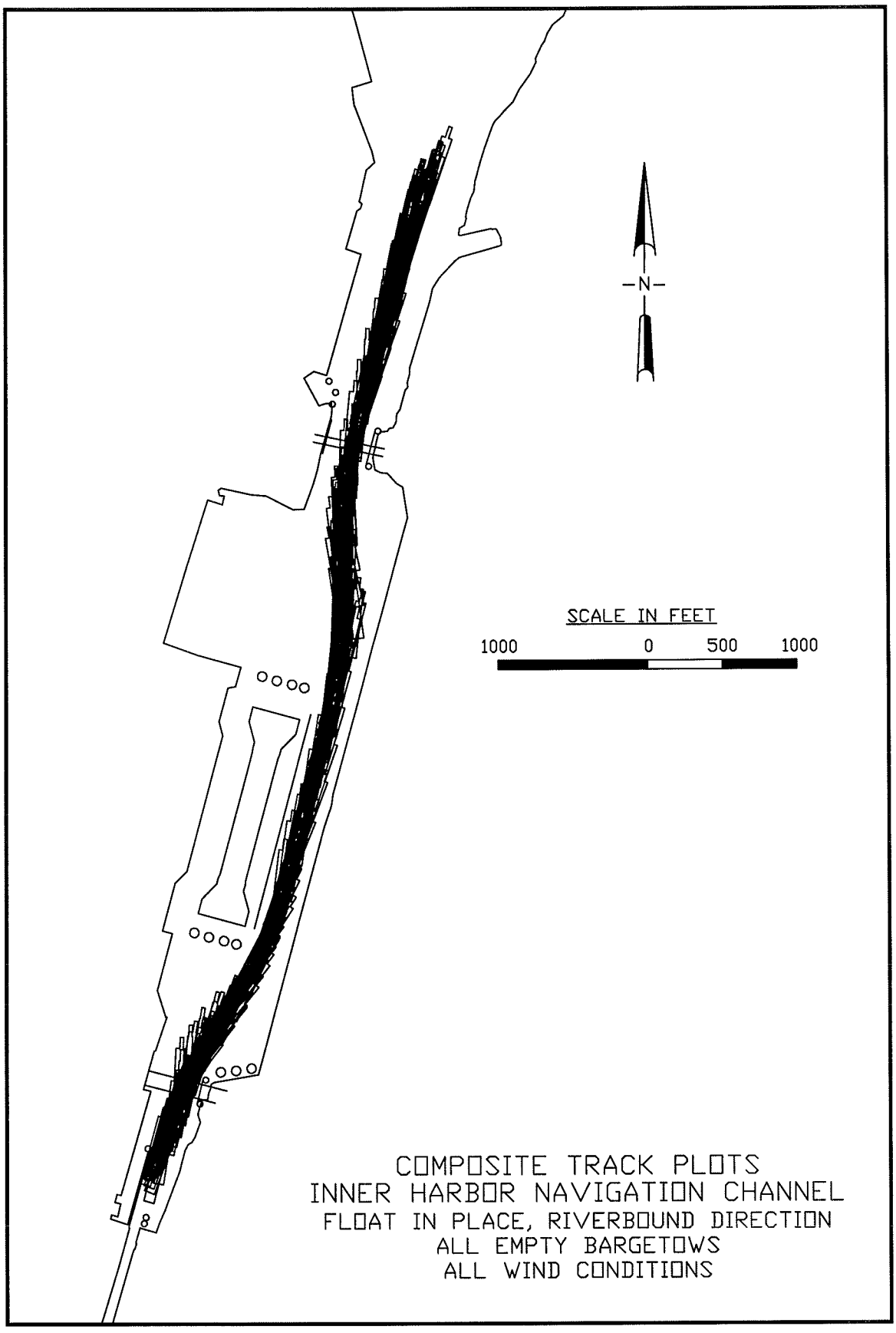
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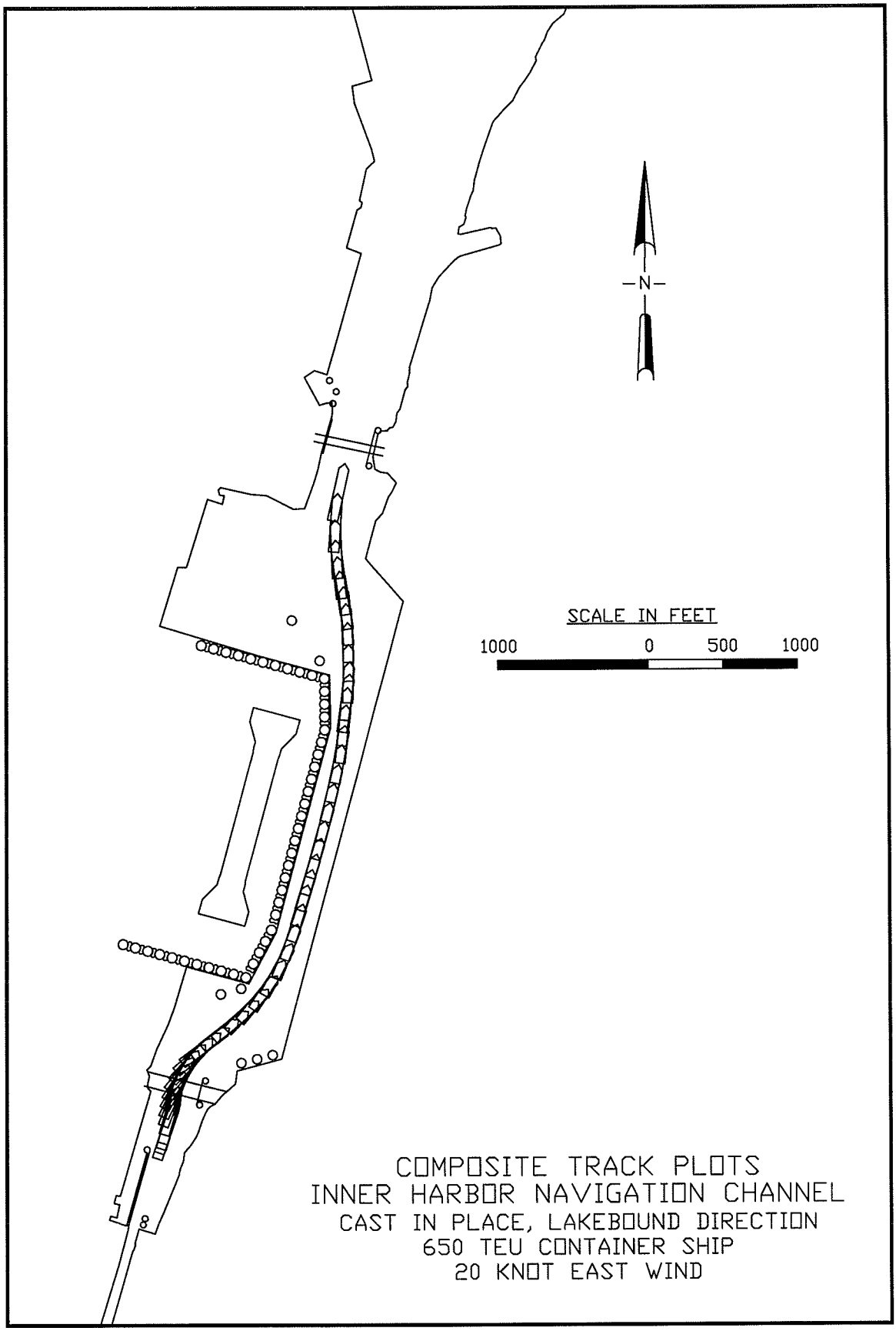
Plate 12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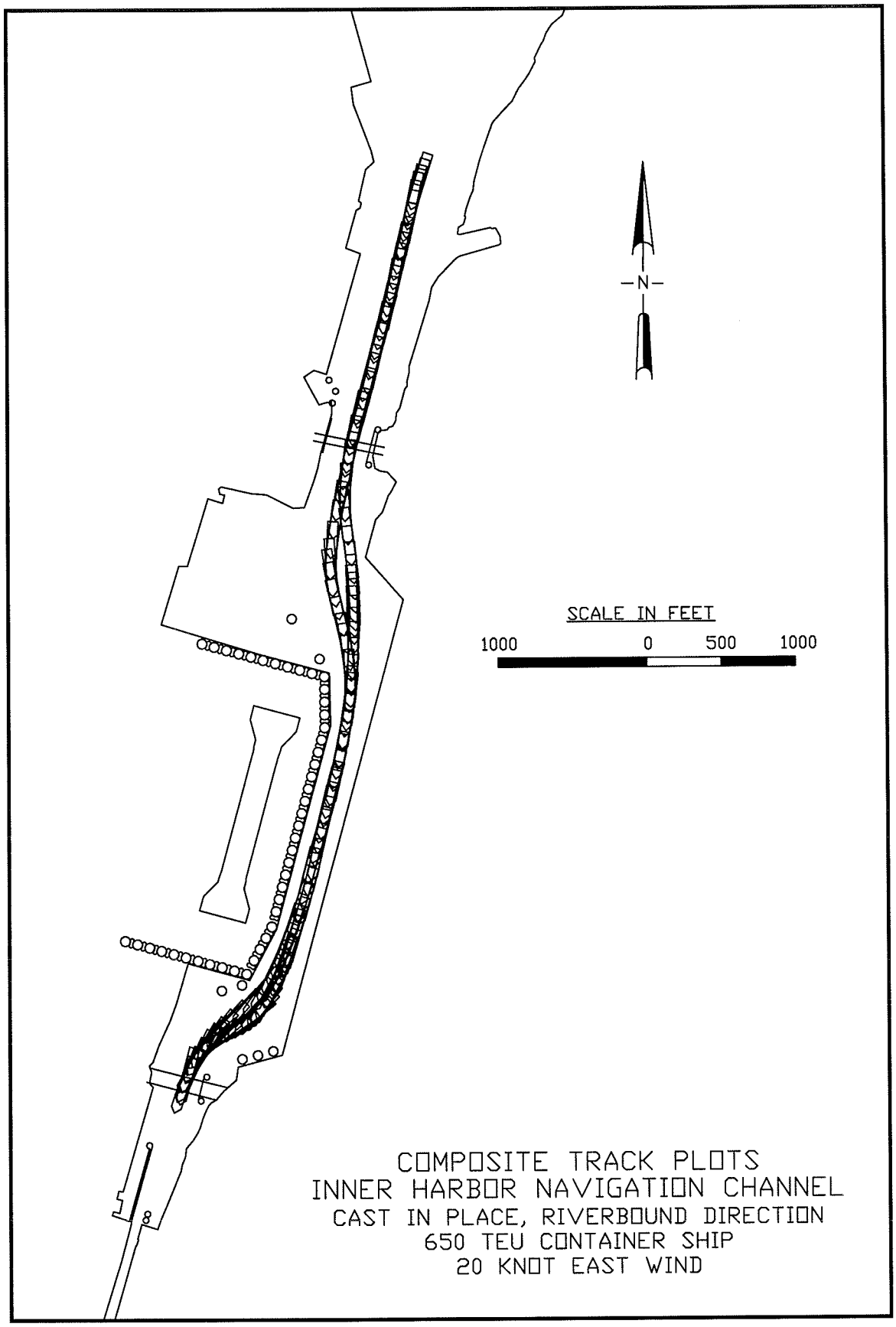
CAST IN PLACE, LAKEBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 13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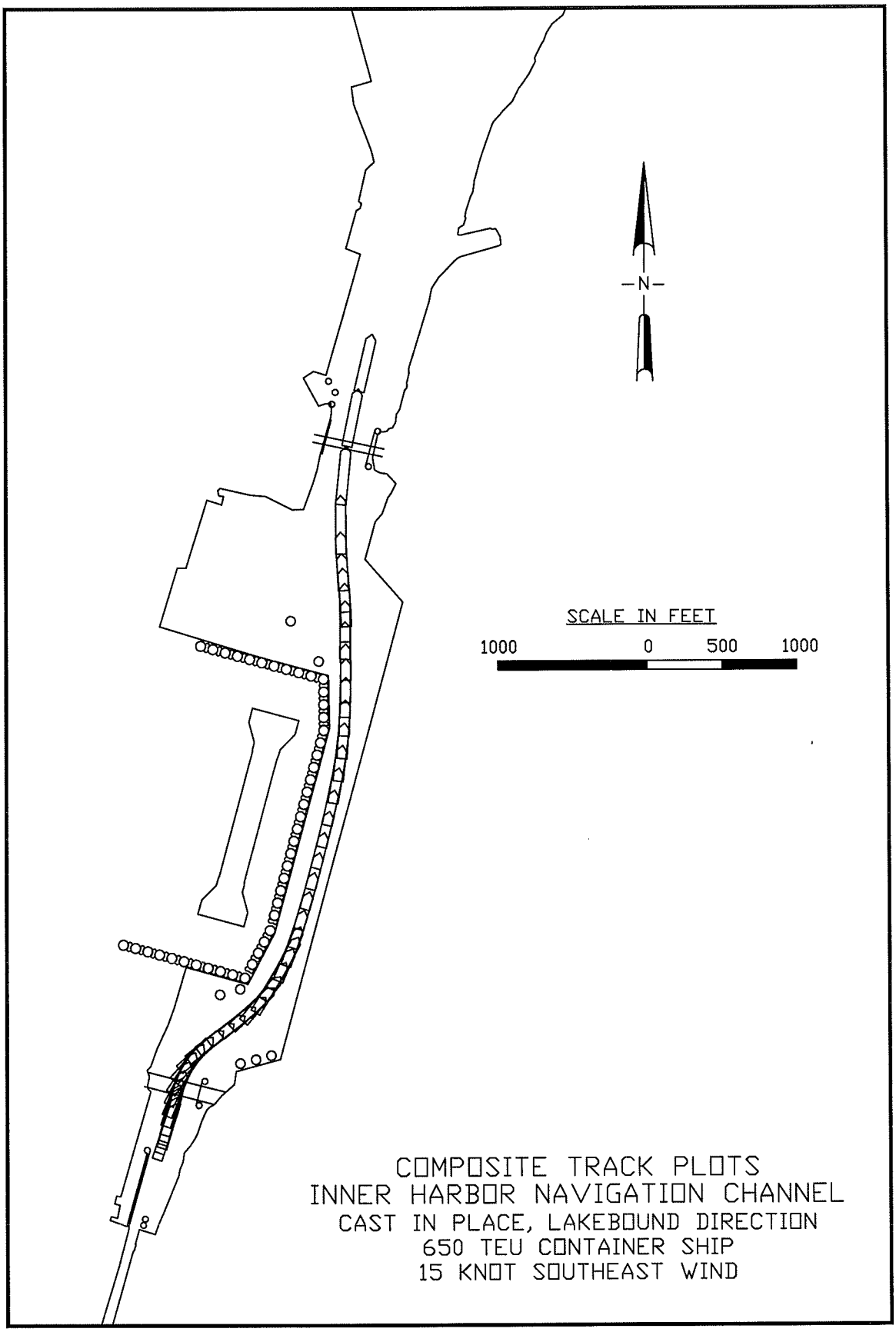
650 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 14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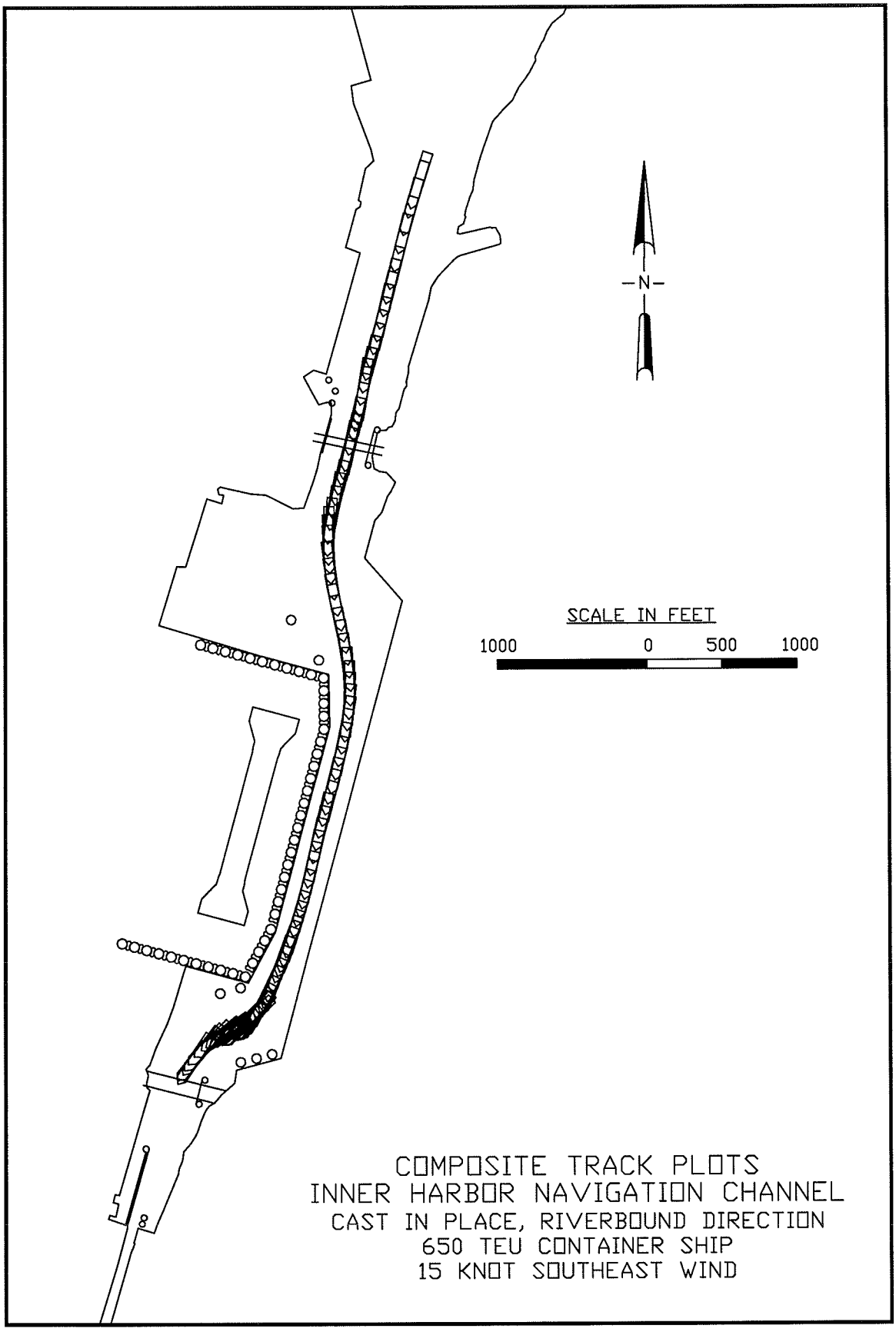
650 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 15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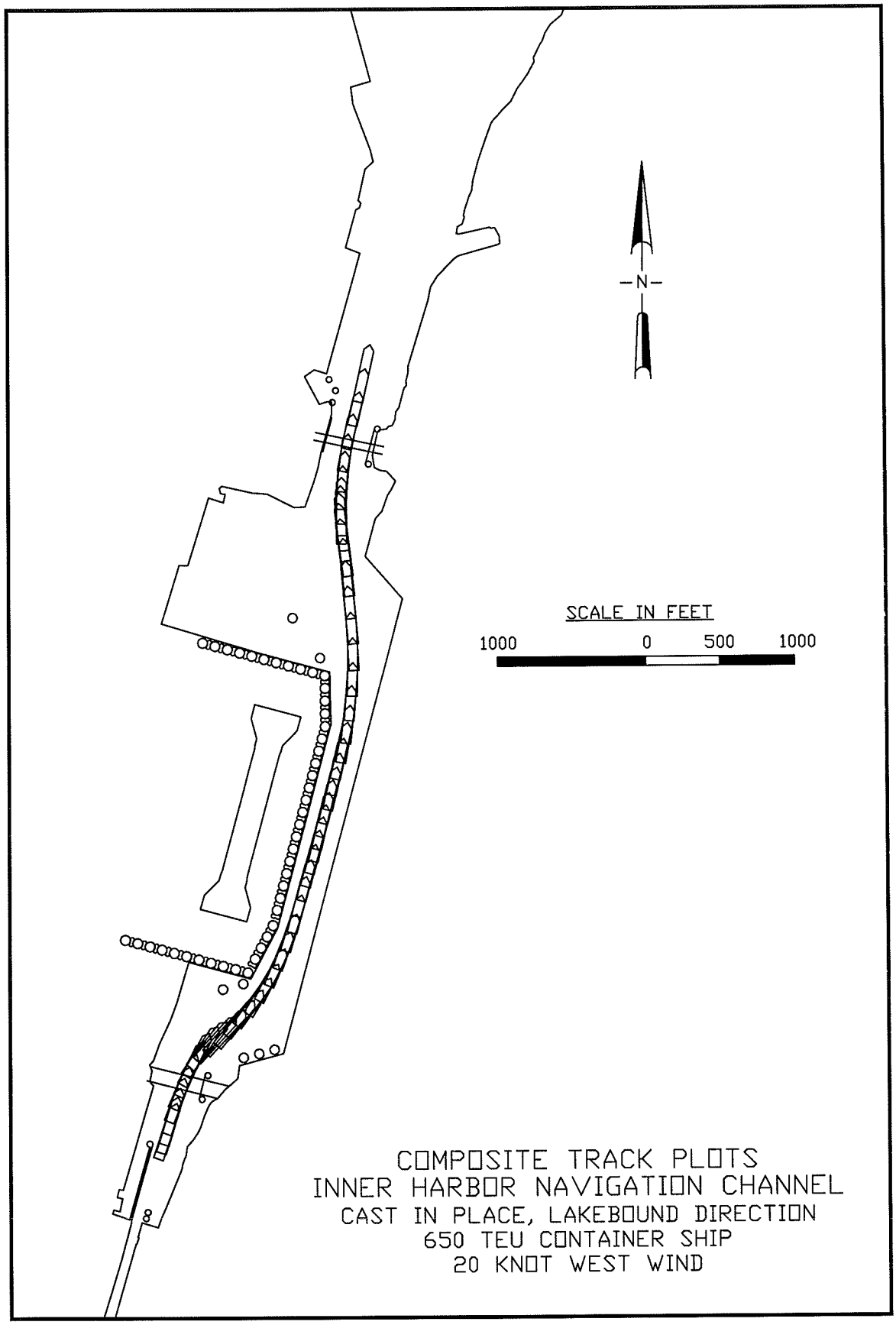
15 KNOT SOUTHEAST WIND

Plate 16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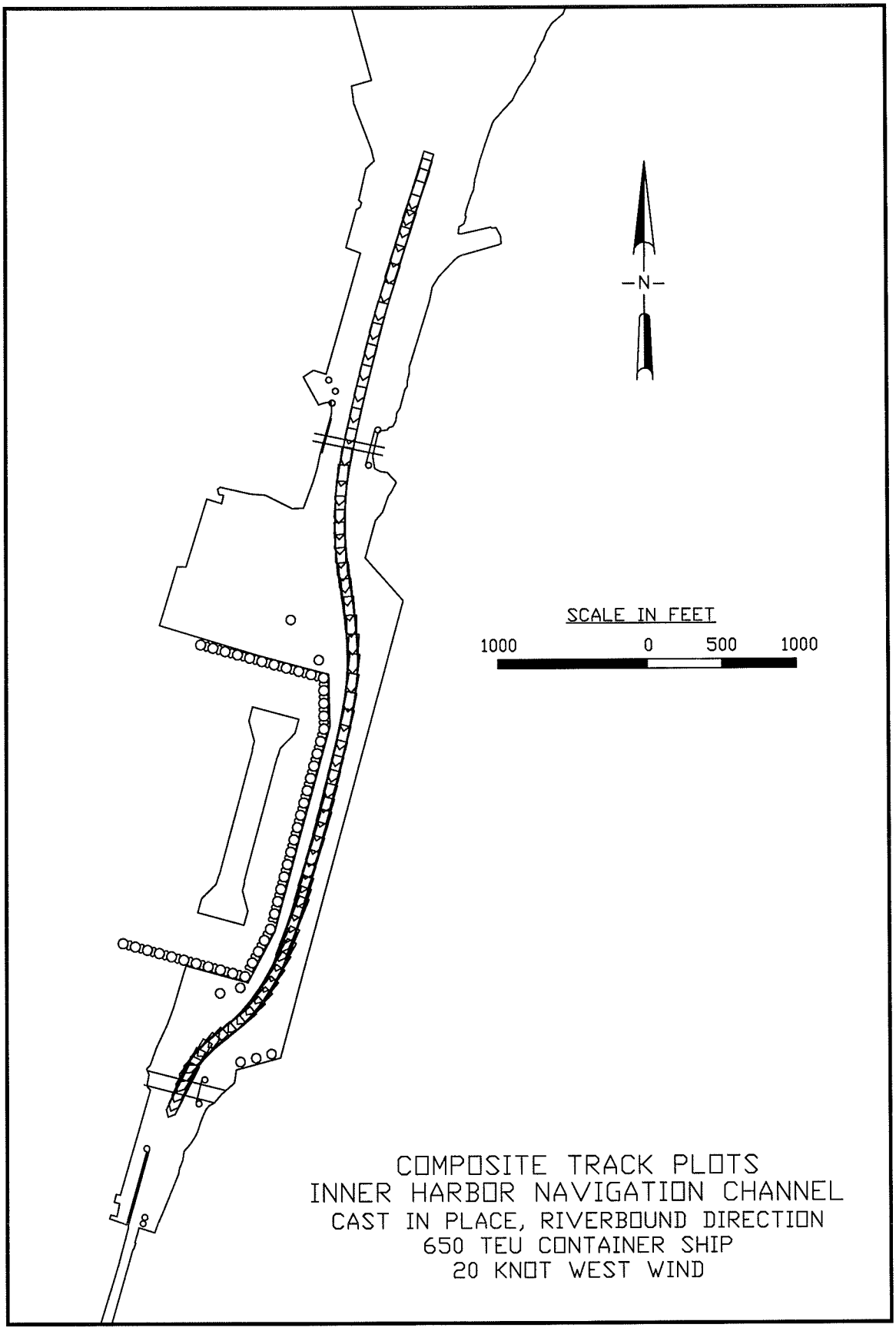
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT WEST WIND

Plate 17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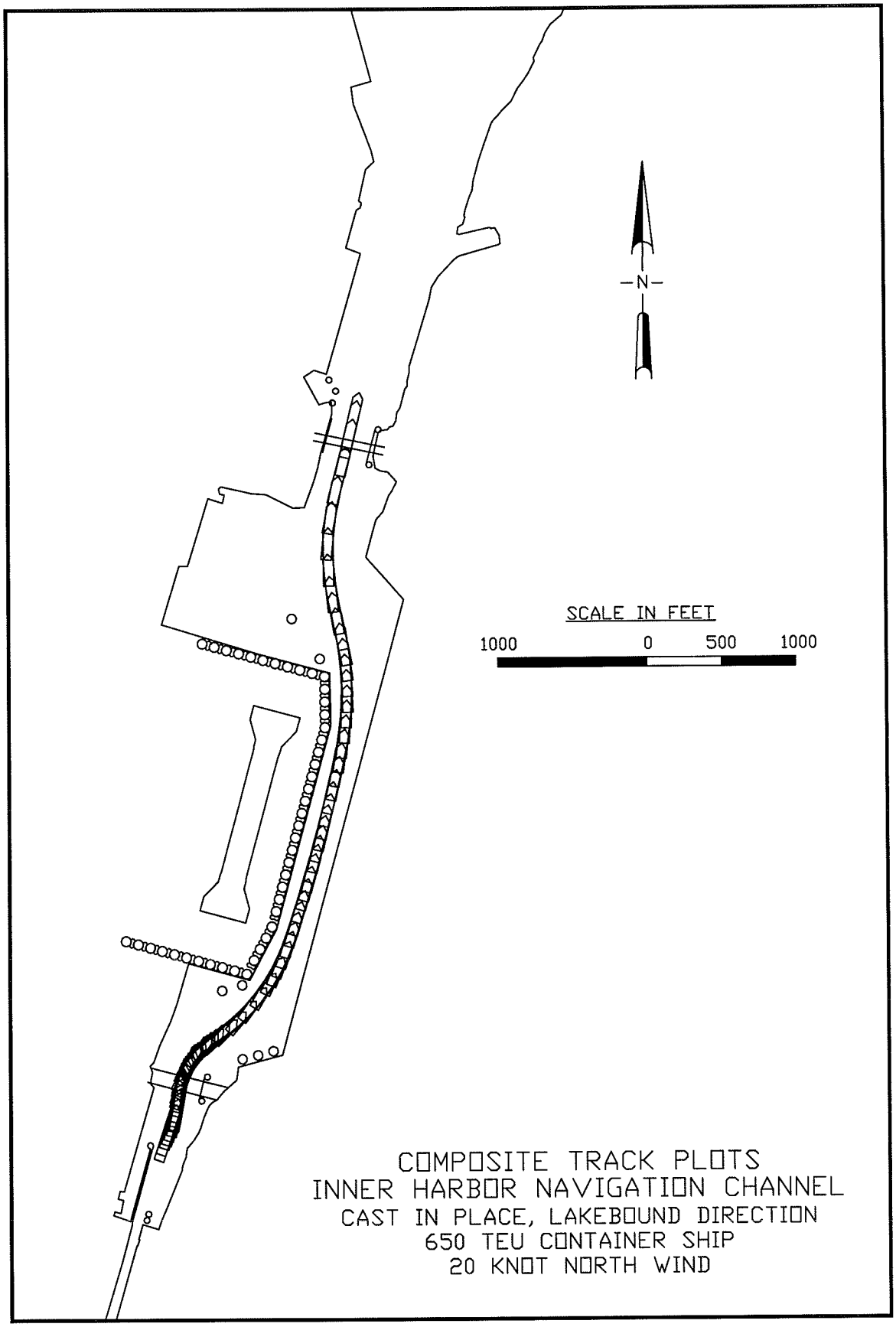
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT WEST WIND

Plate 18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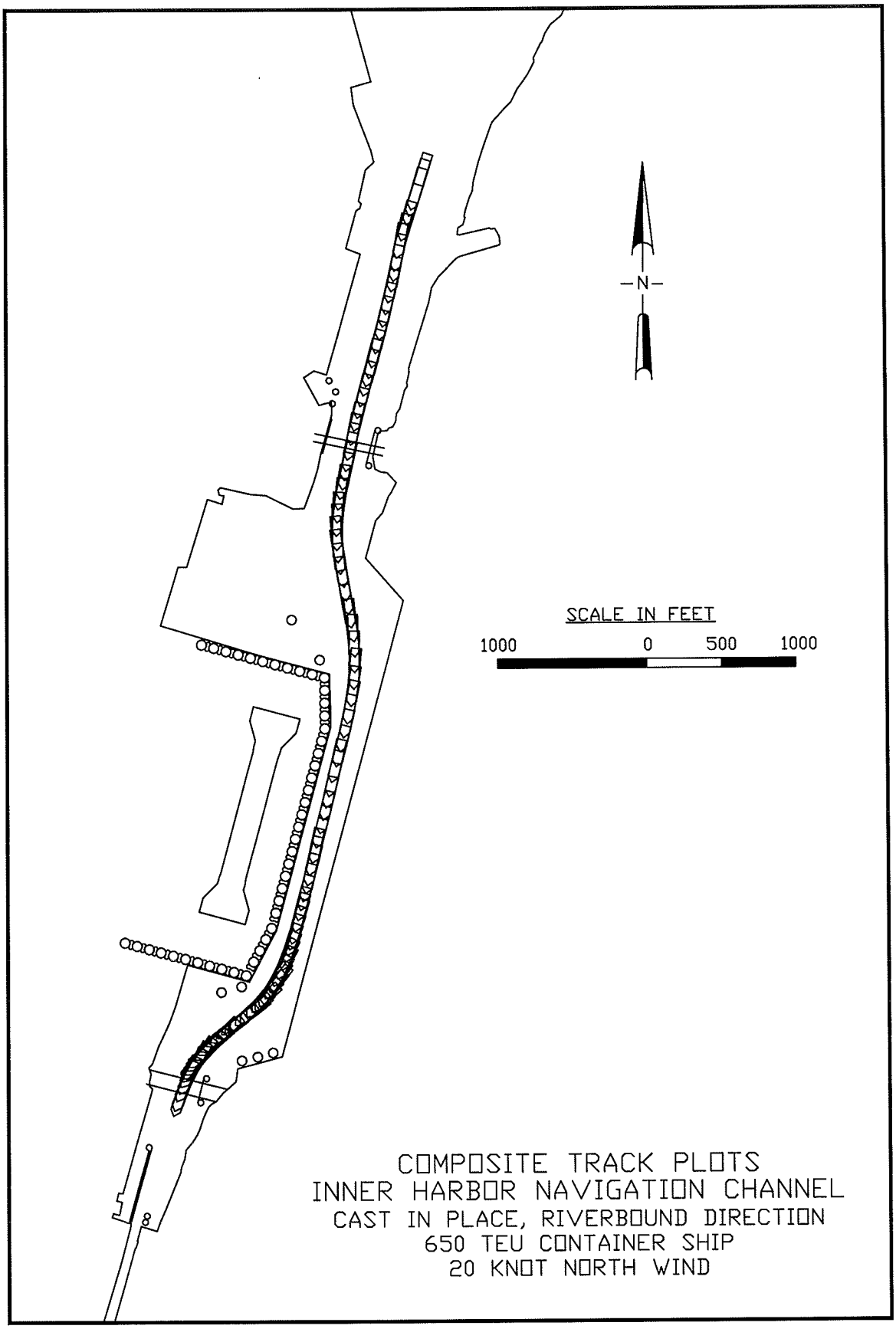
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 19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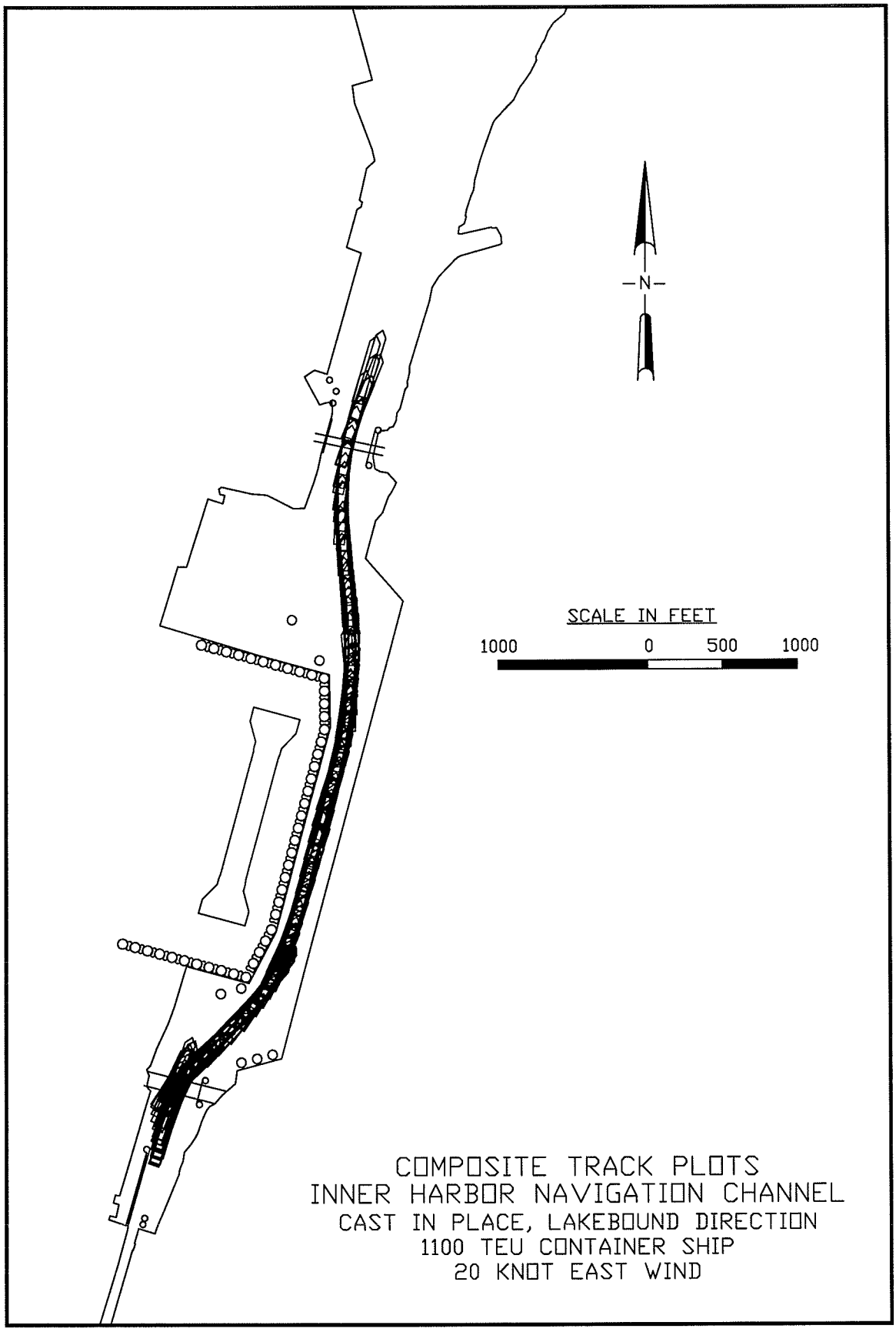
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 20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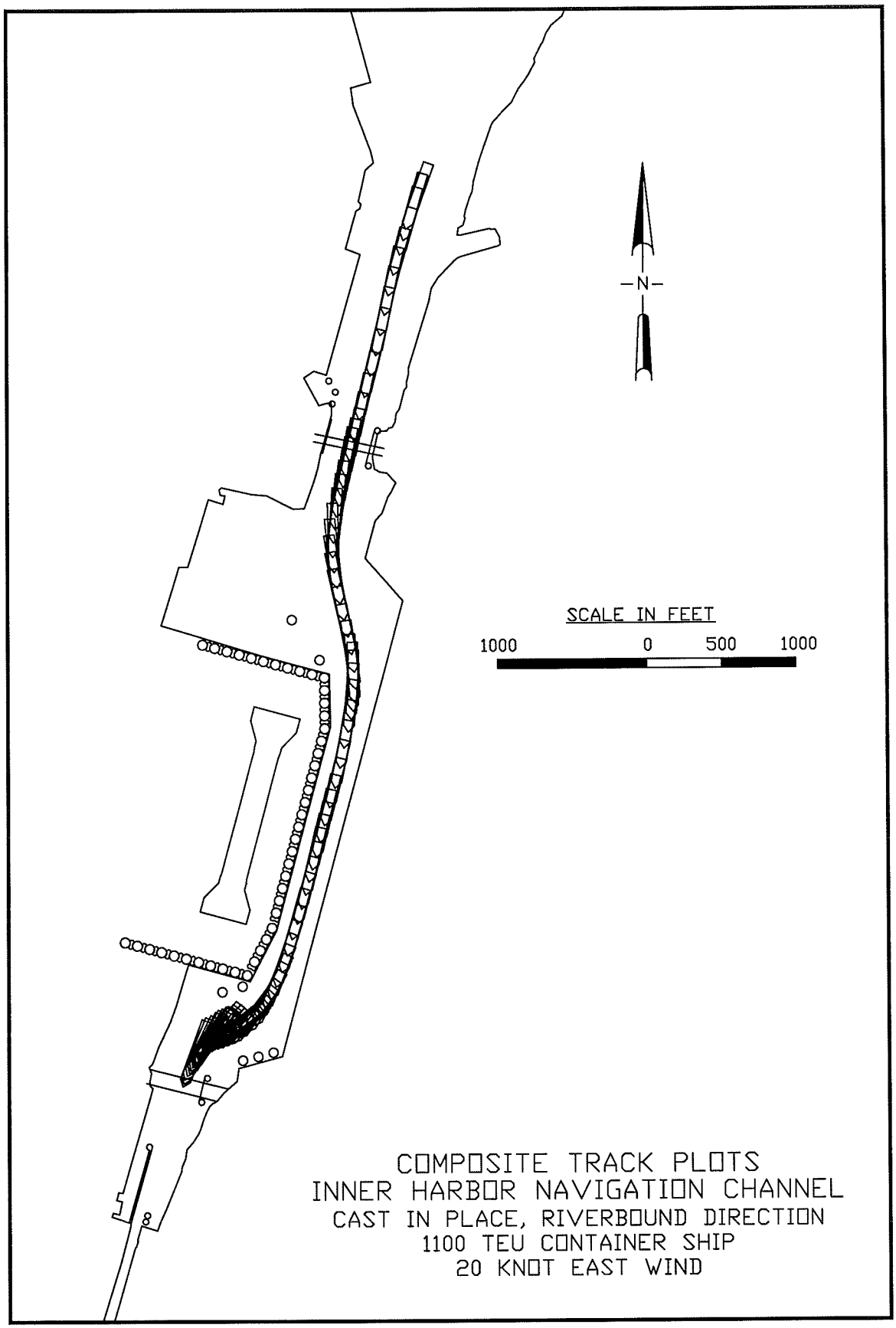
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 21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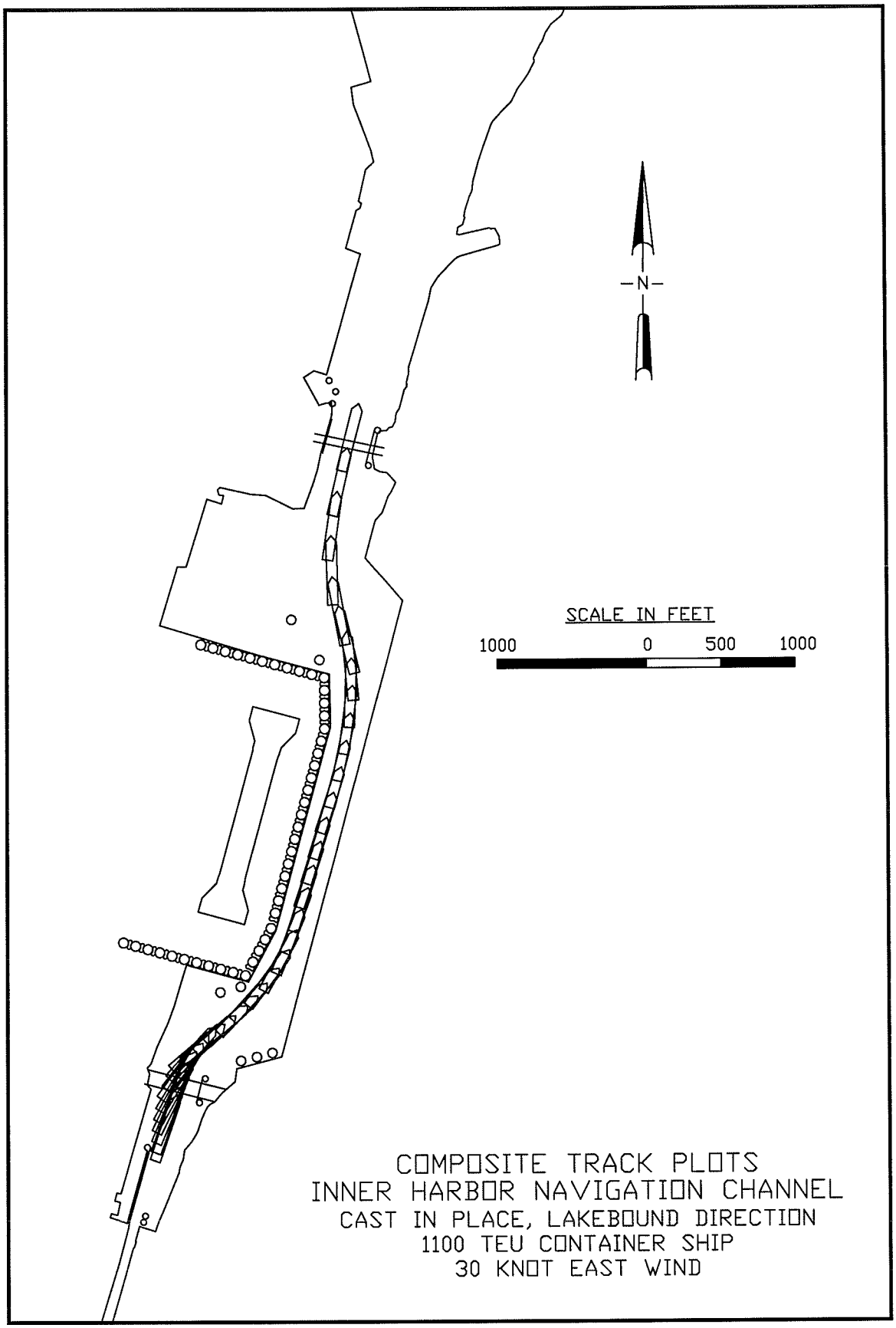
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 22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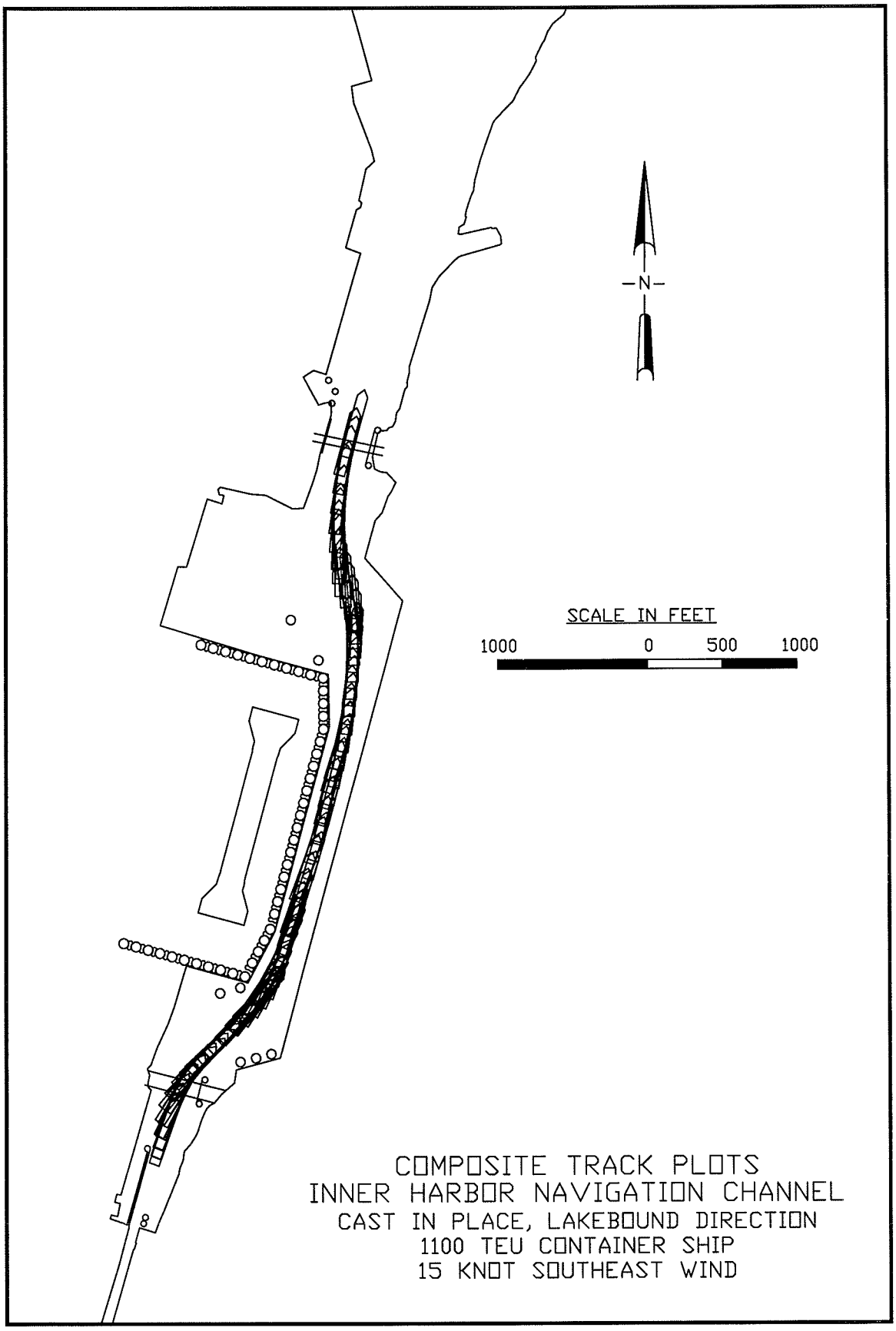
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
30 KNOT EAST WIND

Plate 23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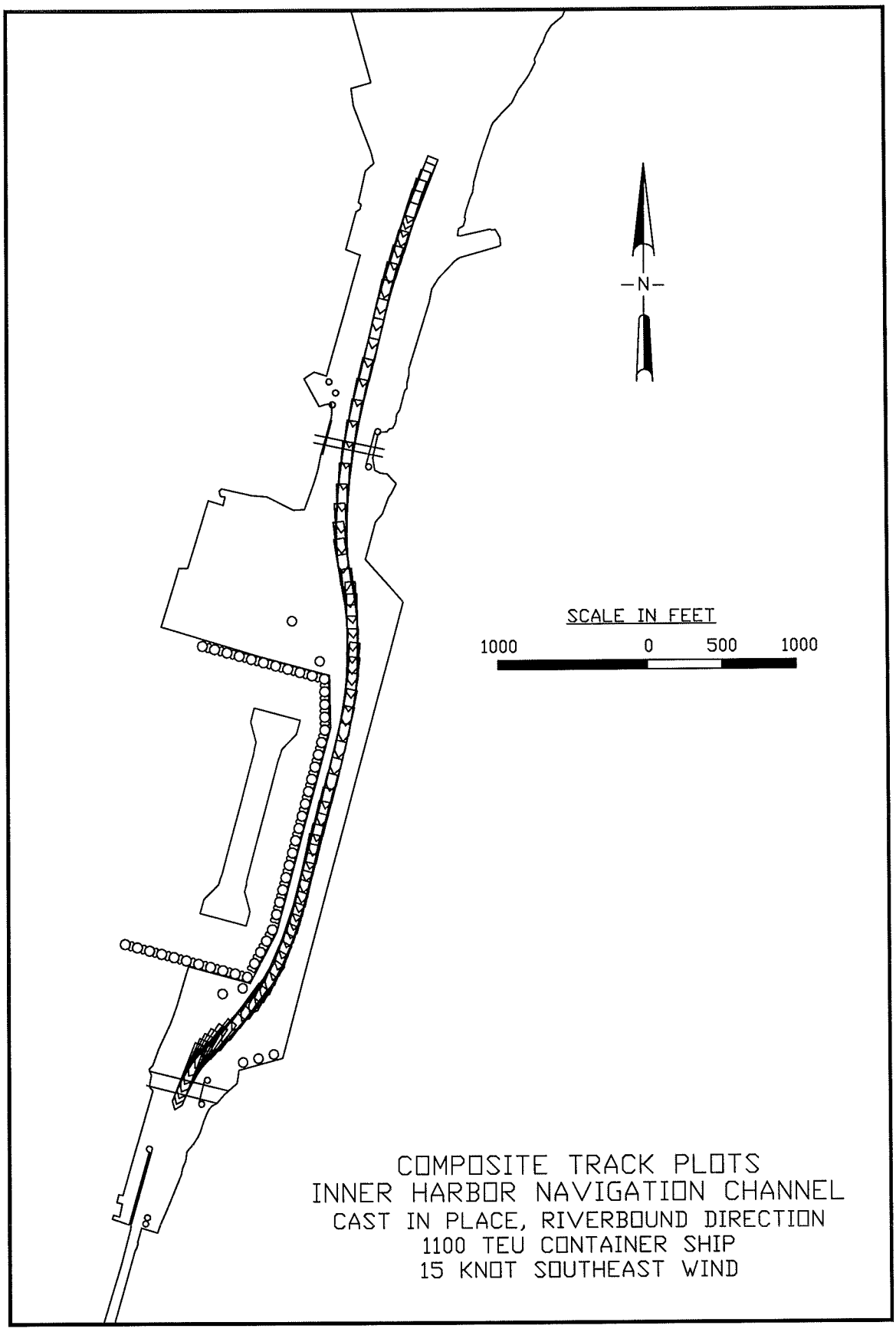
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 24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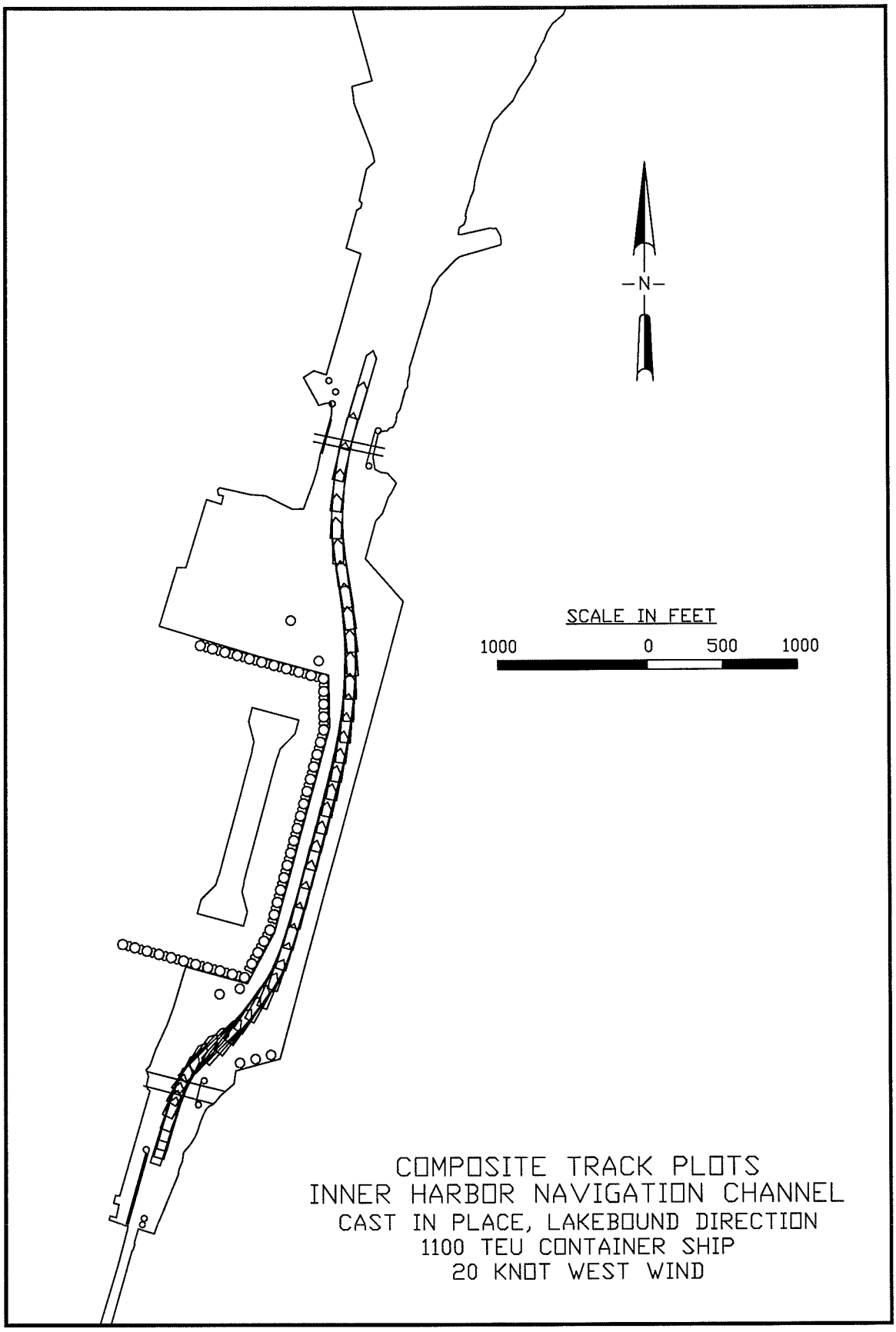
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 25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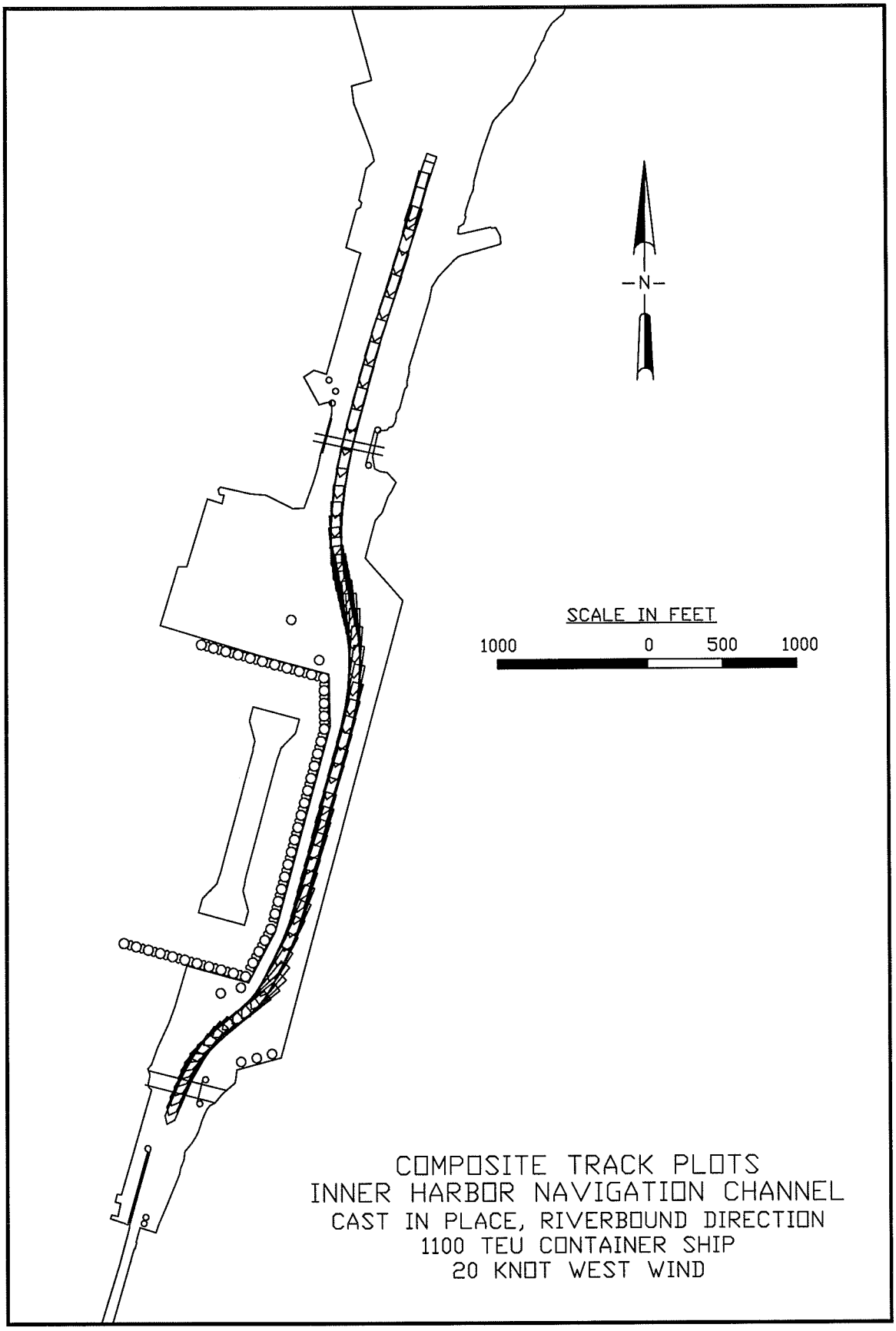
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT WEST WIND

Plate 26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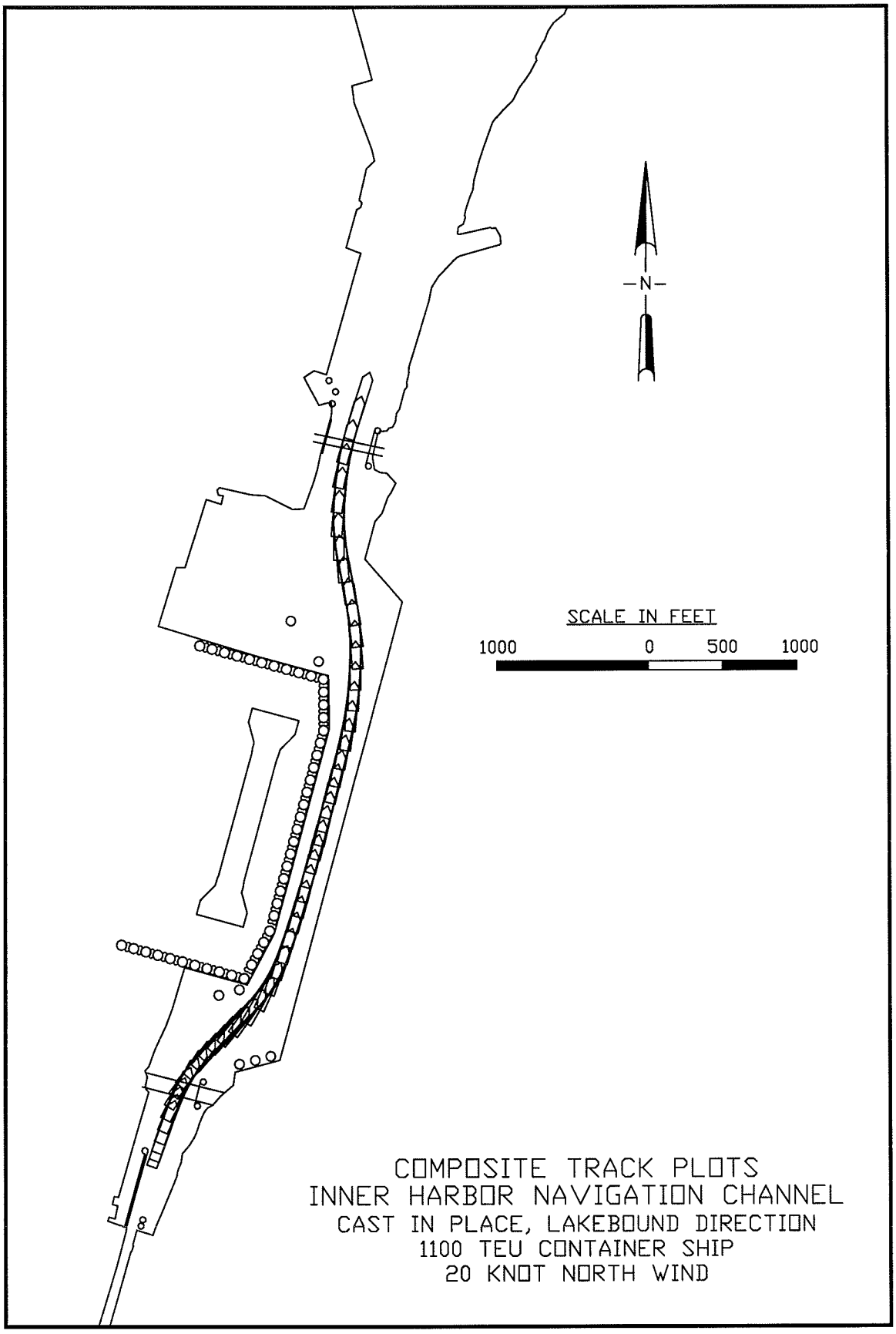
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT WEST WIND

Plate 27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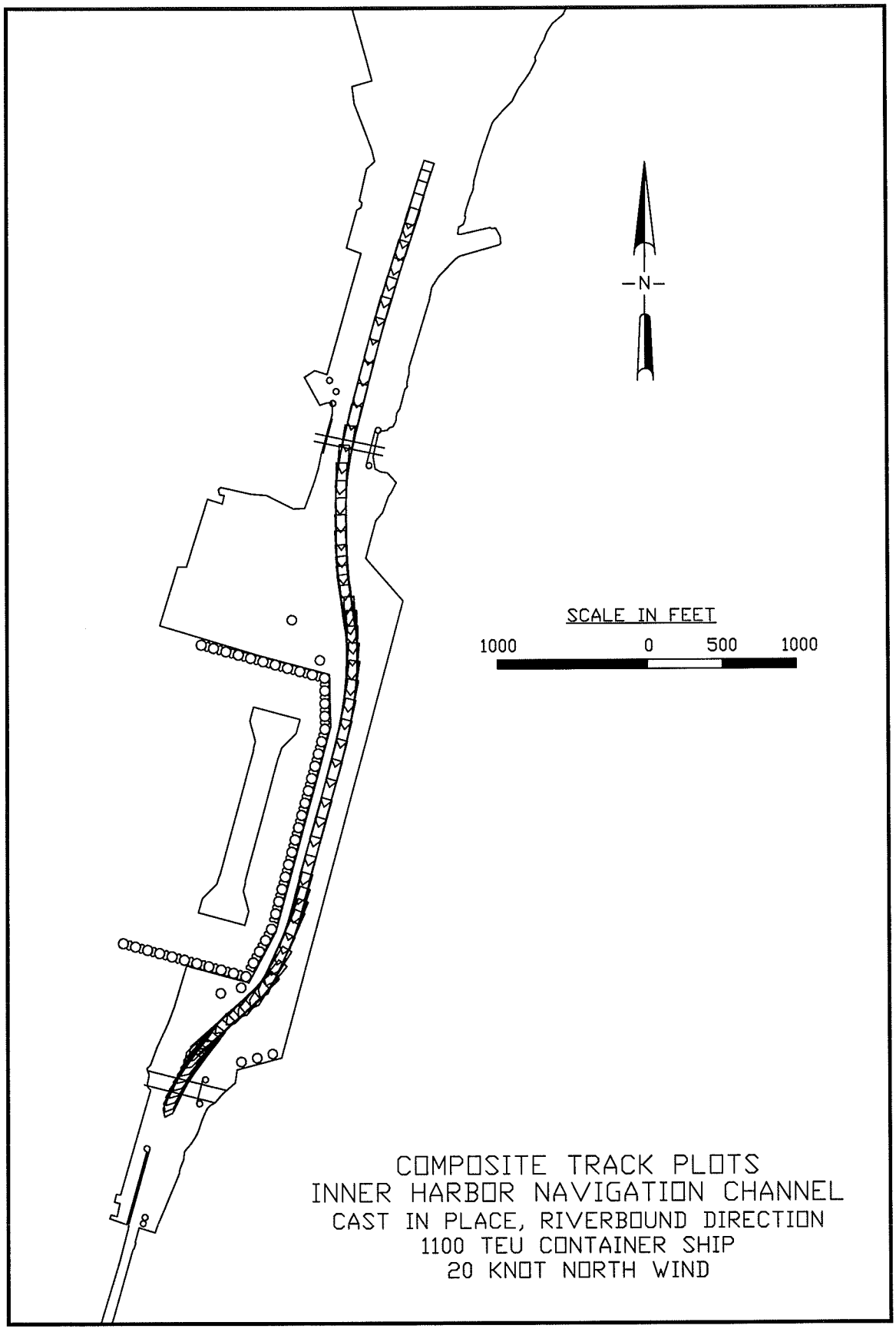
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 28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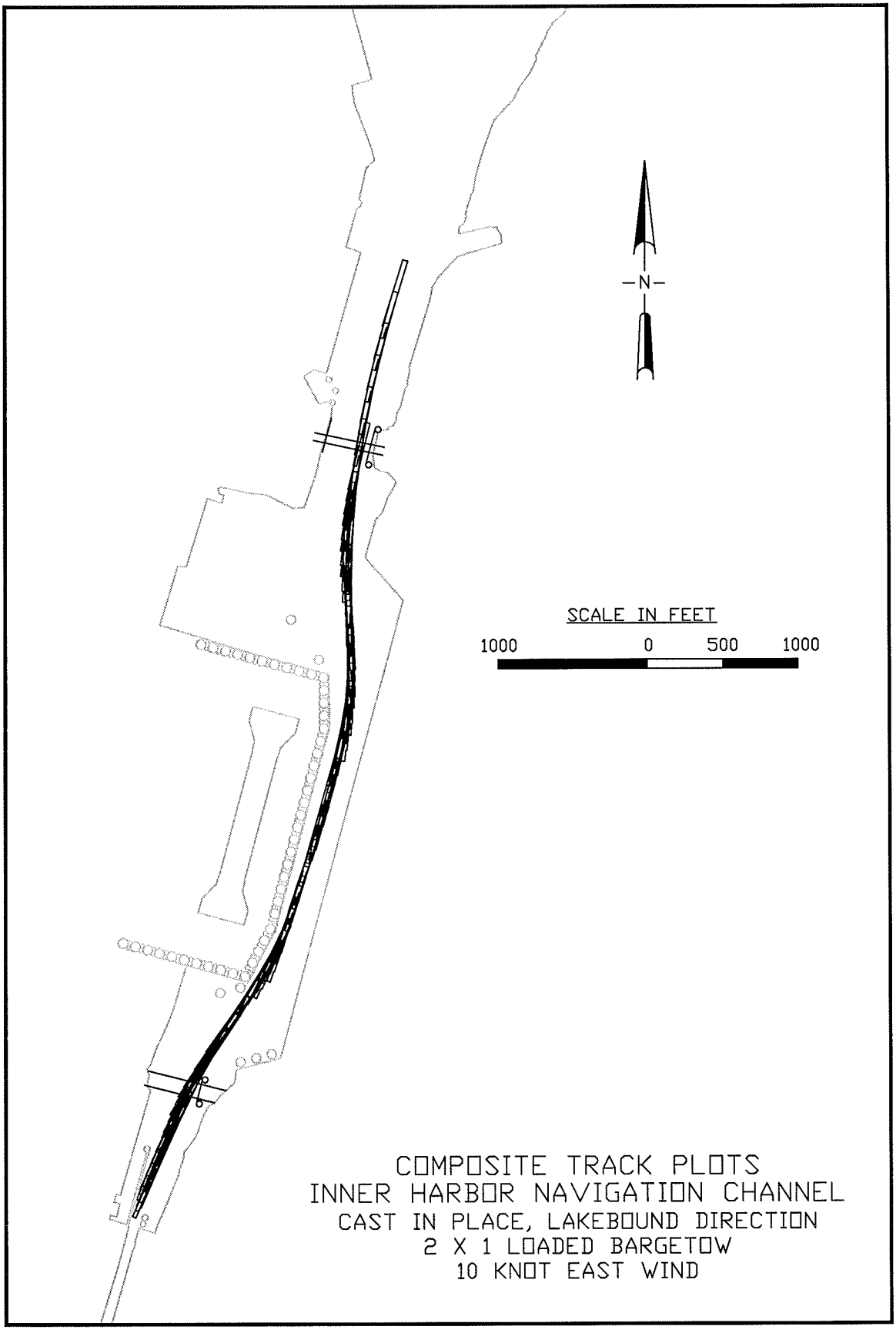
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 29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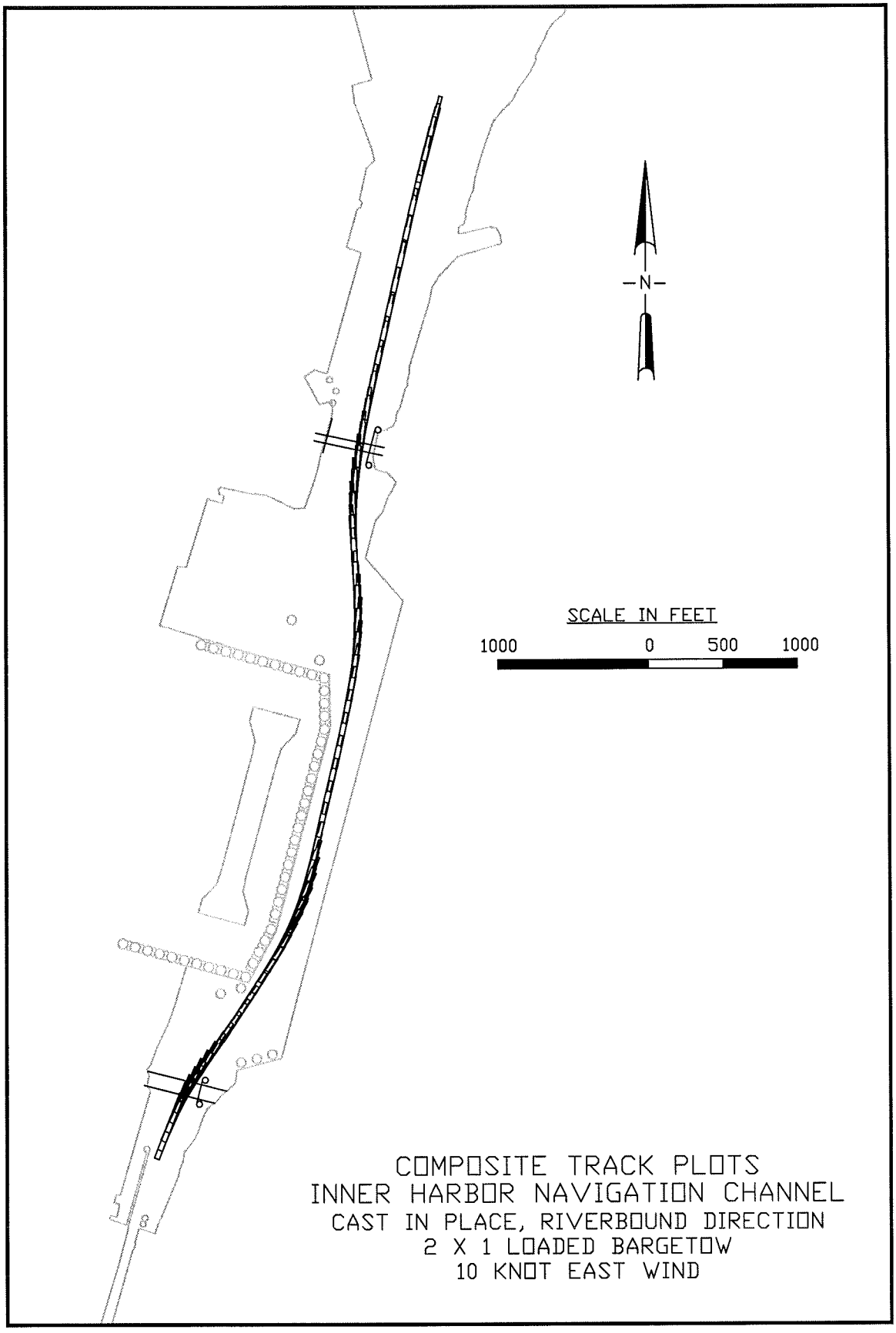
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 1 LOADED BARGETOW
10 KNOT EAST WIND

Plate 30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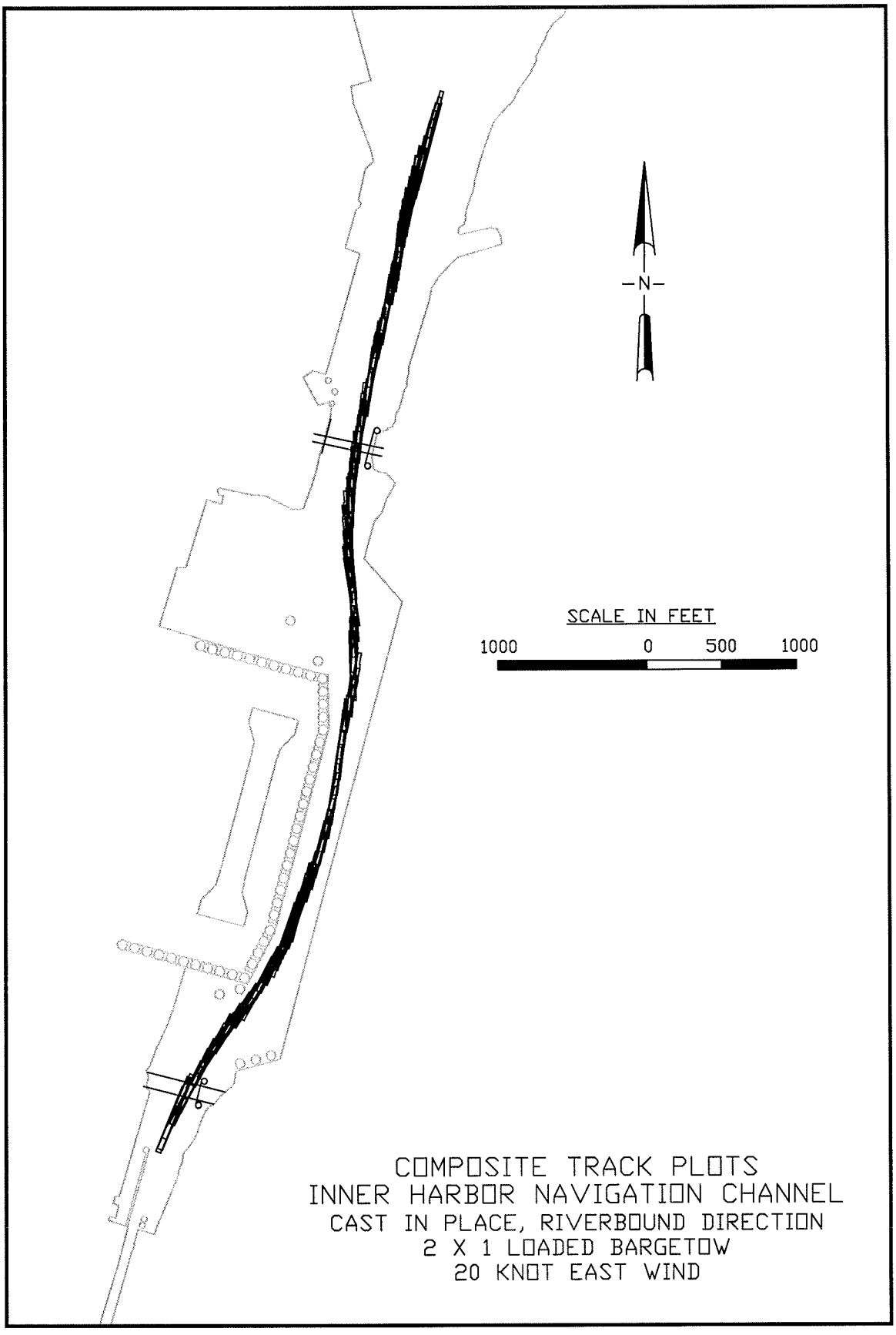
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 1 LOADED BARGETOW
10 KNOT EAST WIND

Plate 31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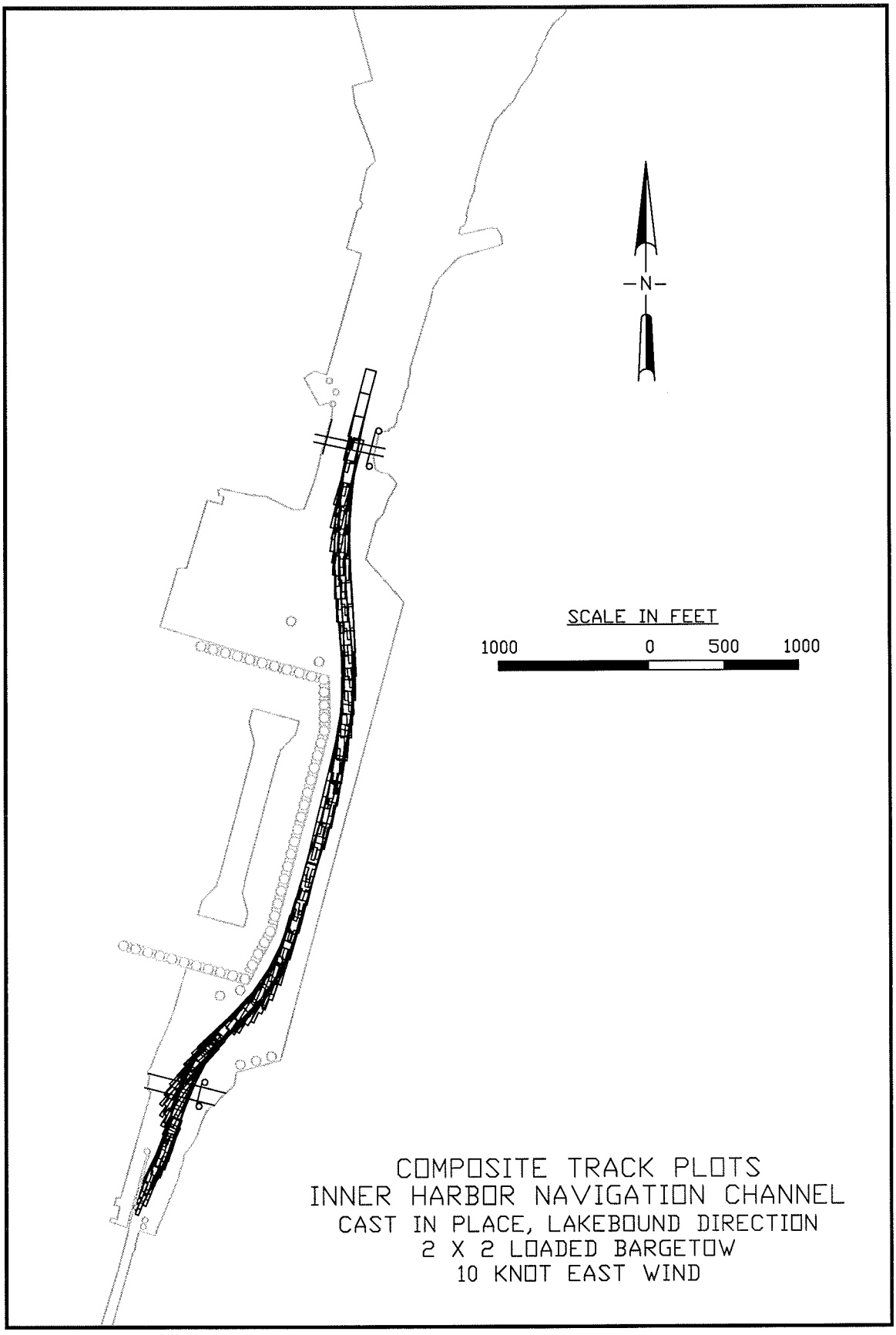
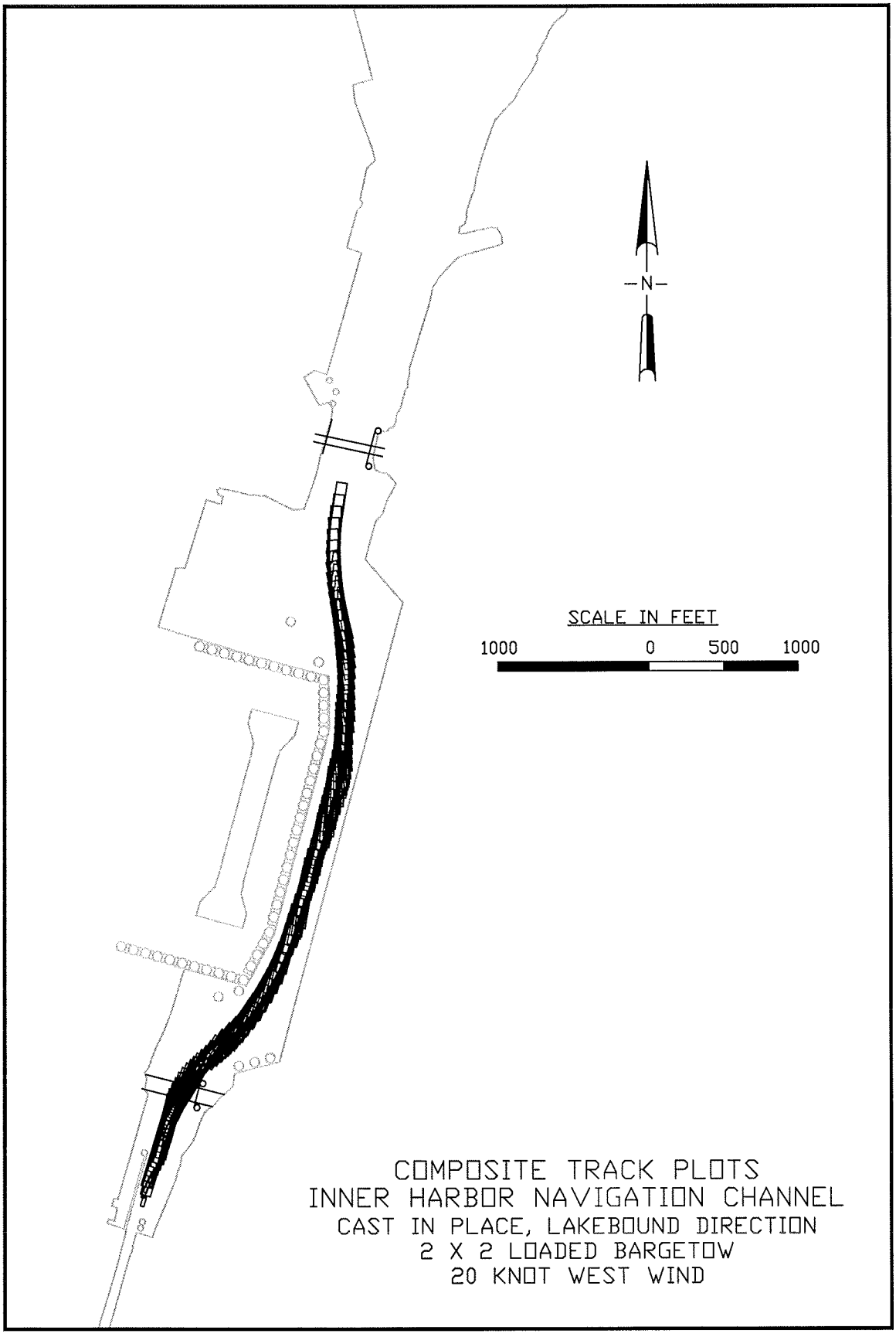
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 1 LOADED BARGETOW
20 KNOT EAST WIND

Plate 32



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 2 LOADED BARGETOW
10 KNOT EAST WIND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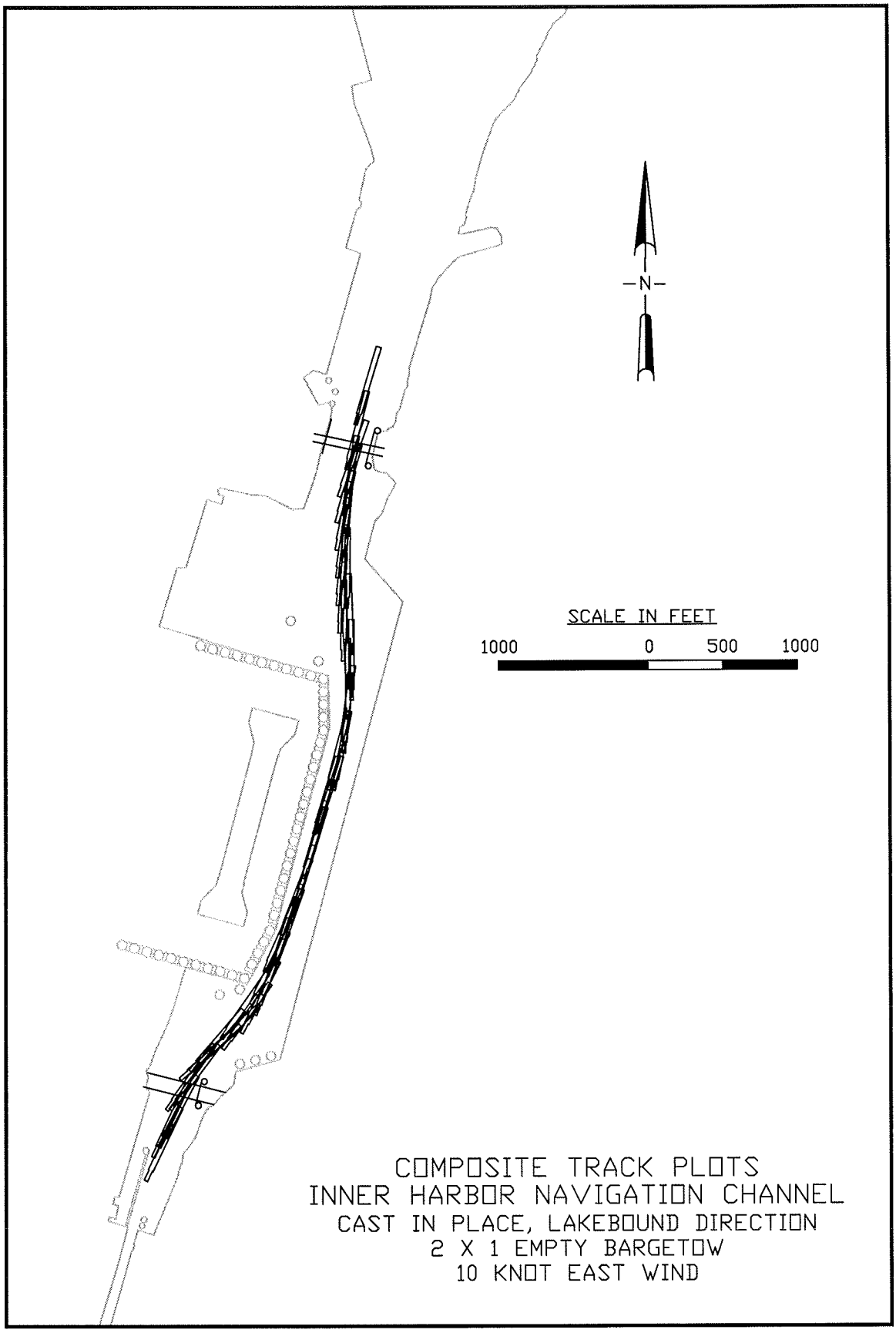
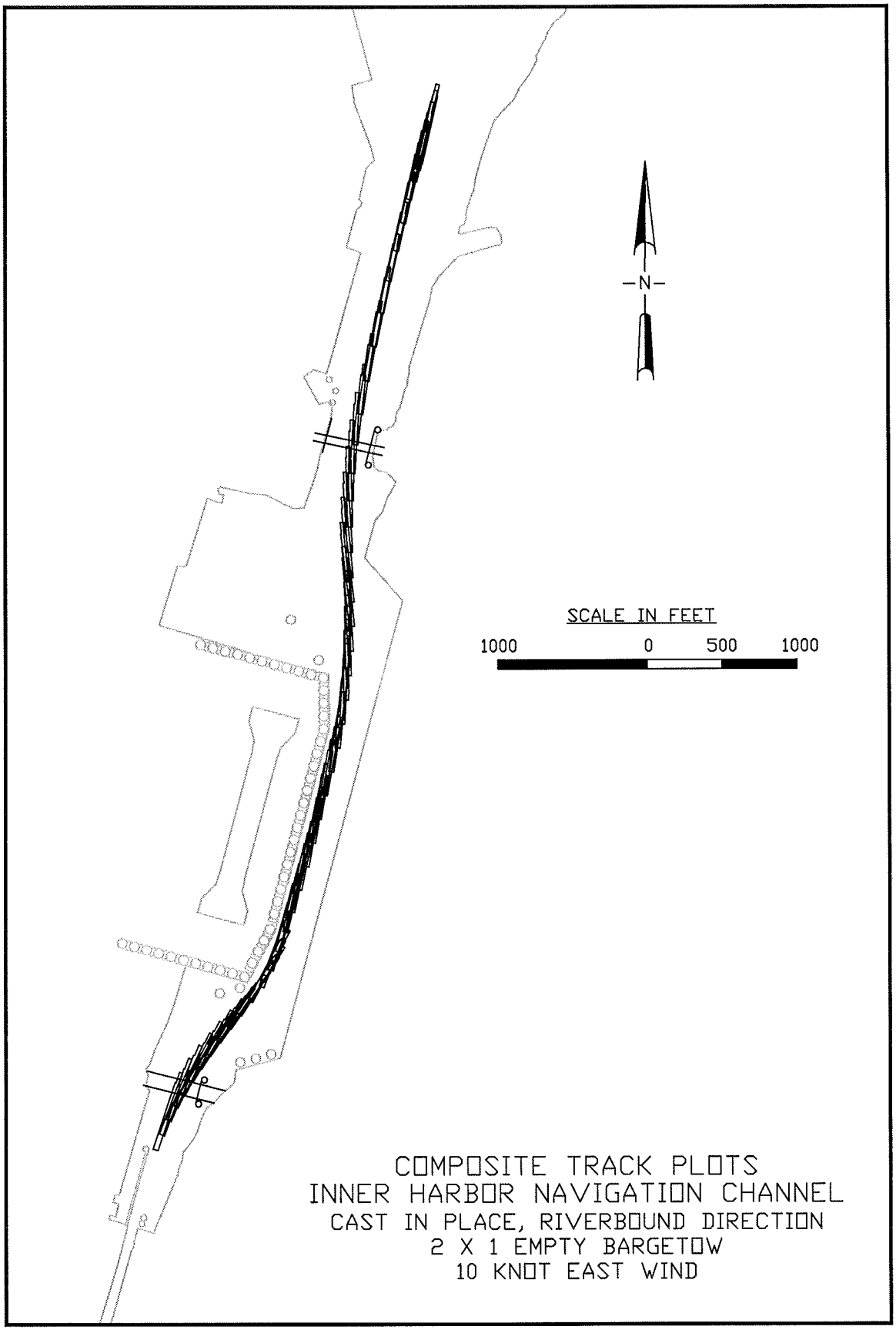
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 2 LOADED BARGETOW
20 KNOT WEST WIND

Plate 34



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 1 EMPTY BARGETOW
10 KNOT EAST WIND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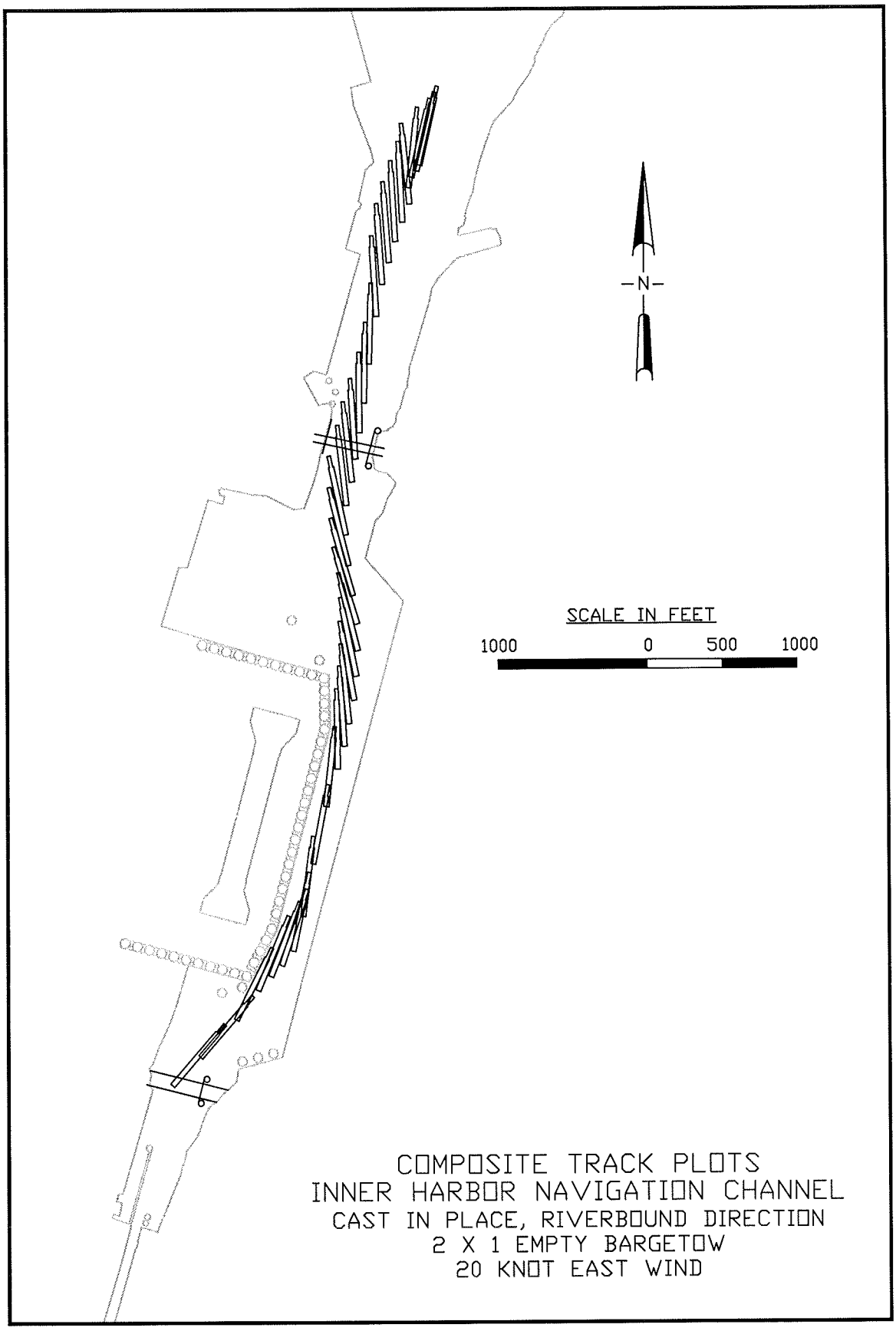
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 1 EMPTY BARGETOW
10 KNOT EAST WIND

Plate 36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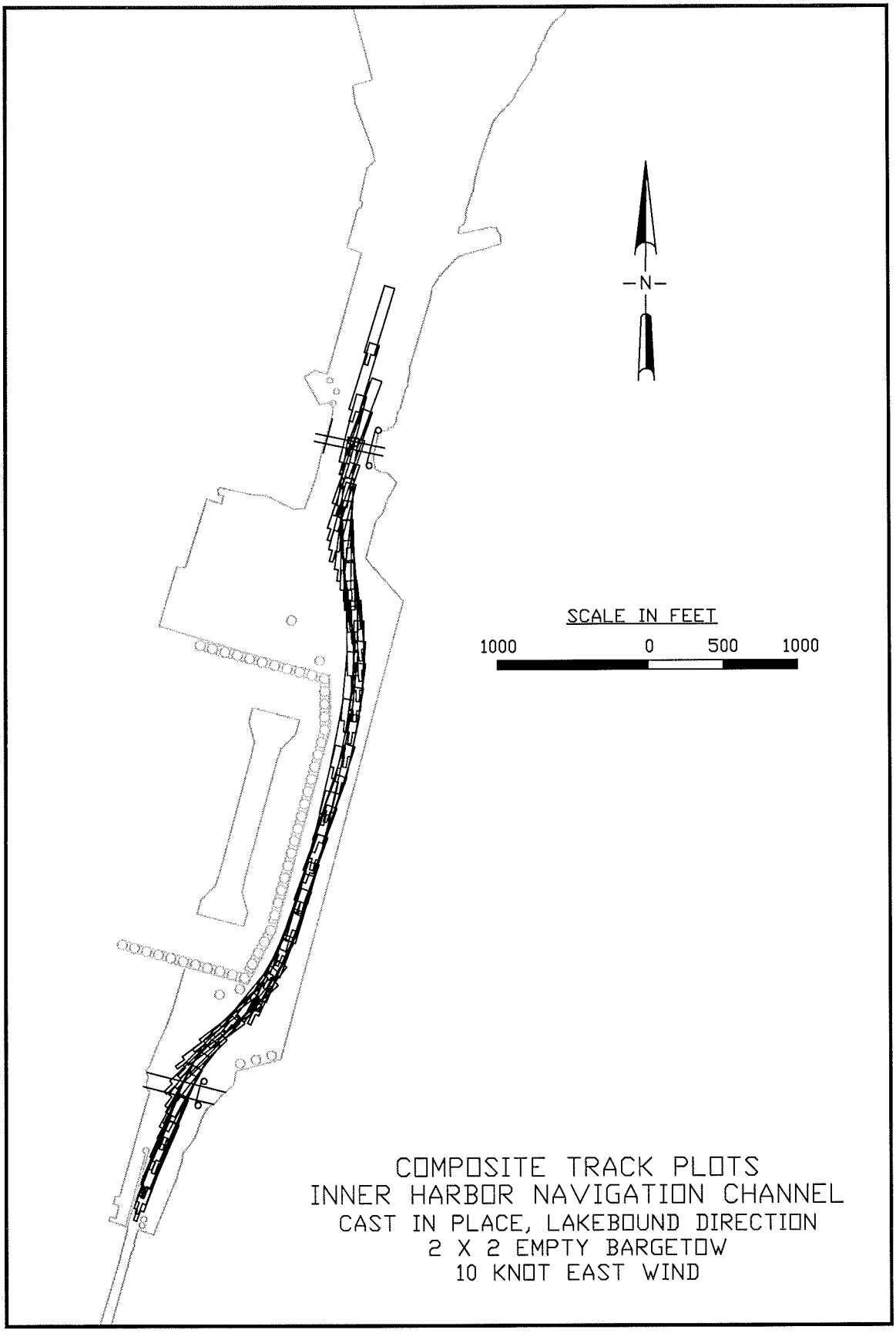
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 1 EMPTY BARGETOW
20 KNOT EAST WIND

Plate 37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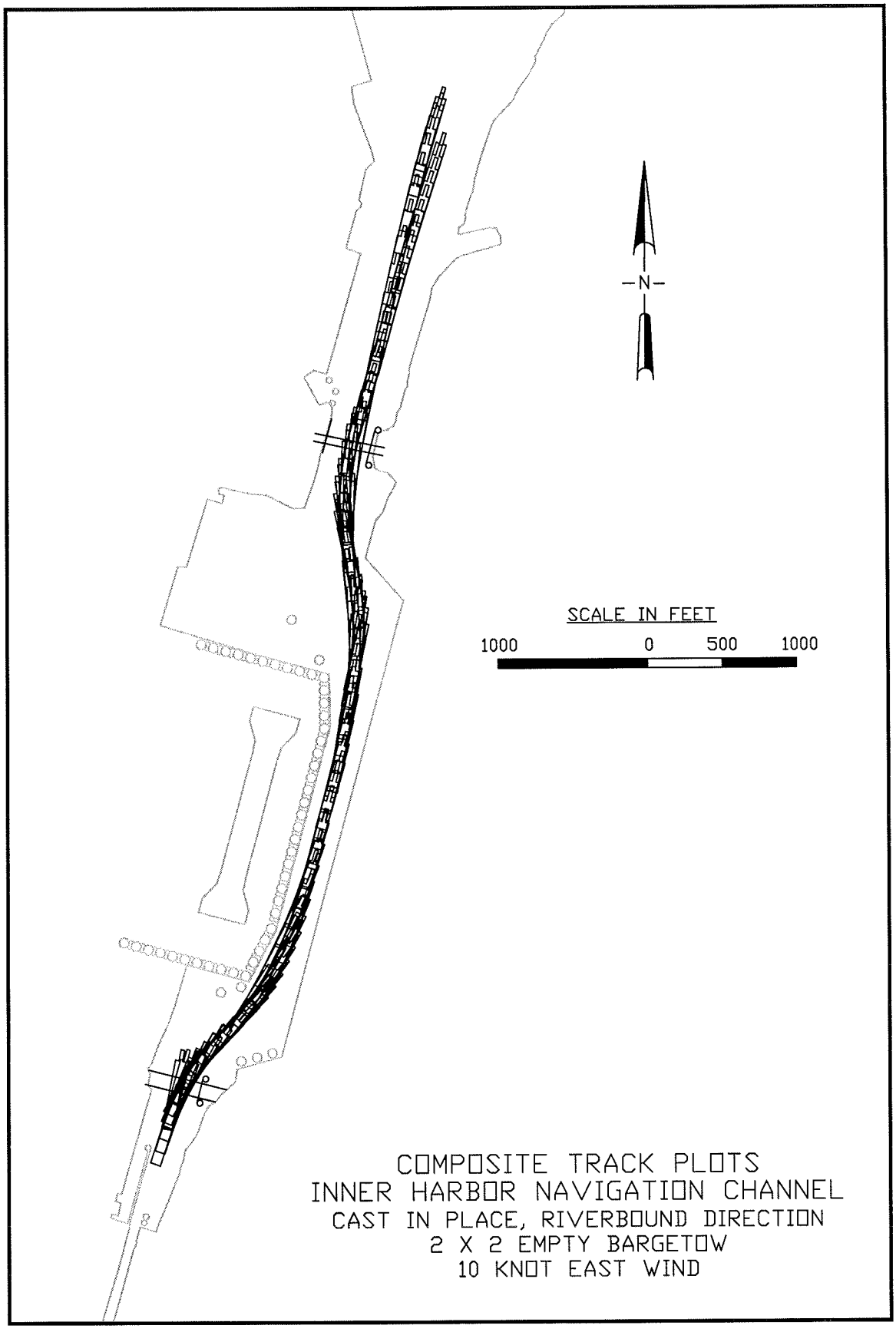
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT EAST WIND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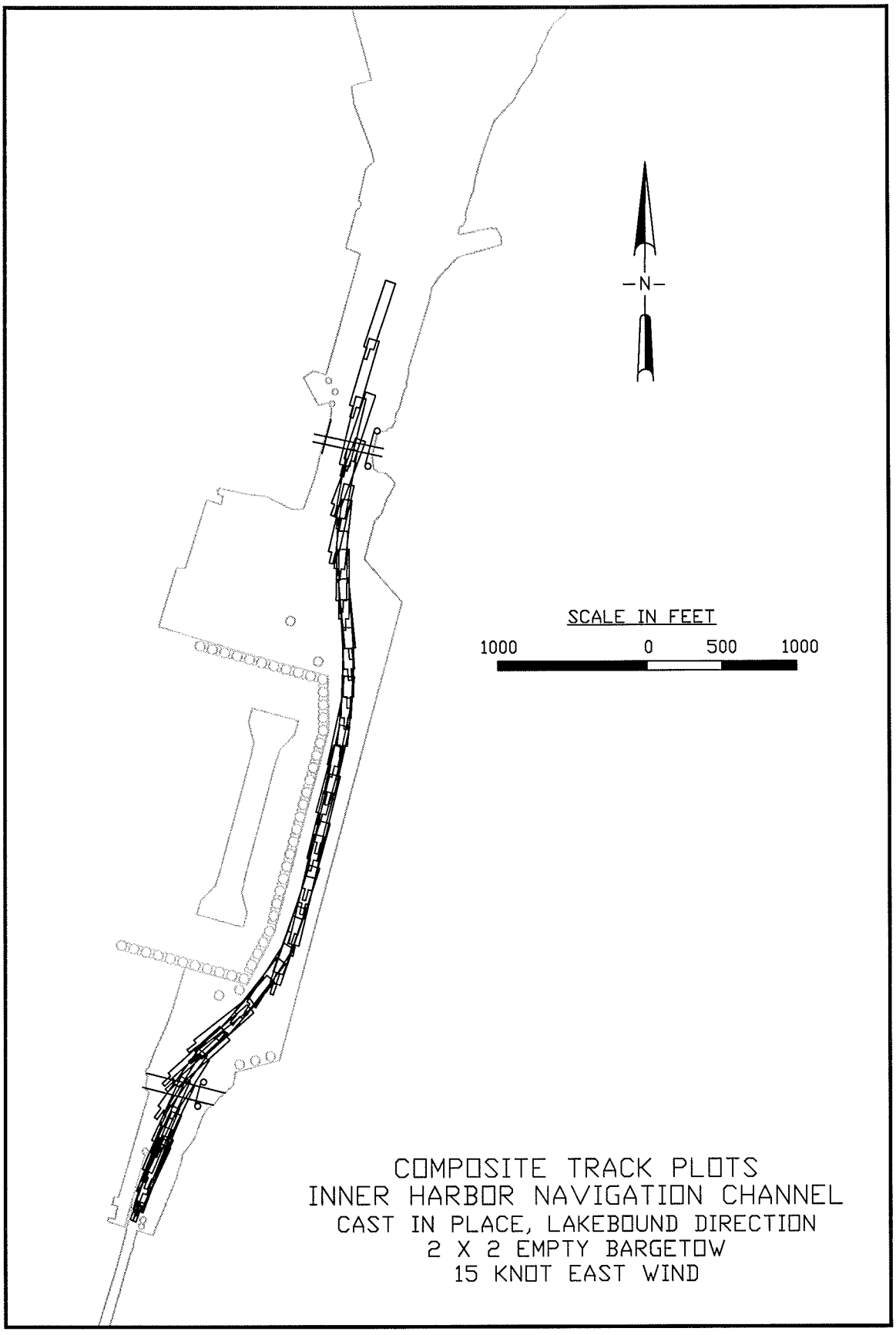
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT EAST WIND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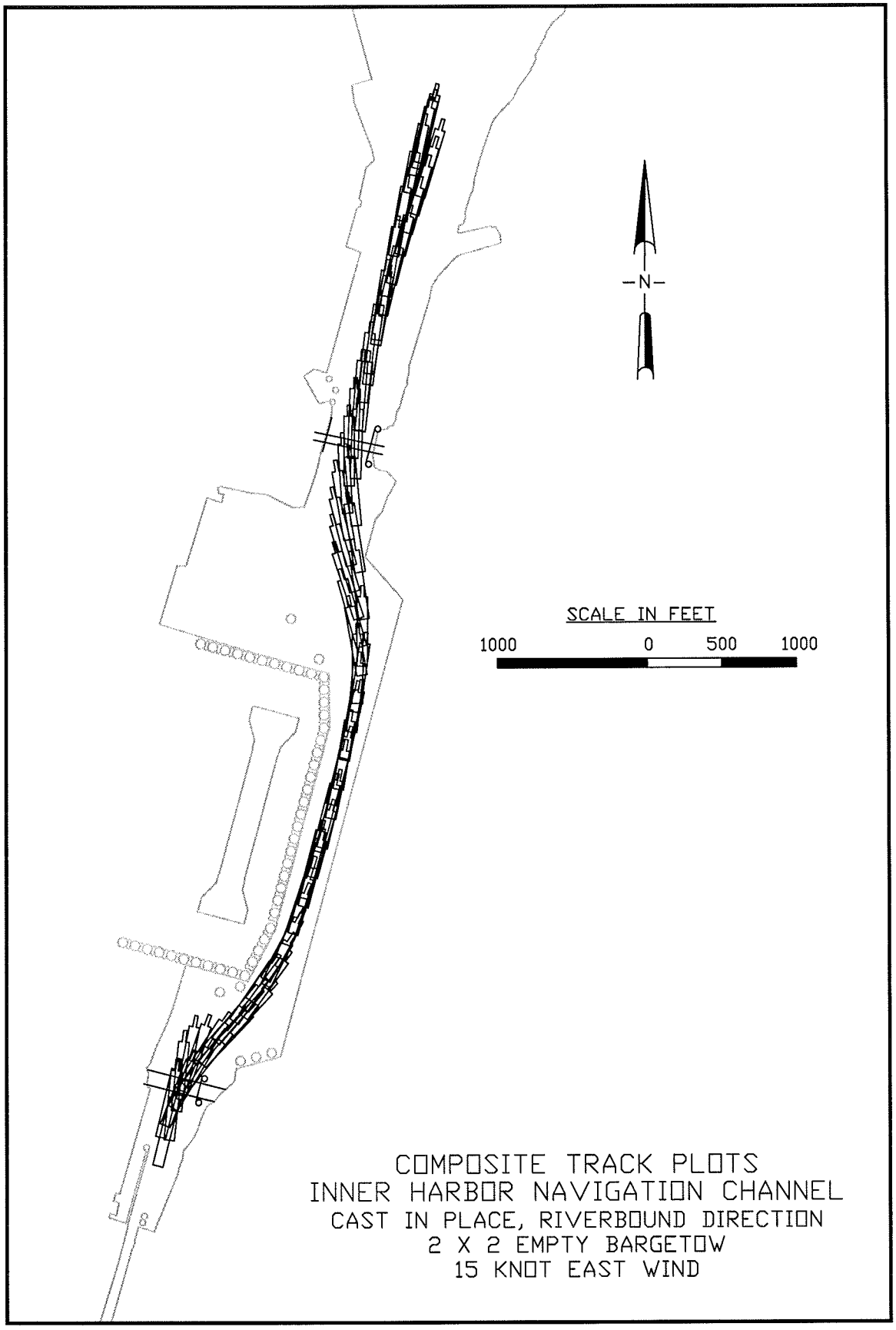
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT EAST WIND

Plate 40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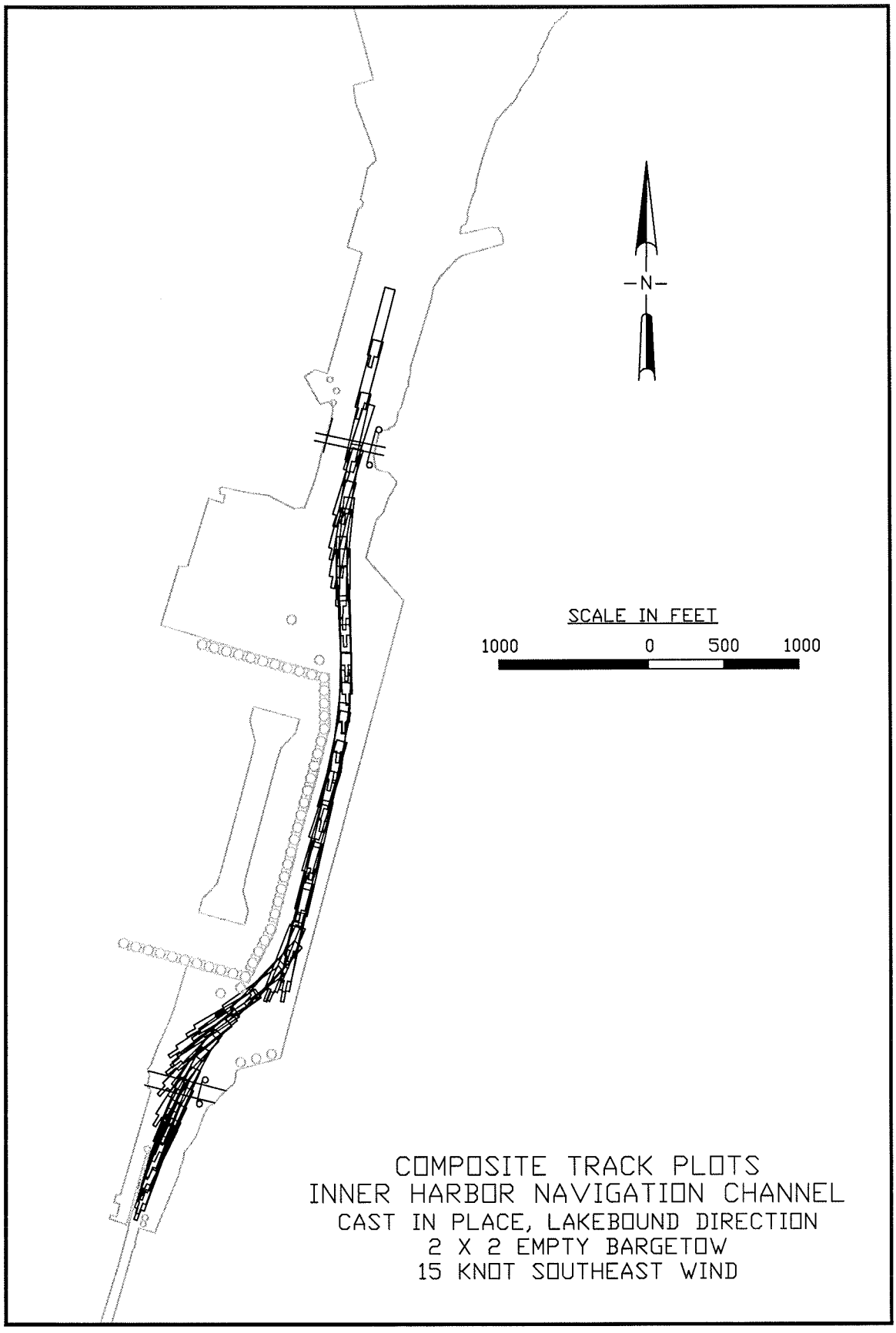
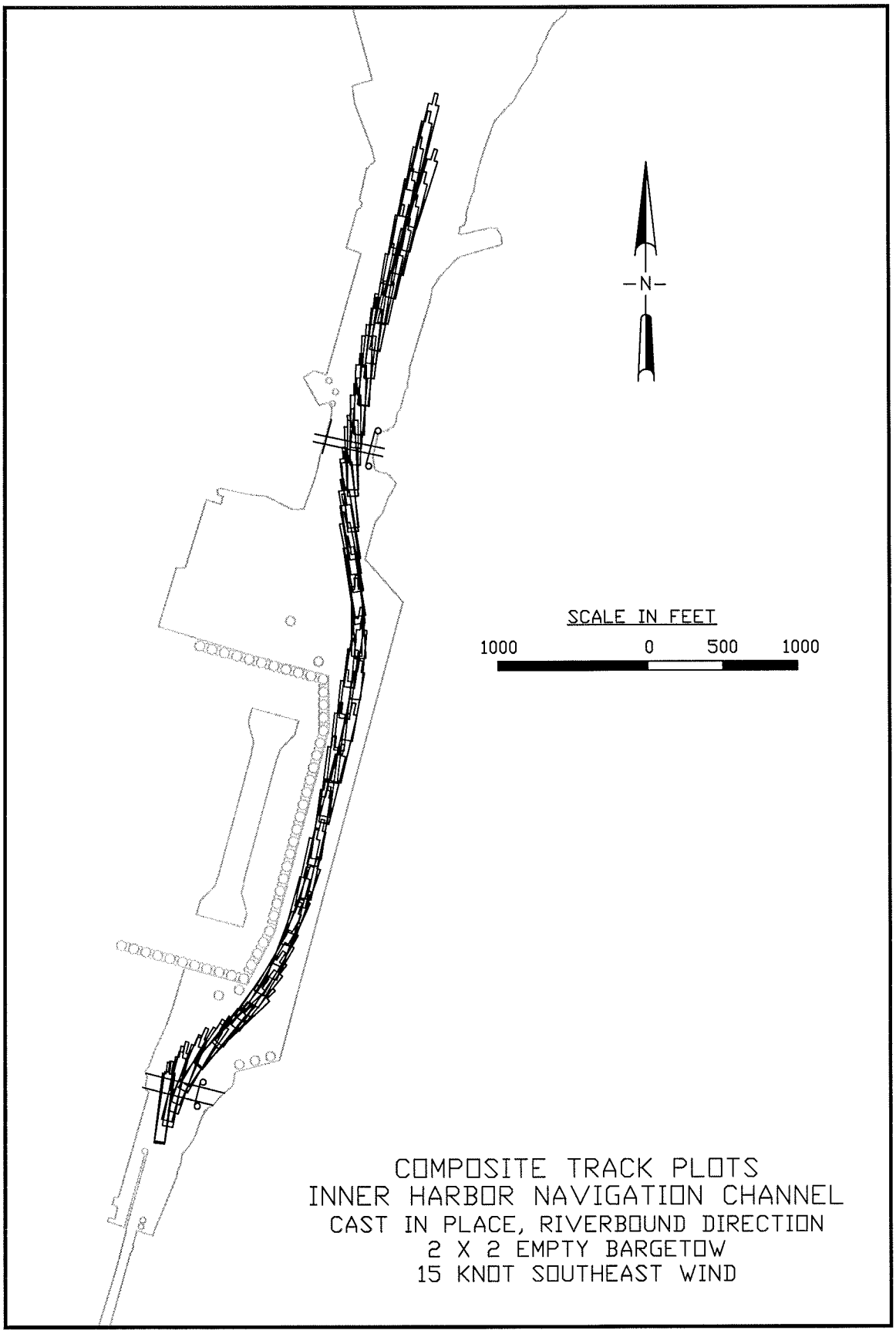
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT EAST WIND

Plate 41



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT SOUTHEAST WIND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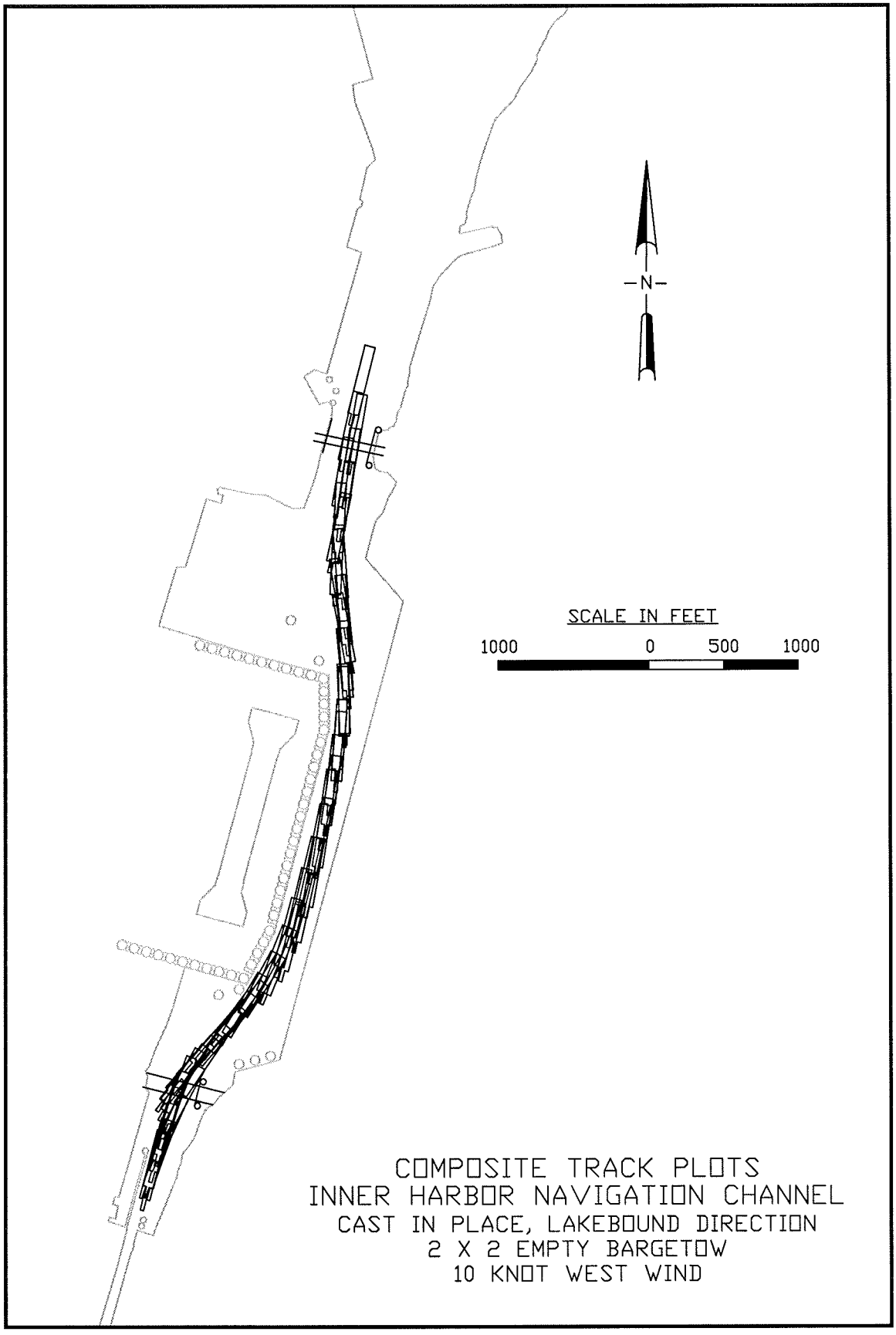
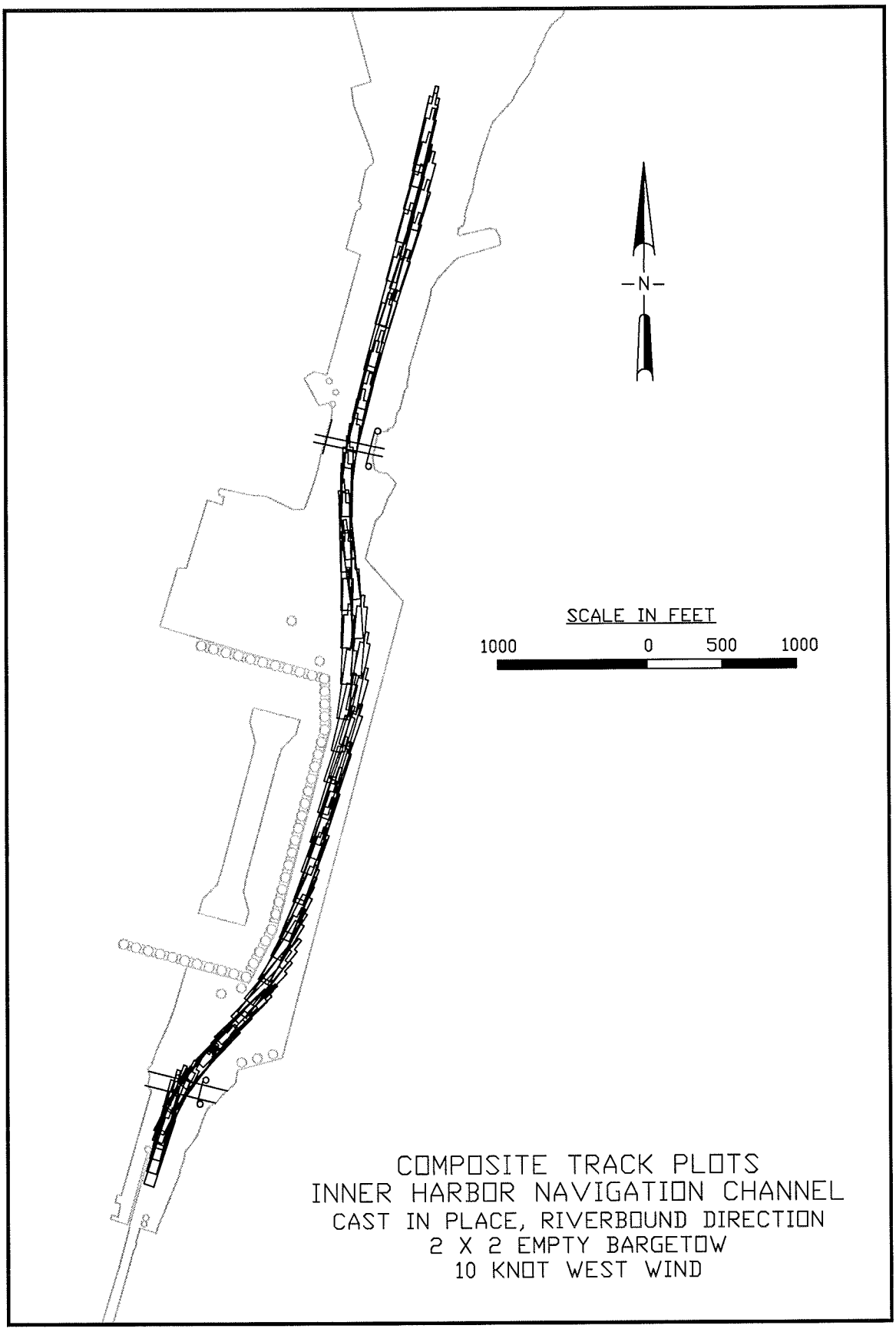
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT SOUTHEAST WIND

Plate 43



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT WEST WIND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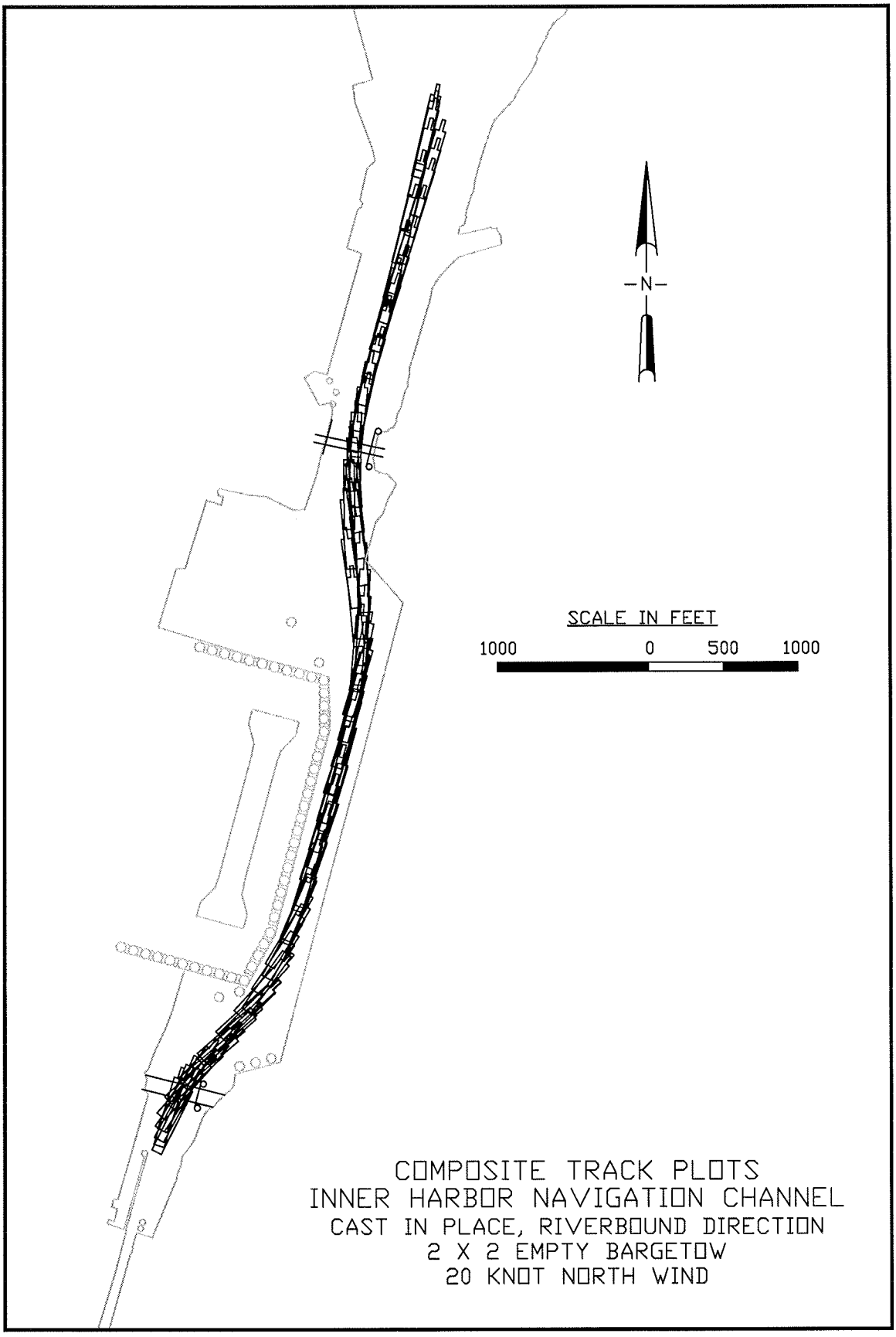
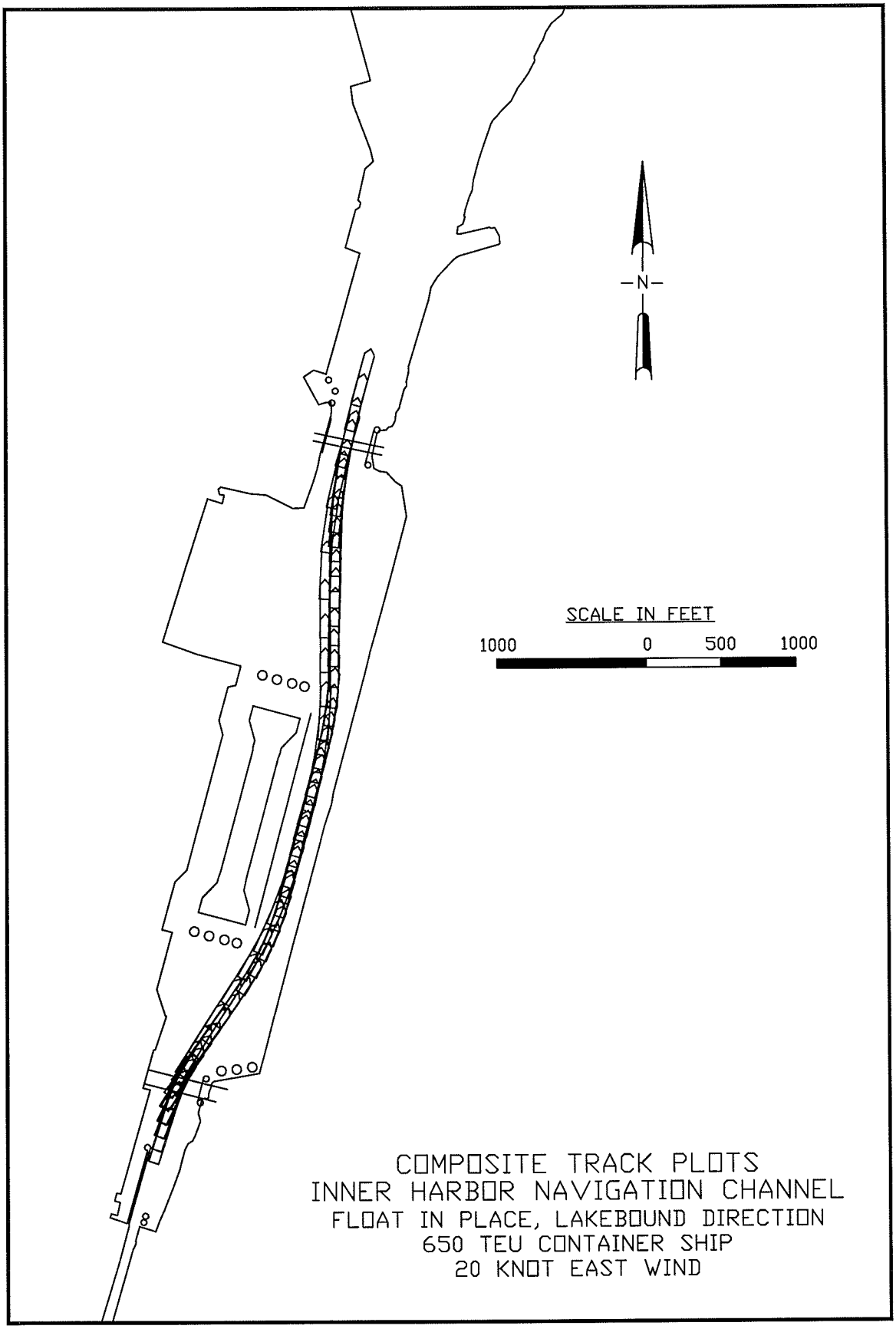
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT WEST WIND



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
CAST IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
20 KNOT NORTH WIND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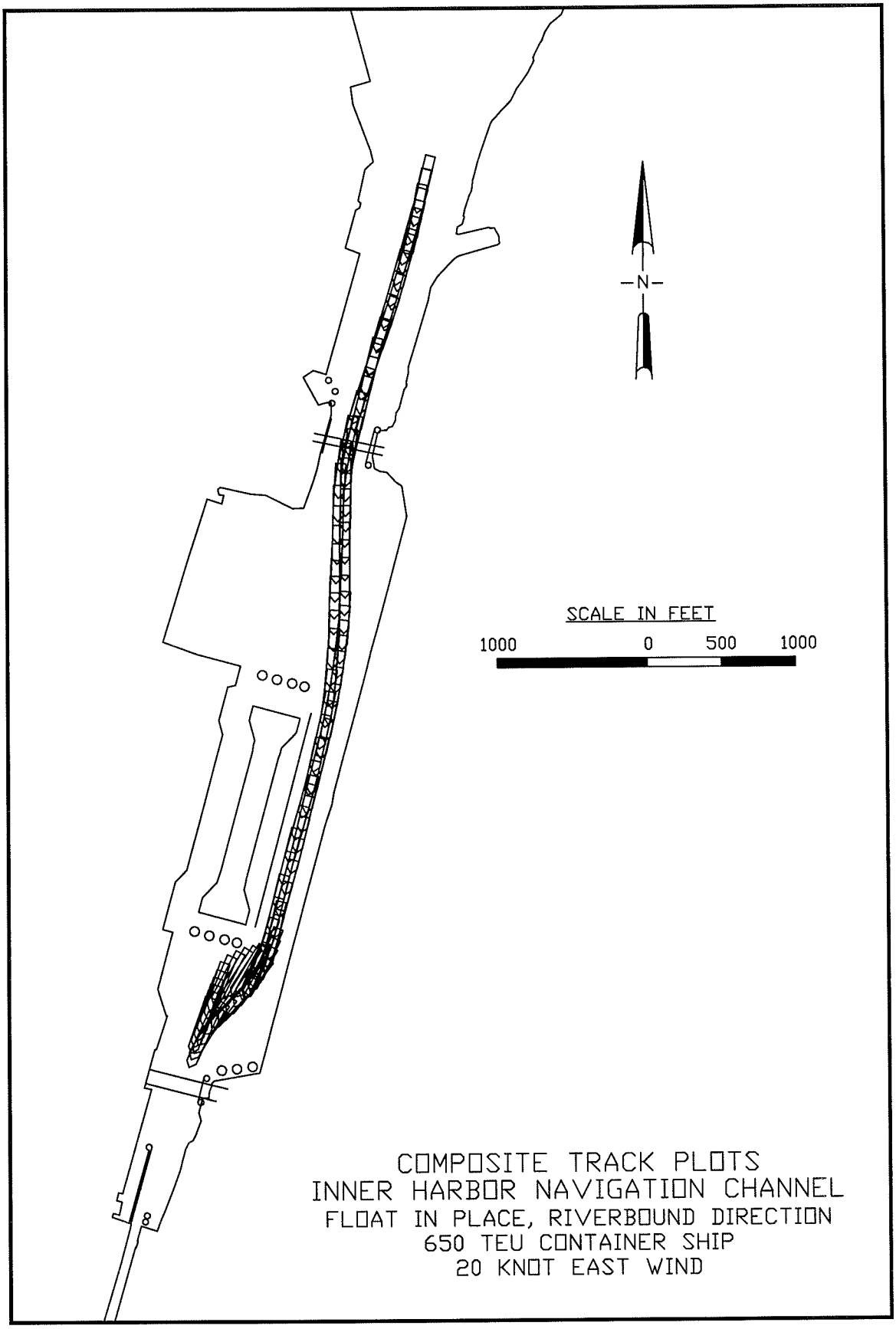
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 47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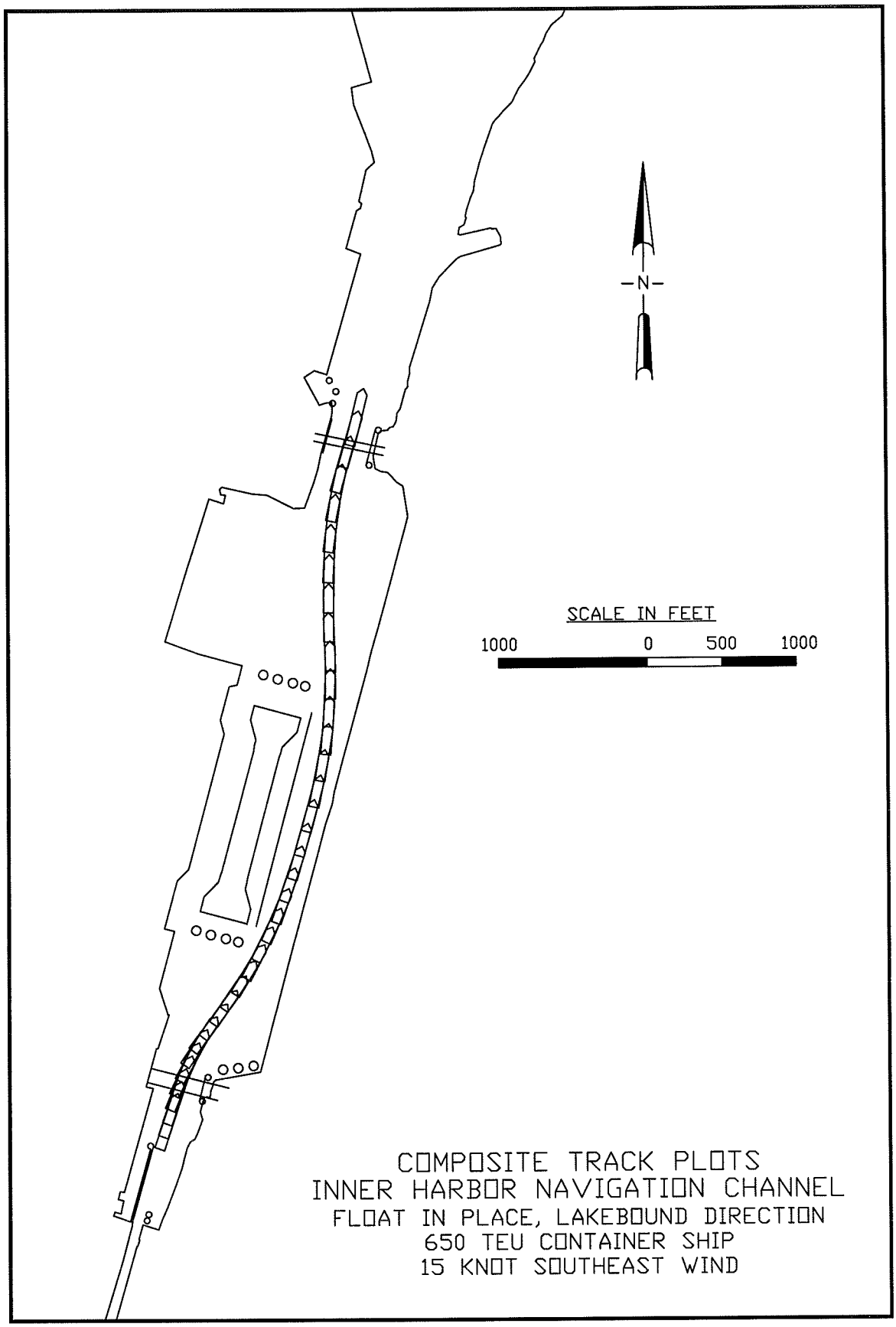
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 48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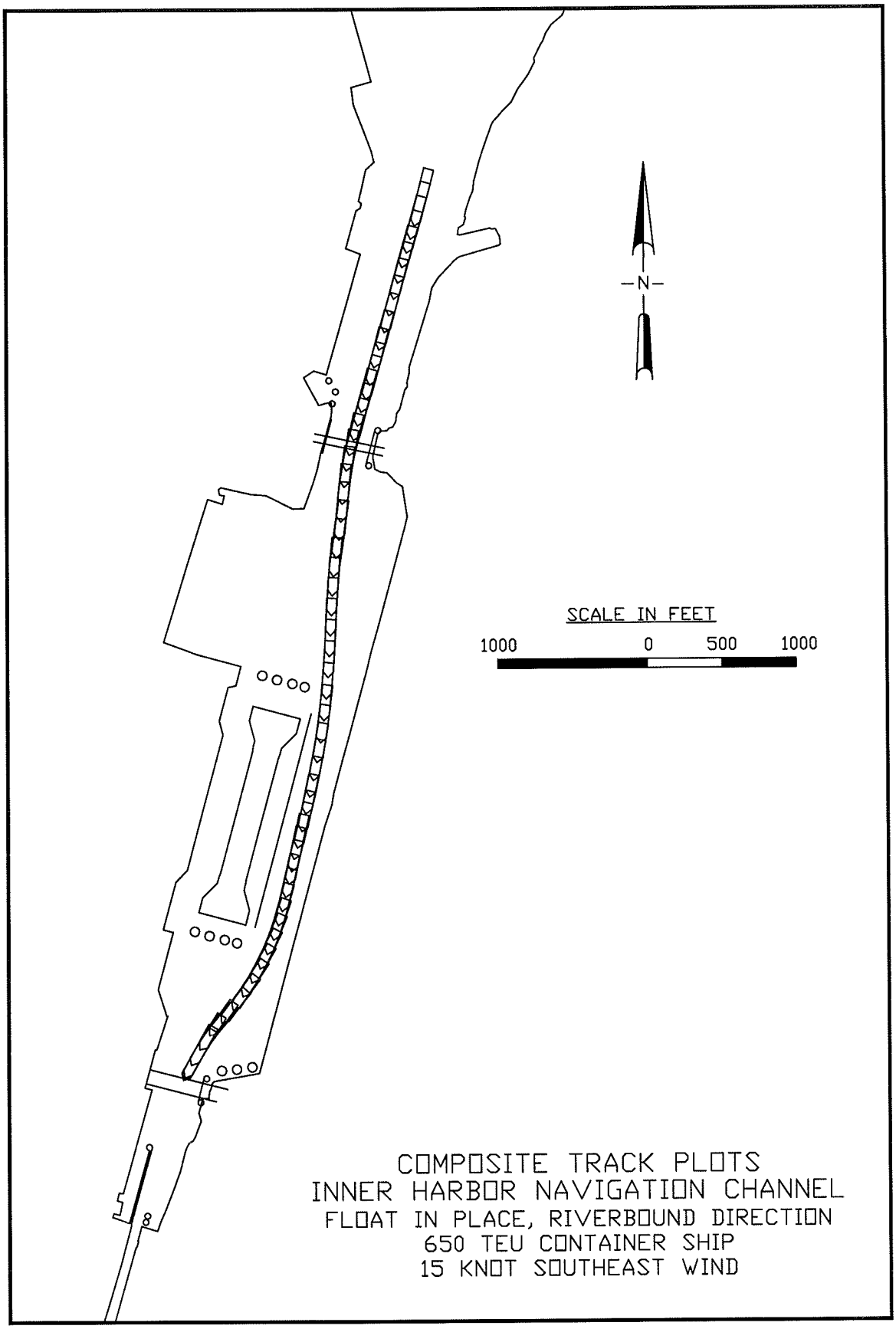
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
650 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 49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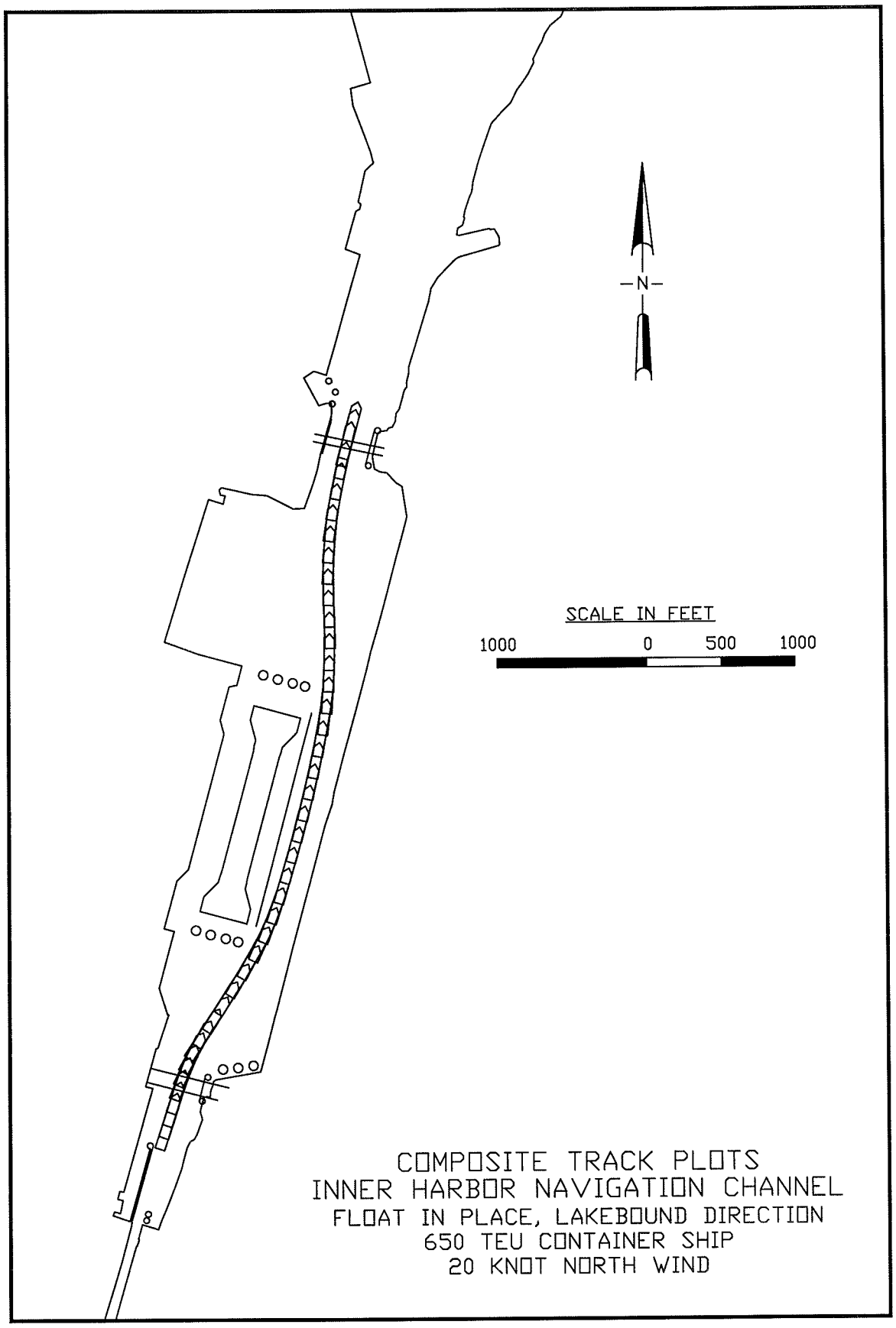
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
650 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 50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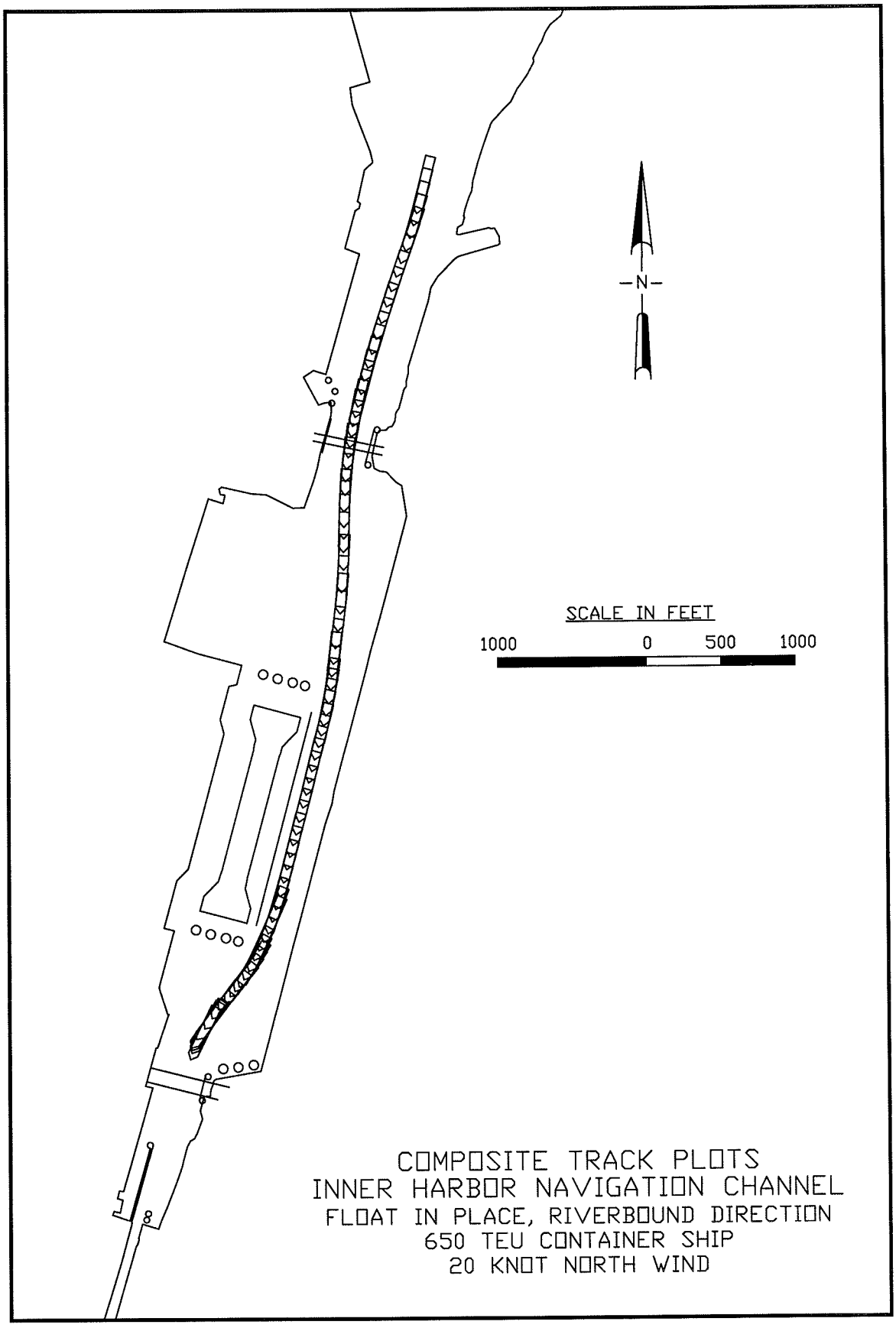
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 51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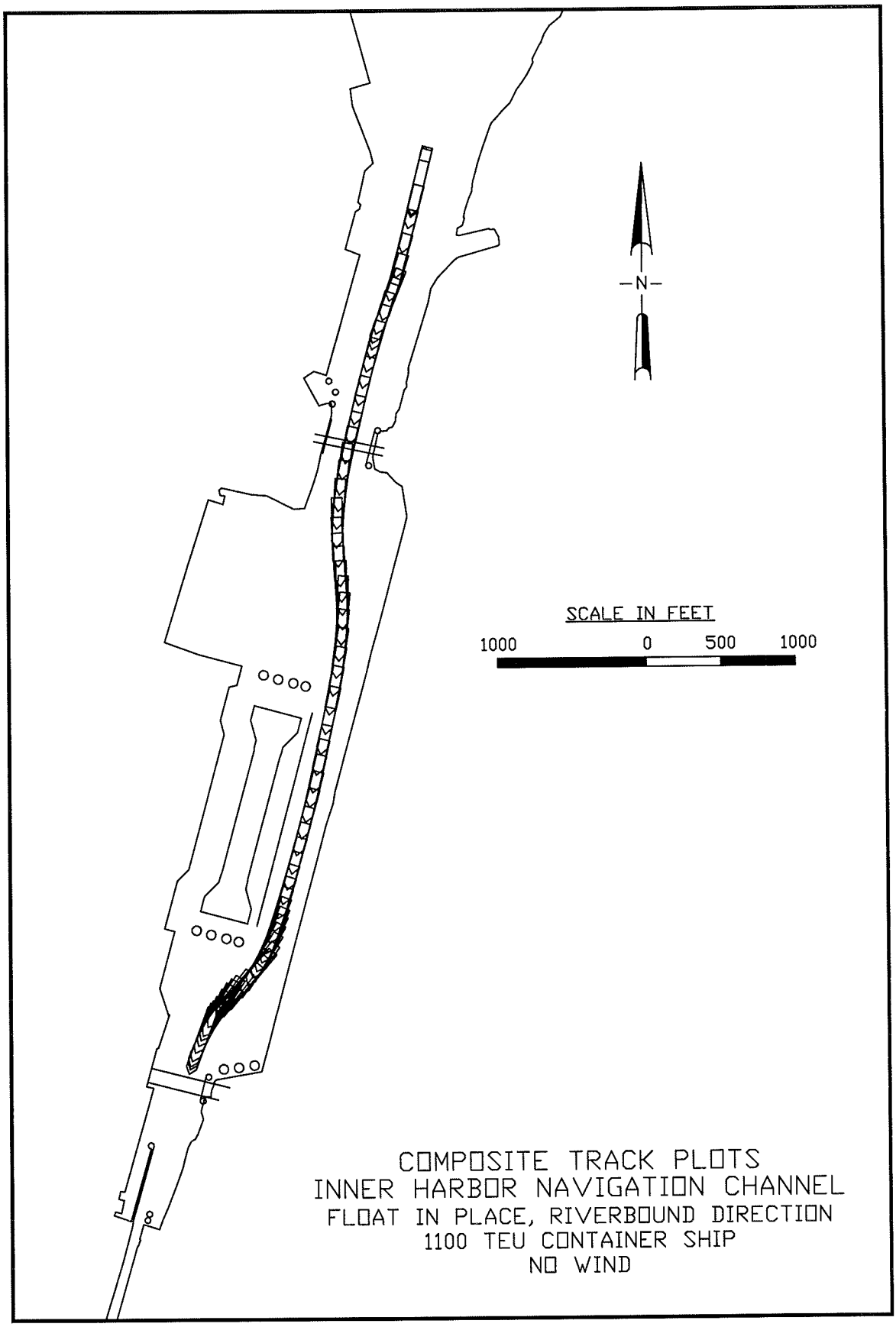
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
650 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 52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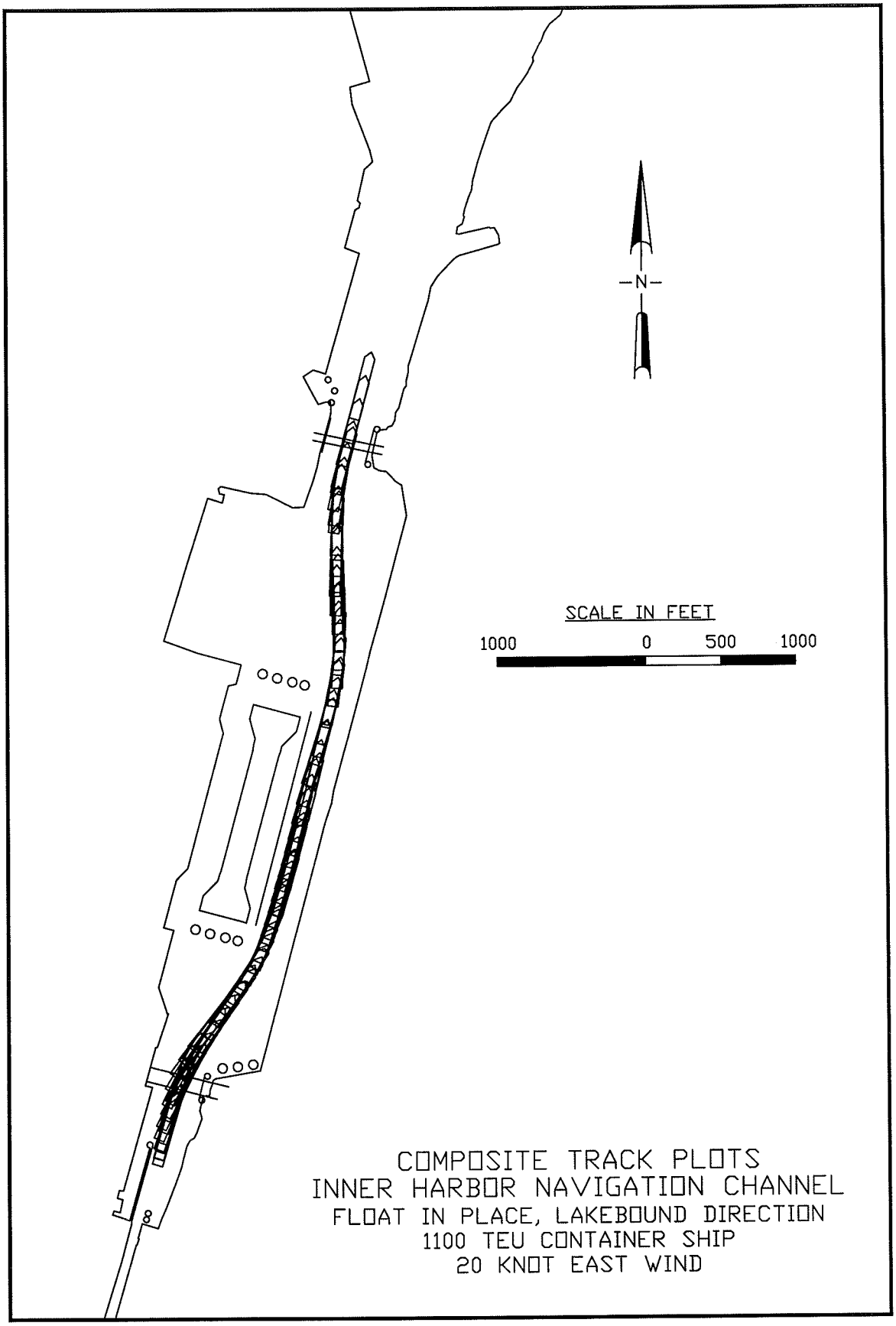
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
NO WIND

Plate 53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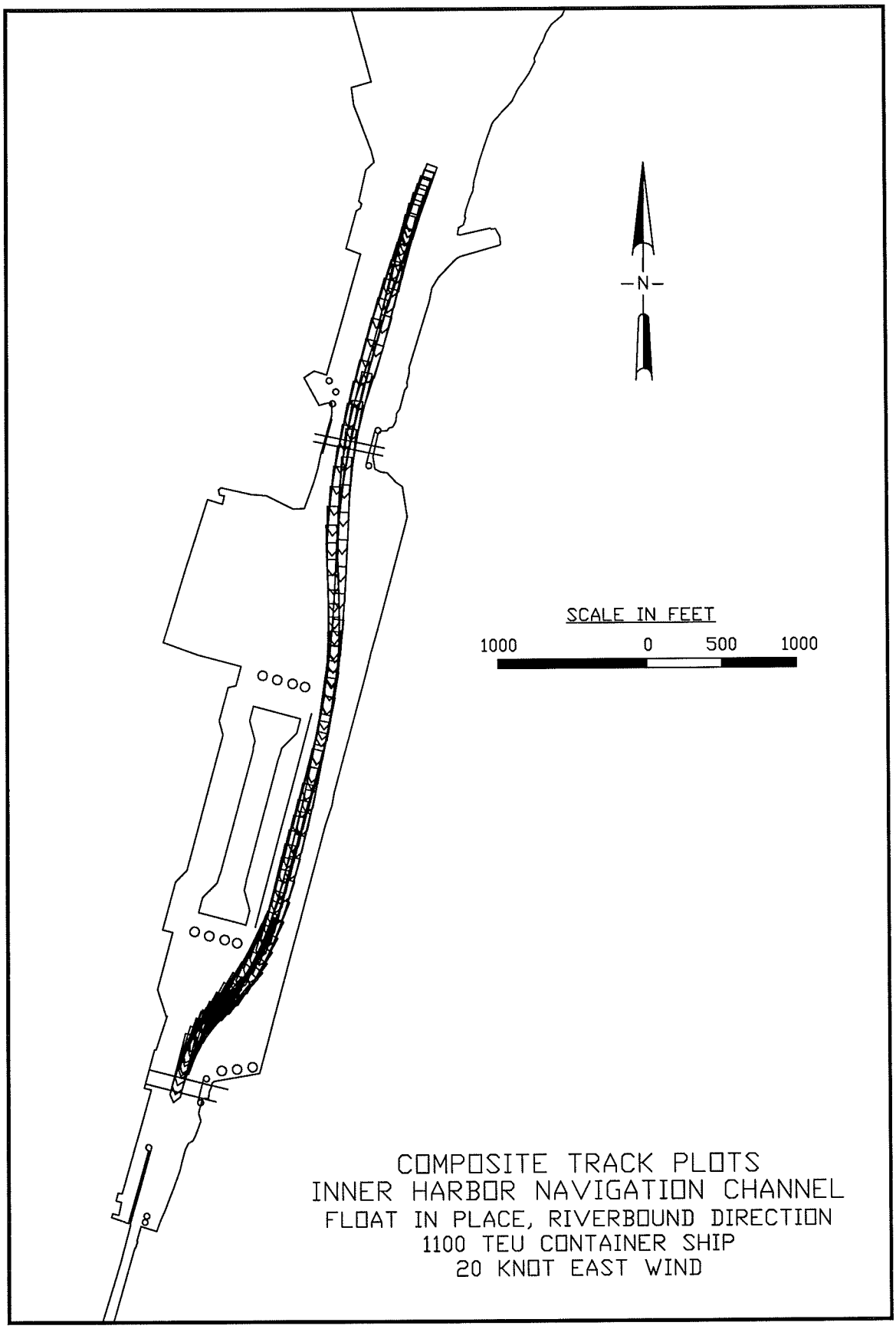
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT EAST WIND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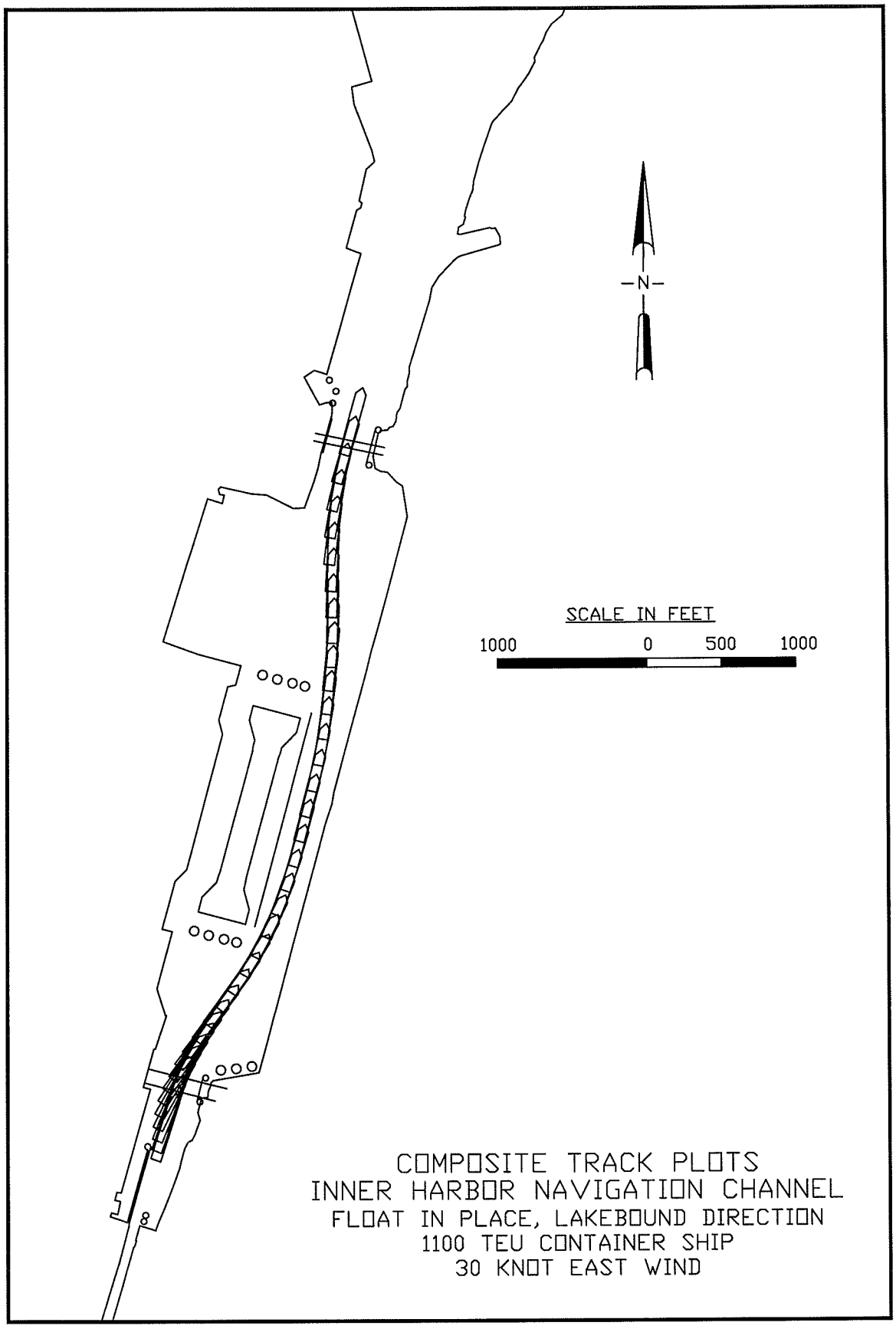
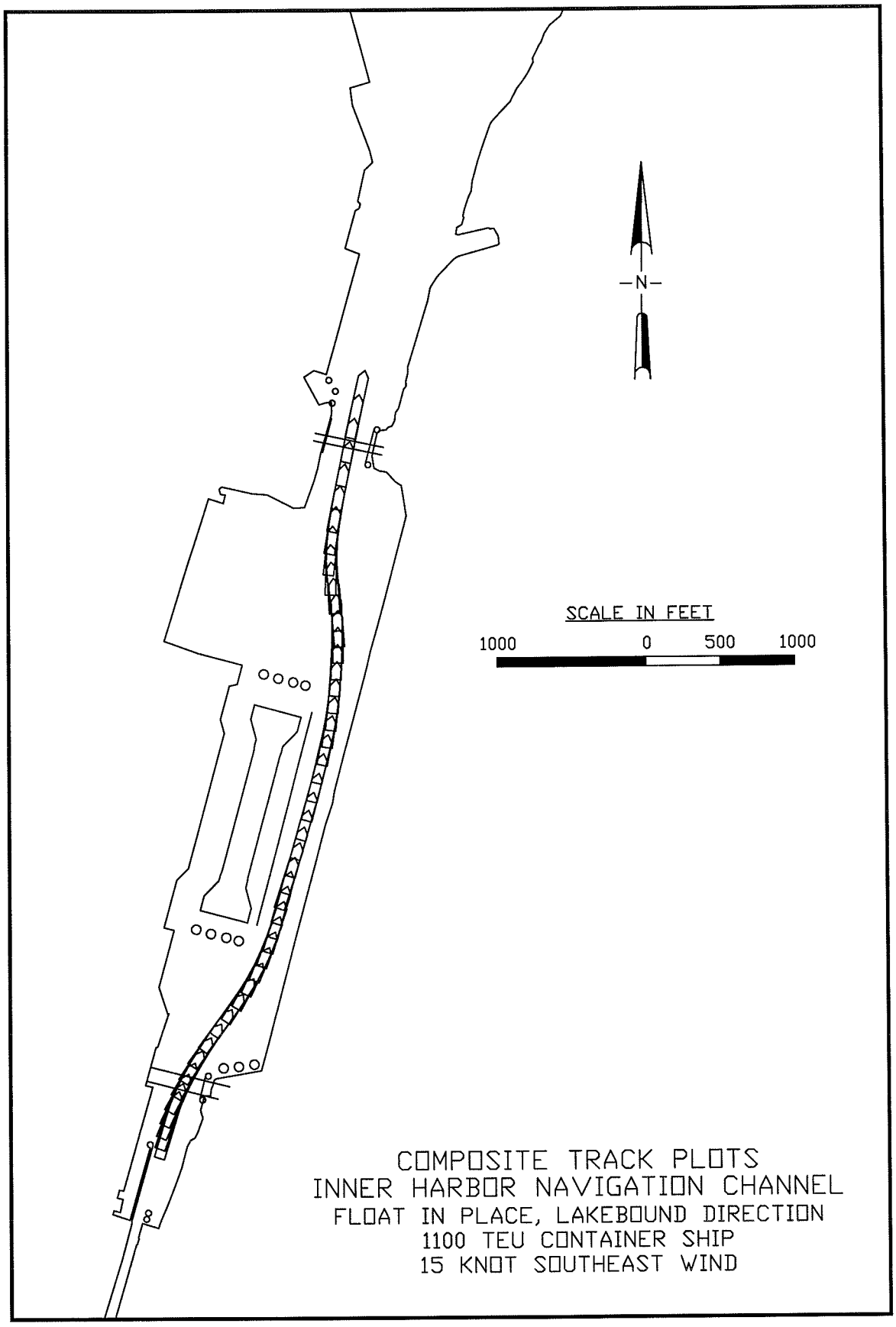
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT EAST WIND

Plate 55



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
30 KNOT EAST WIND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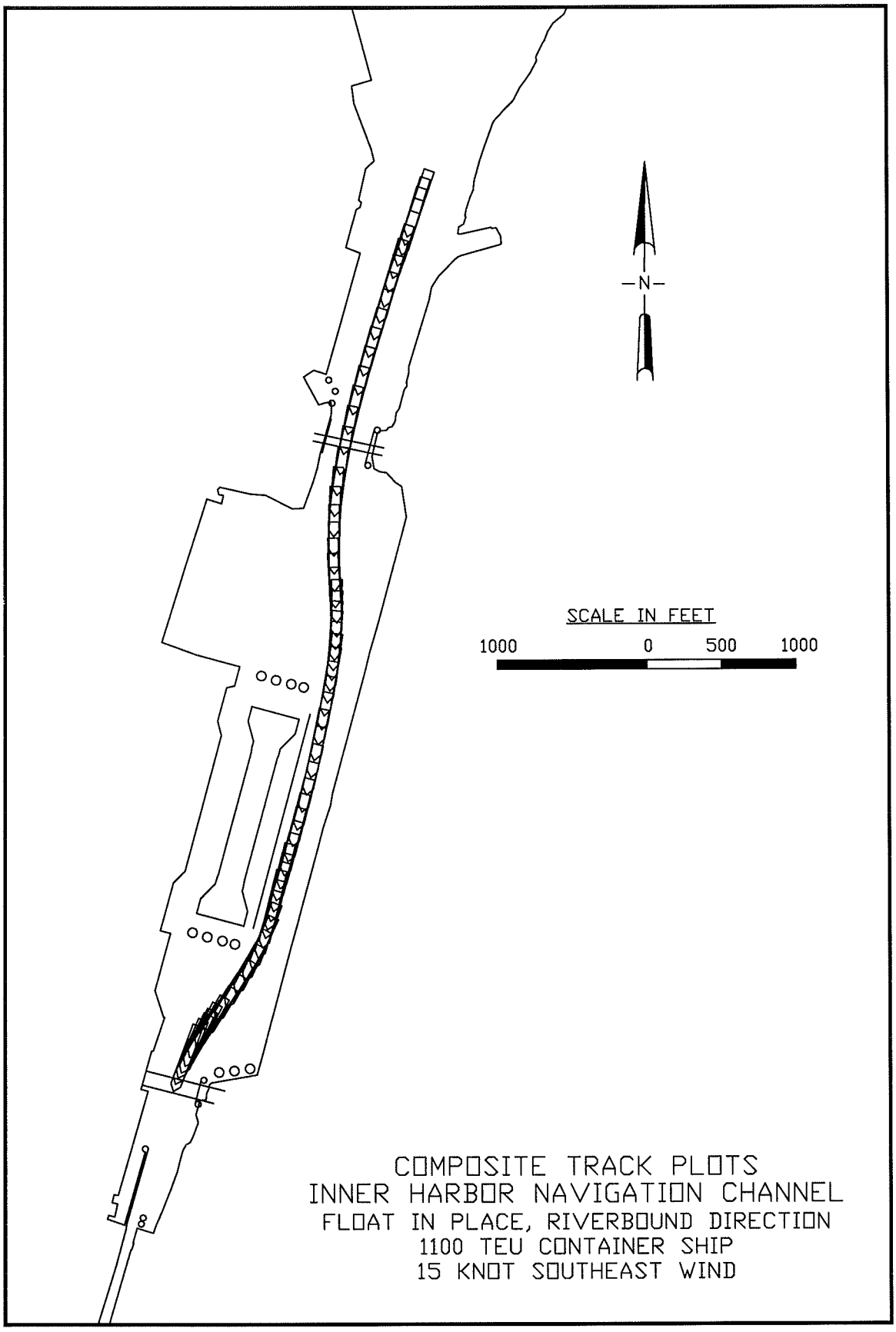
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 57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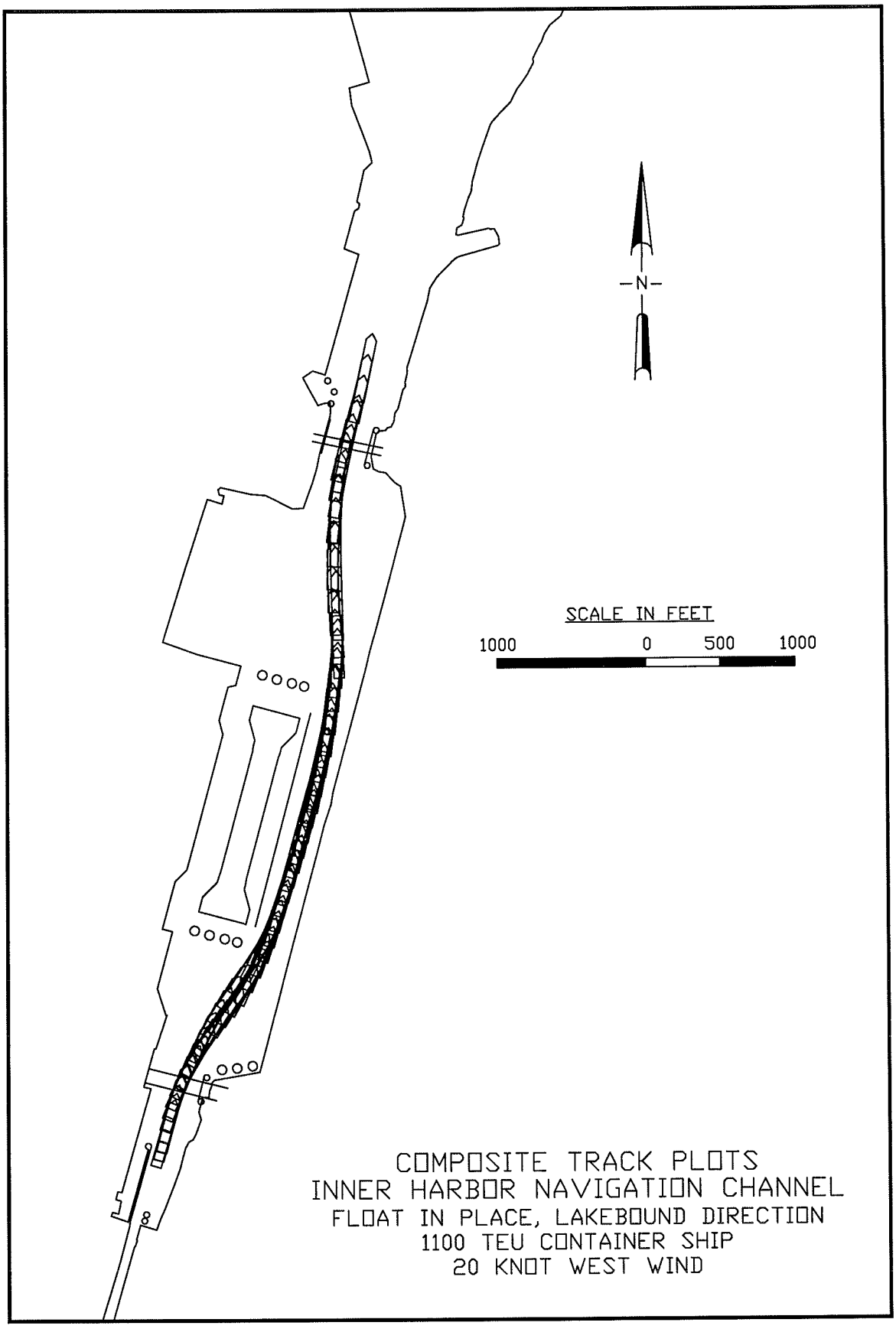
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
15 KNOT SOUTHEAST WIND

Plate 58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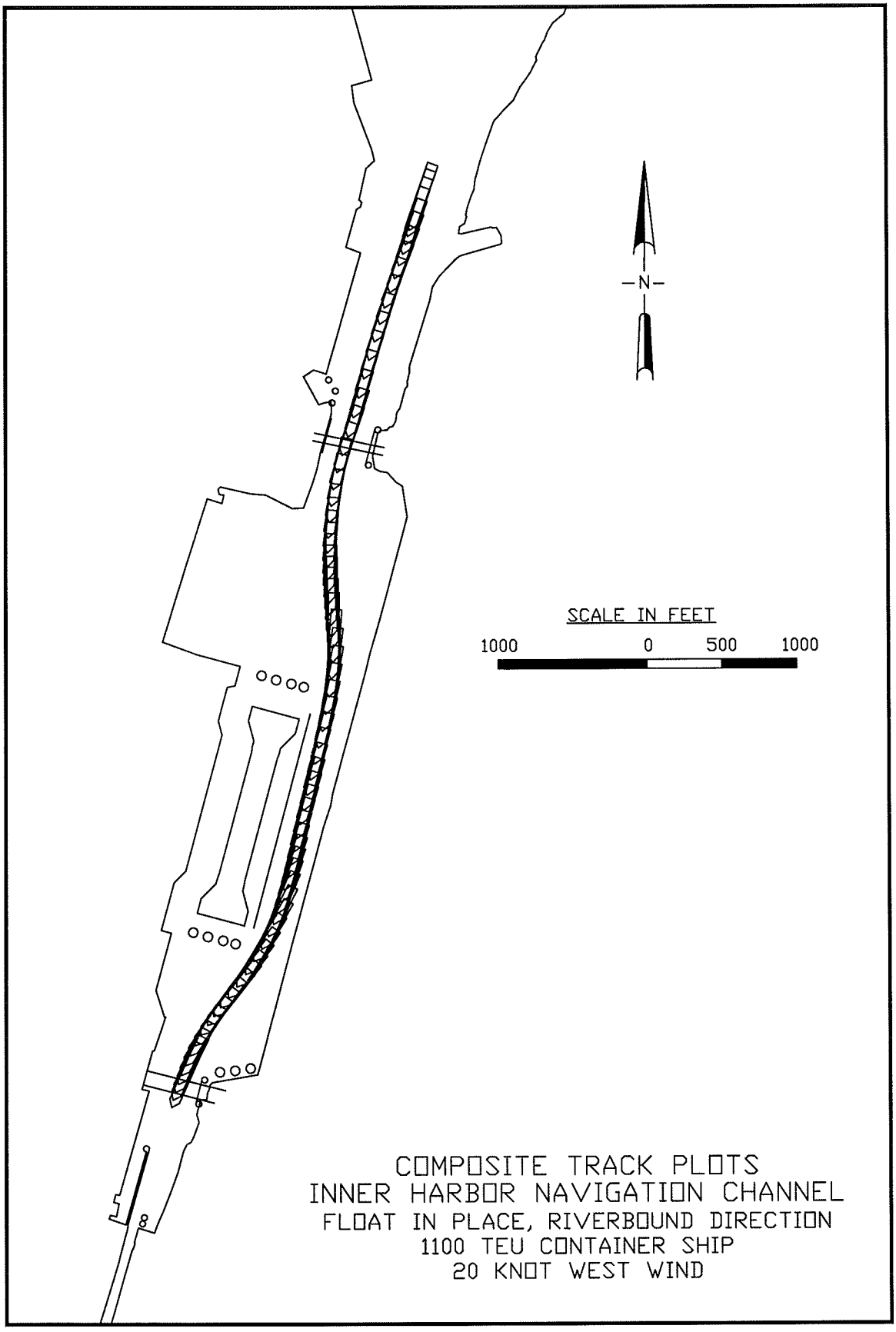
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT WEST WIND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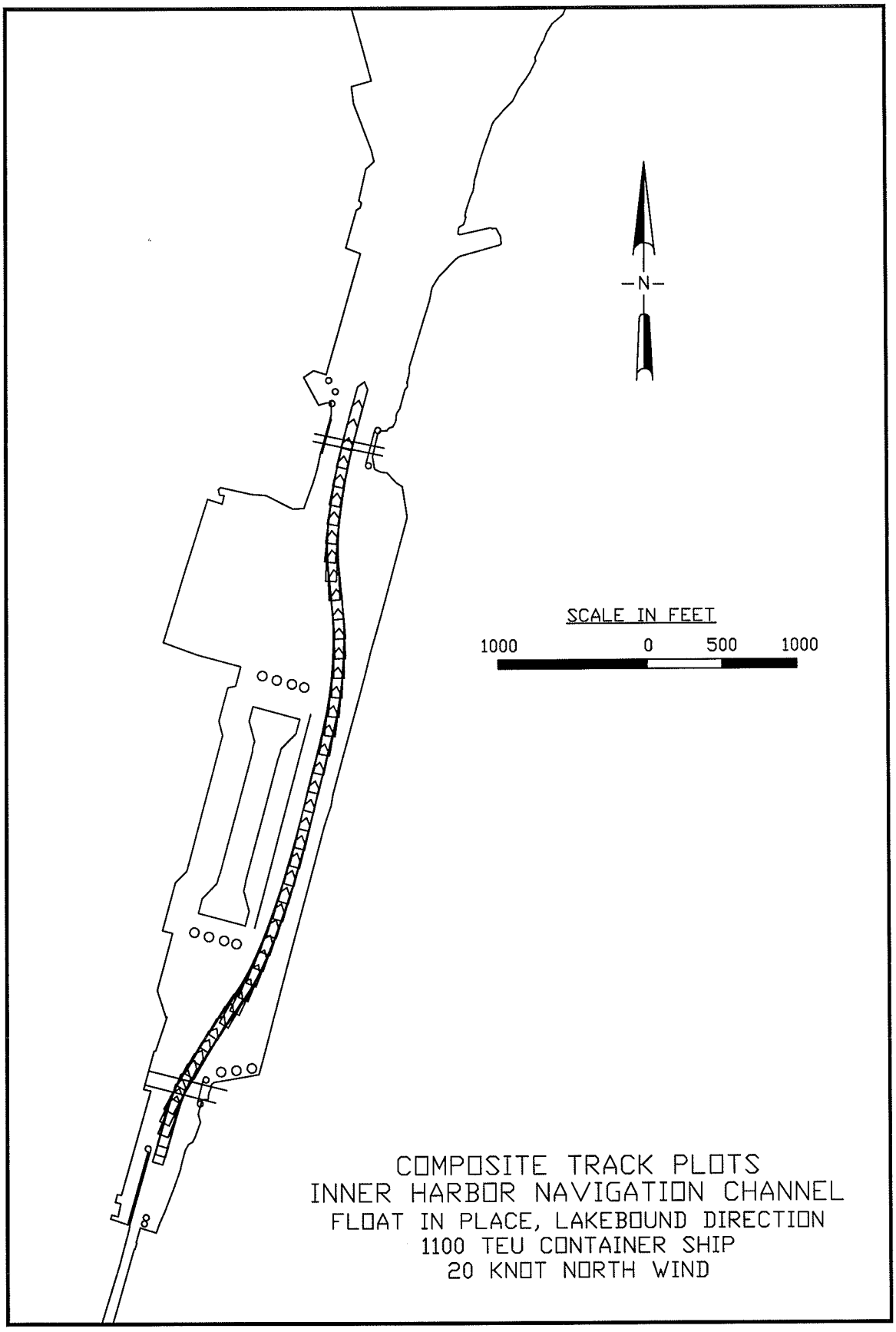
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT WEST WIND

Plate 60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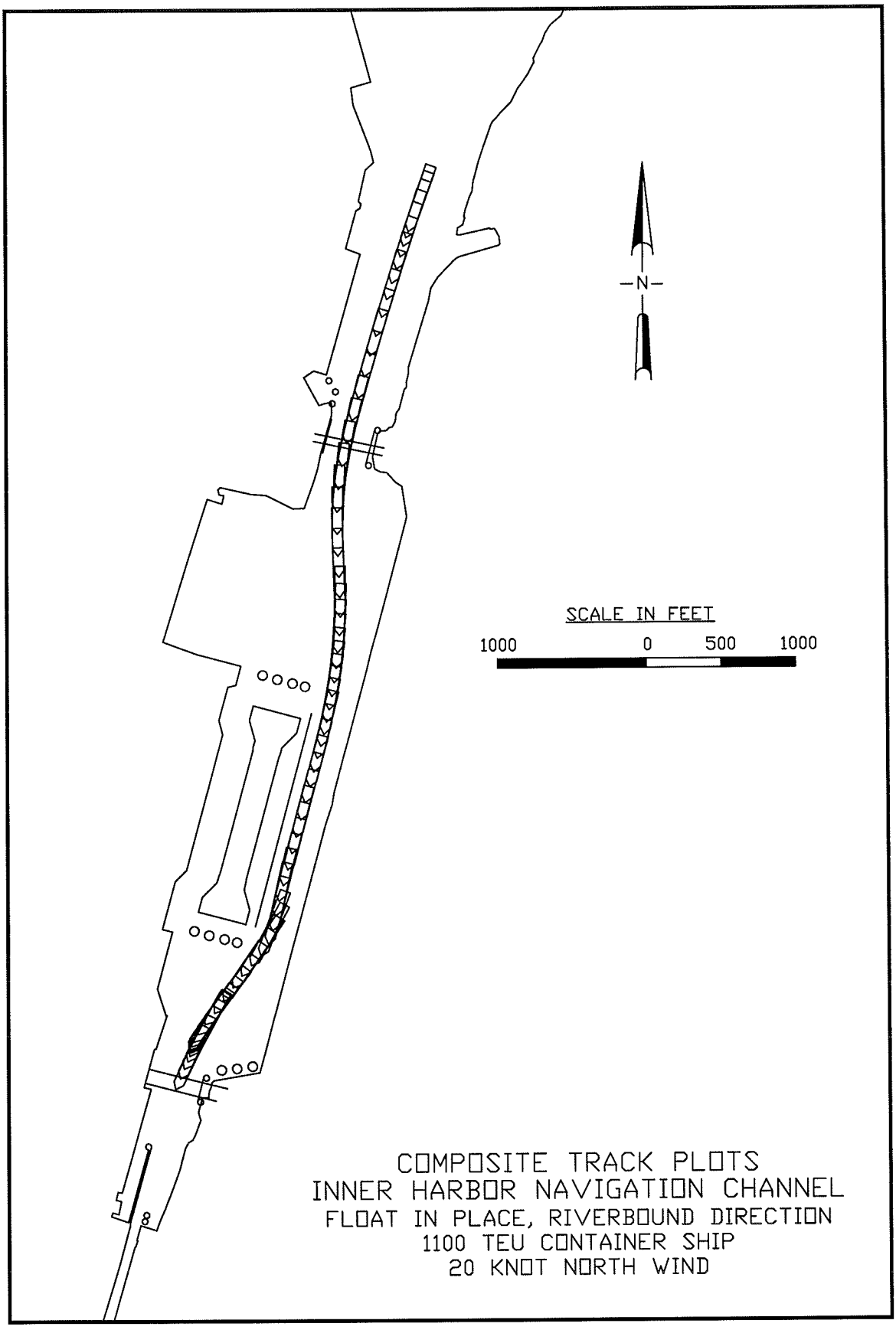
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 61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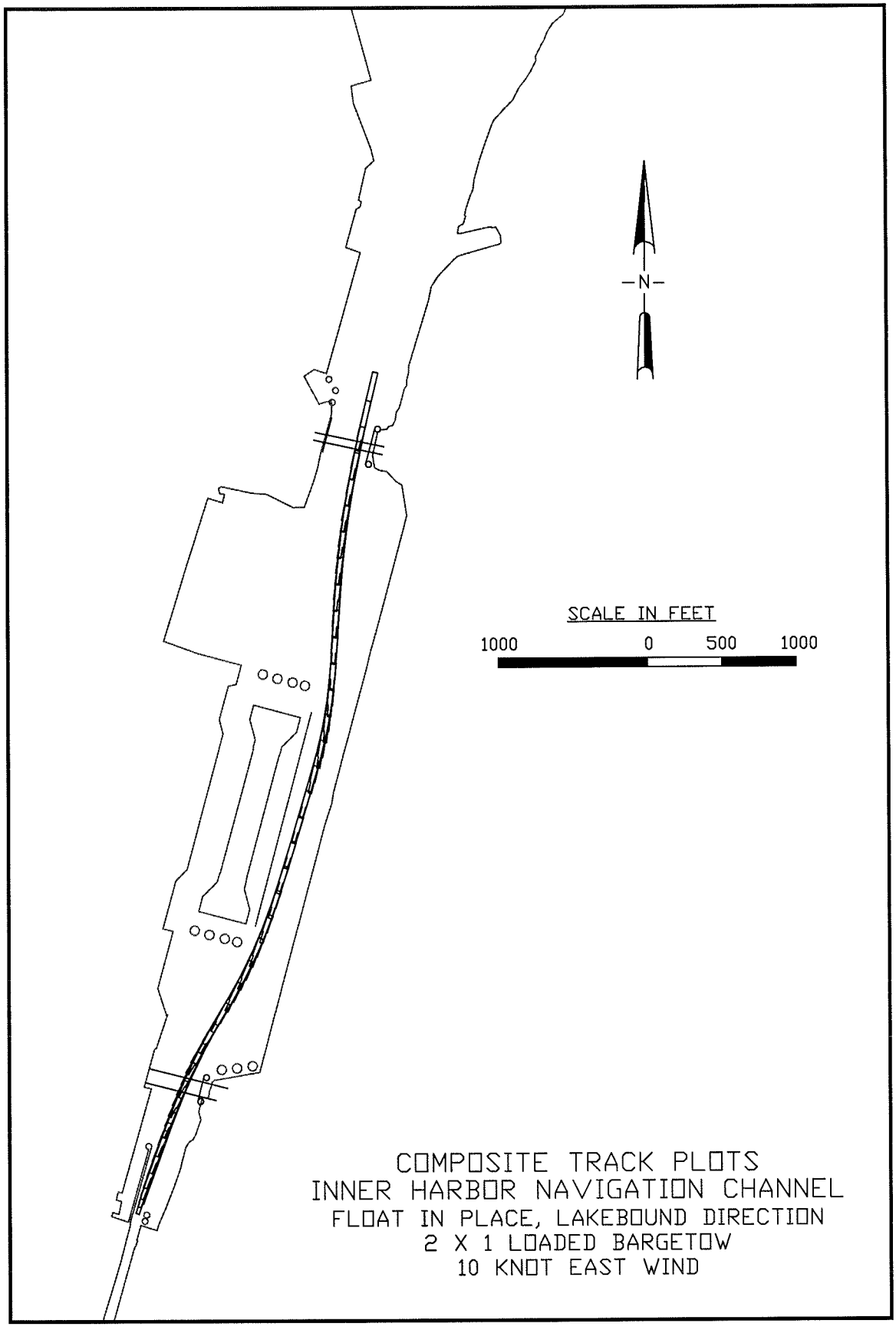
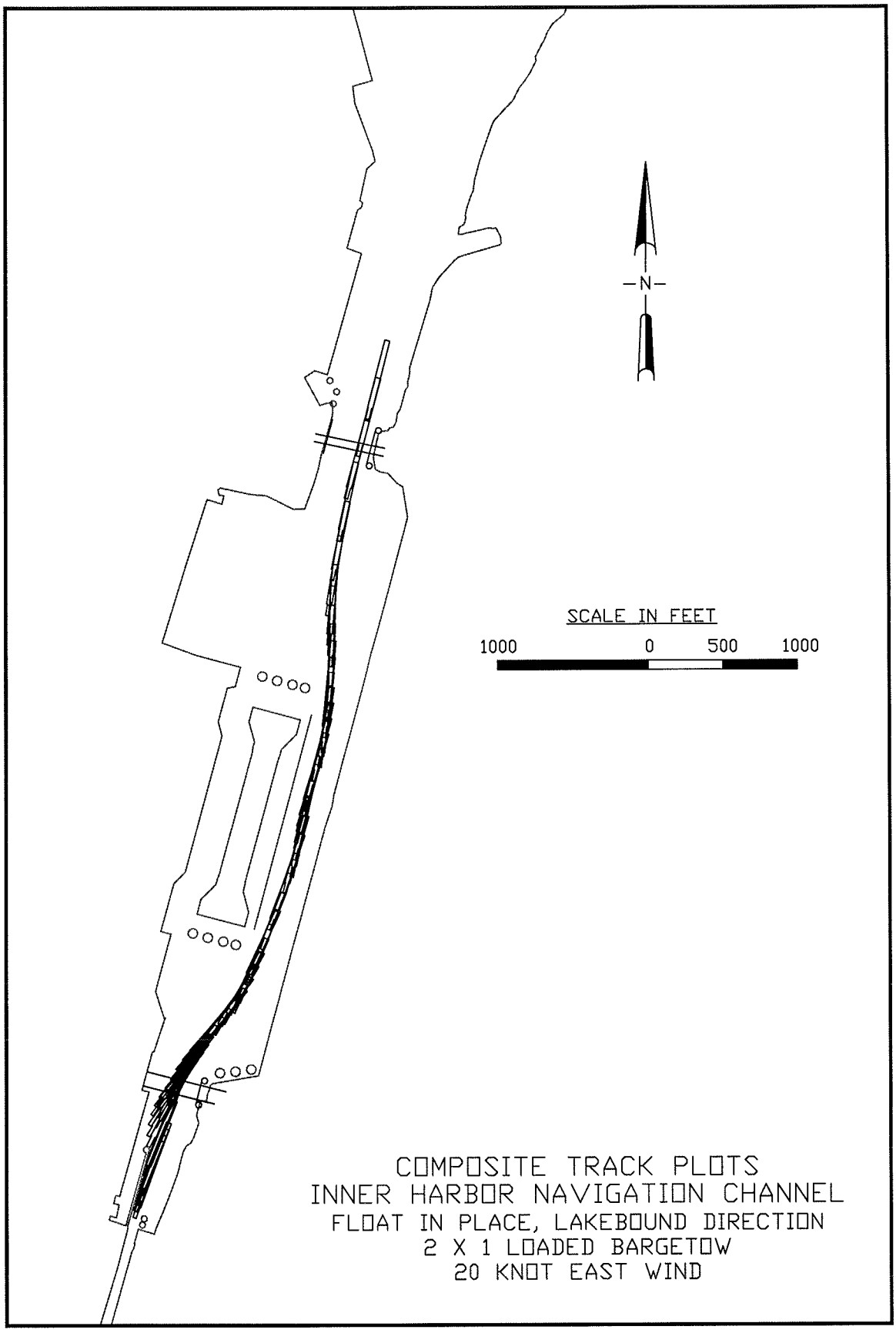
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
1100 TEU CONTAINER SHIP
20 KNOT NORTH WIND

Plate 62



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 1 LOADED BARGETOW
10 KNOT EAST WIND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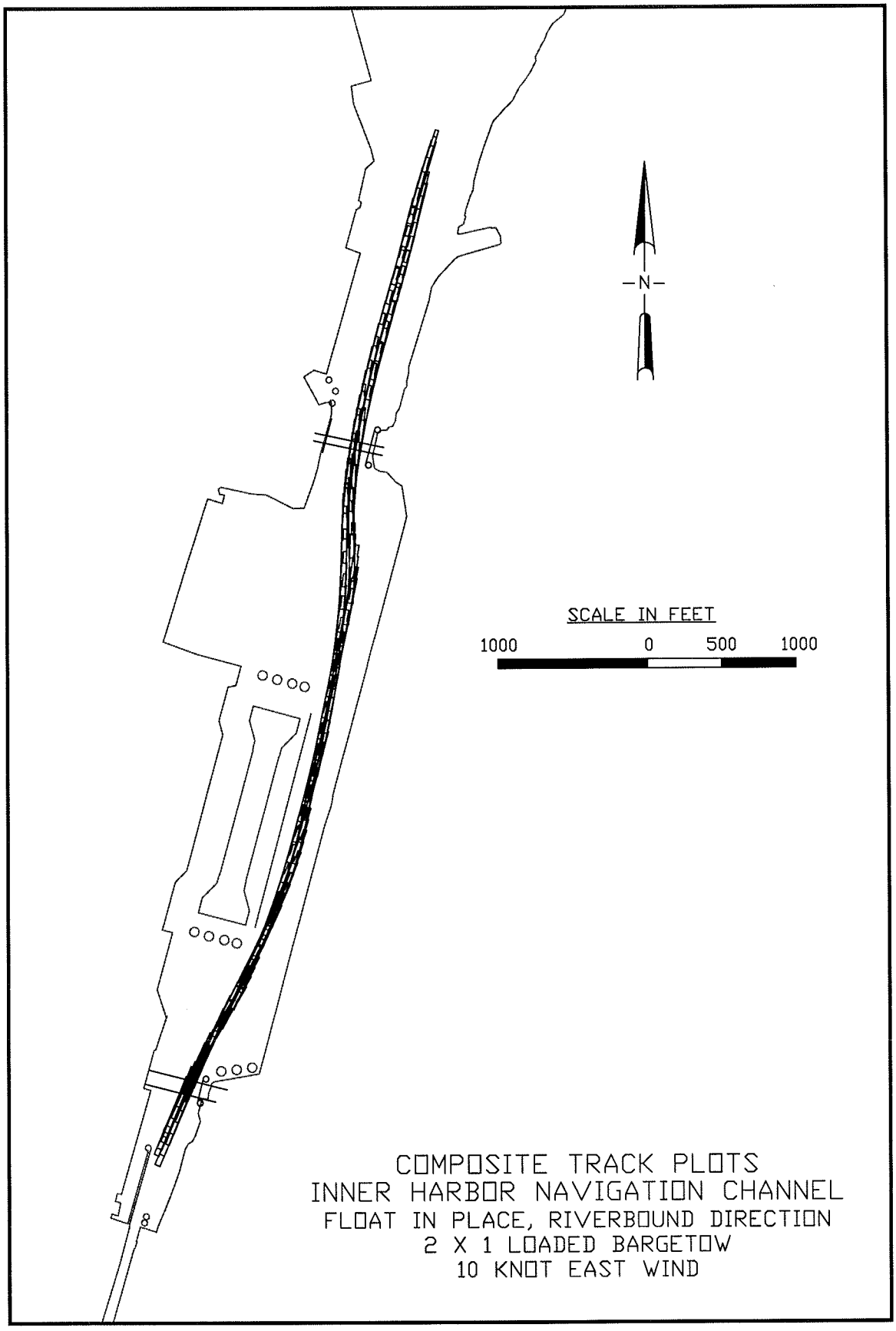
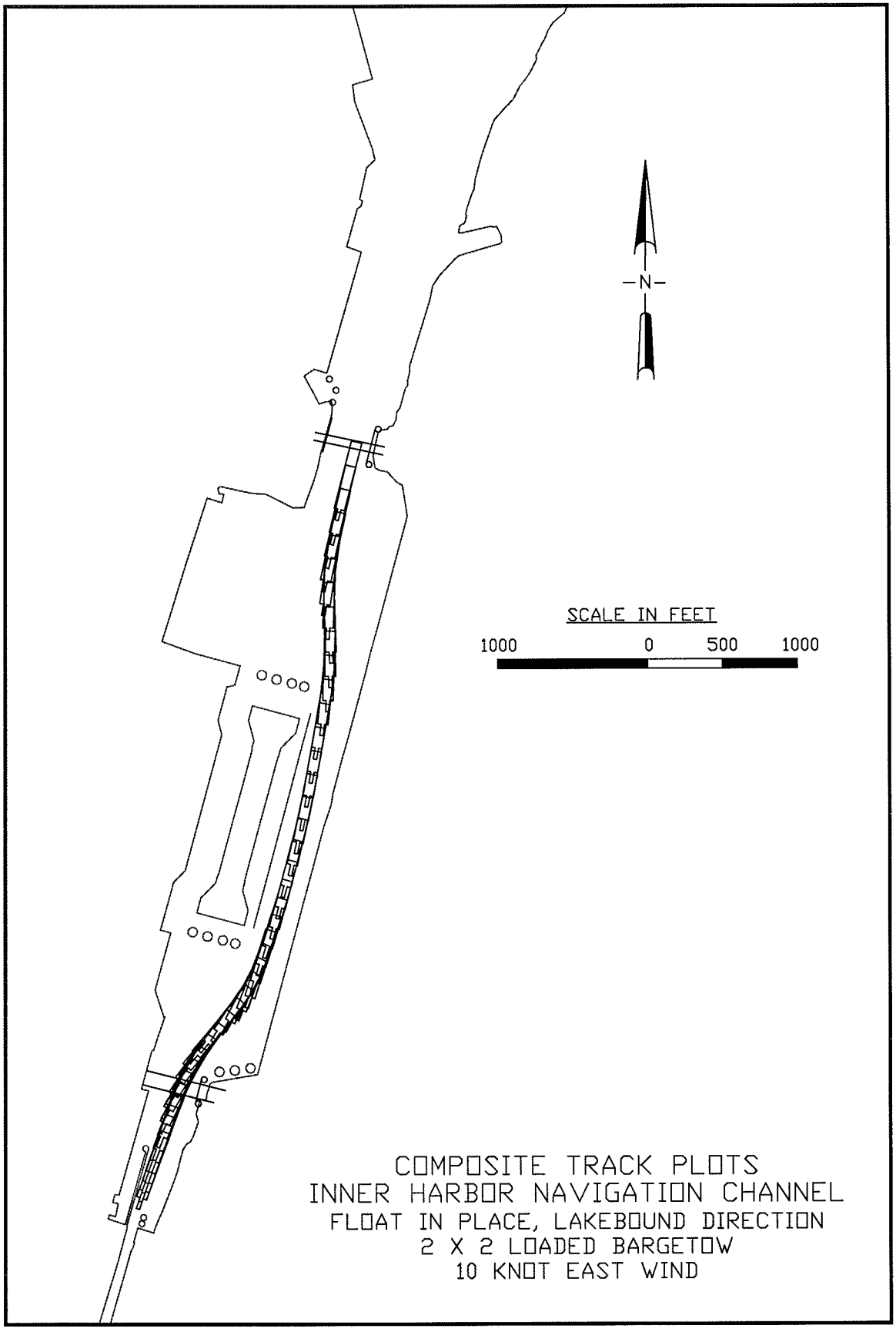
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 1 LOADED BARGETOW
20 KNOT EAST WIND

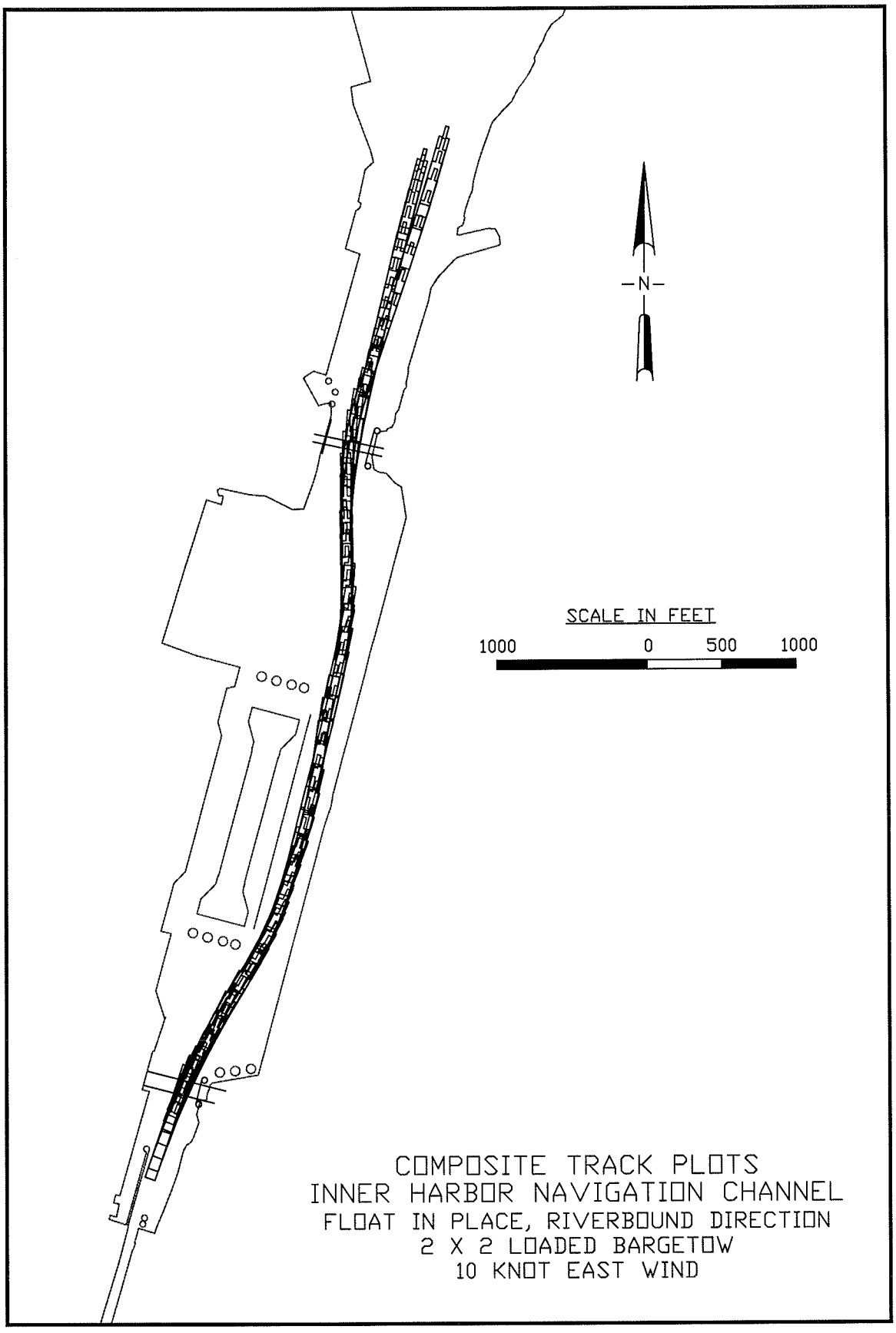


COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 1 LOADED BARGETOW
10 KNOT EAST WIND

Plate 65



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 LOADED BARGETOW
10 KNOT EAST WIND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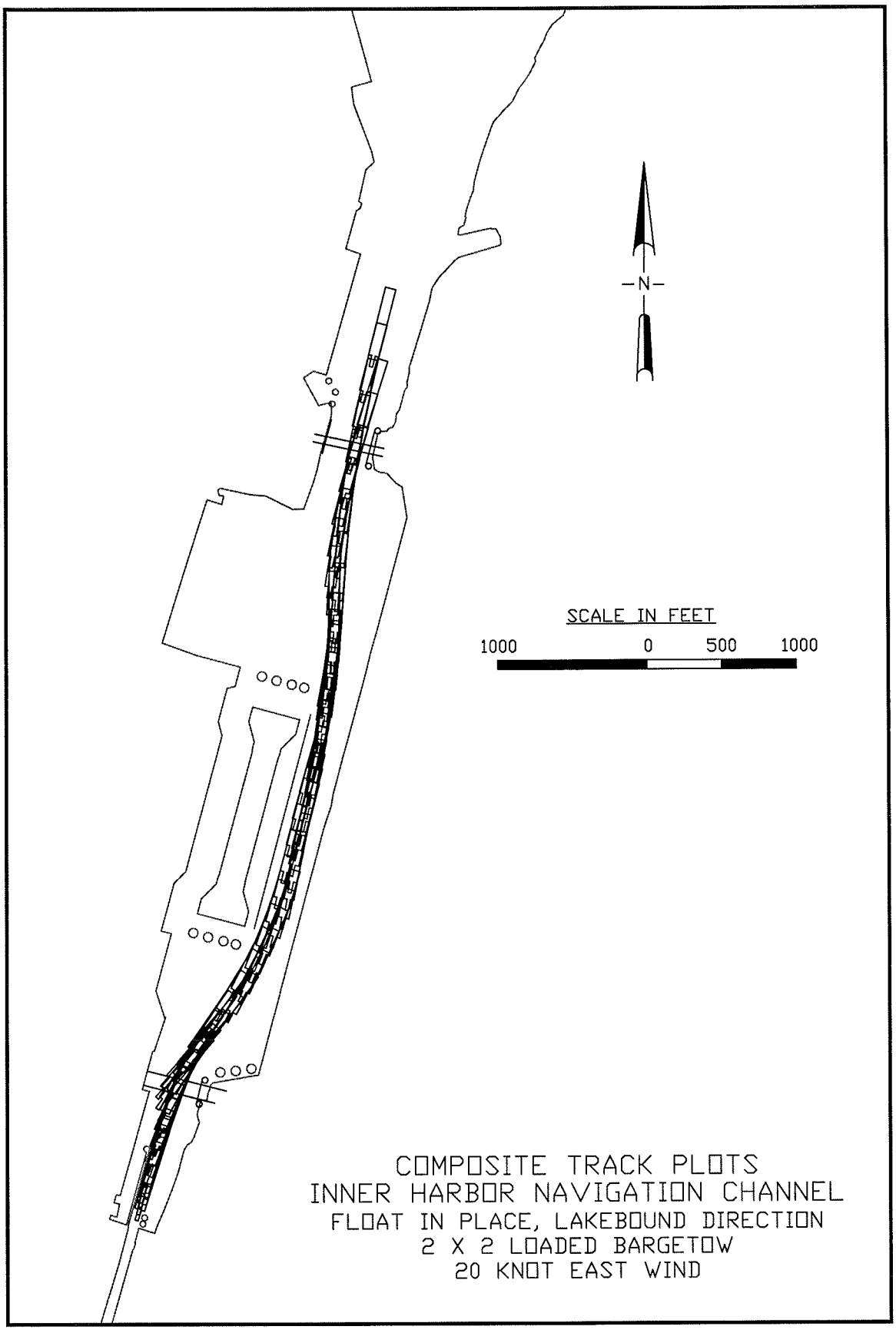
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 LOADED BARGETOW
10 KNOT EAST WIND

Plate 67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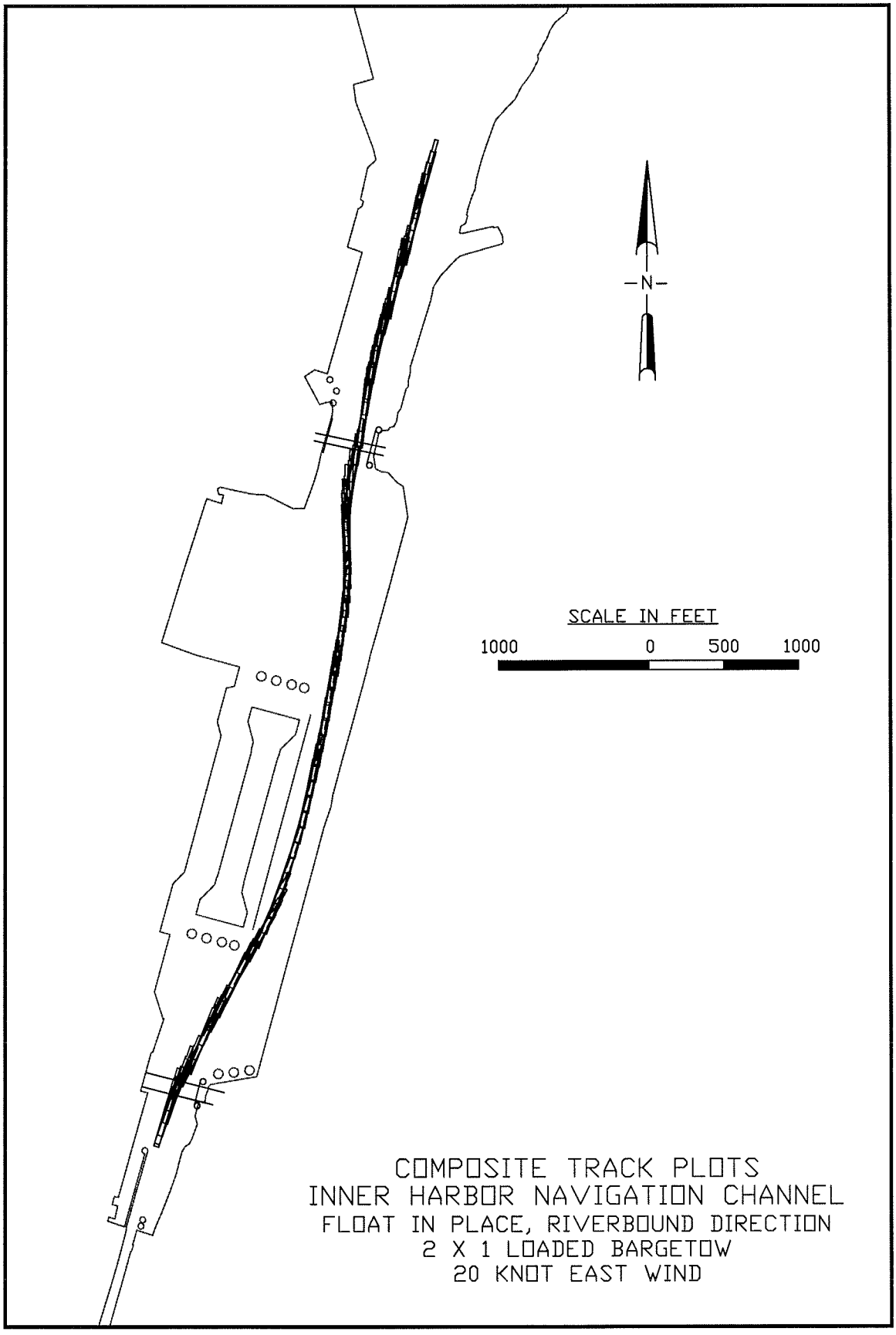
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 LOADED BARGETOW
20 KNOT EAST WIND

Plate 68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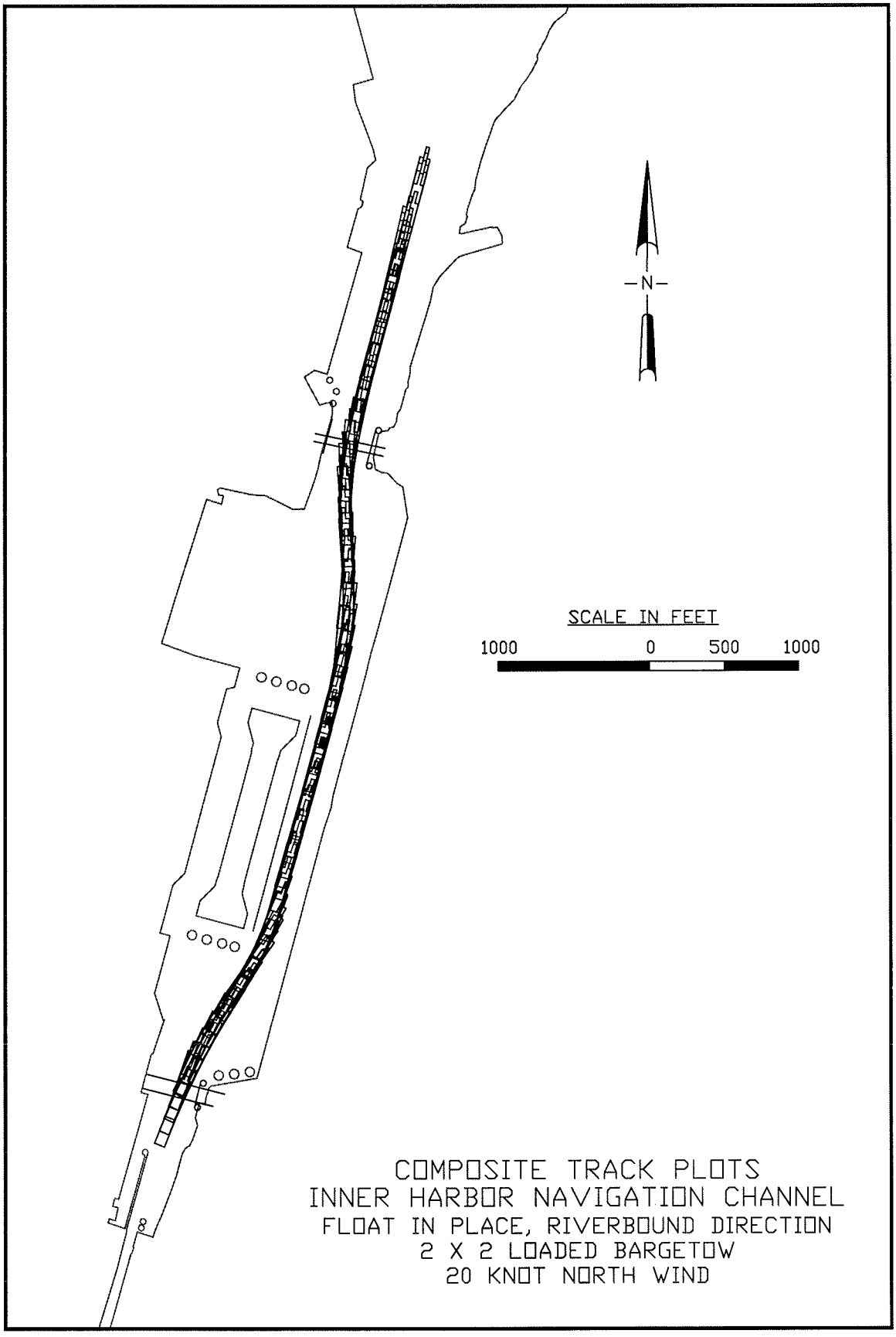
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 1 LOADED BARGETOW
20 KNOT EAST WIND

Plate 69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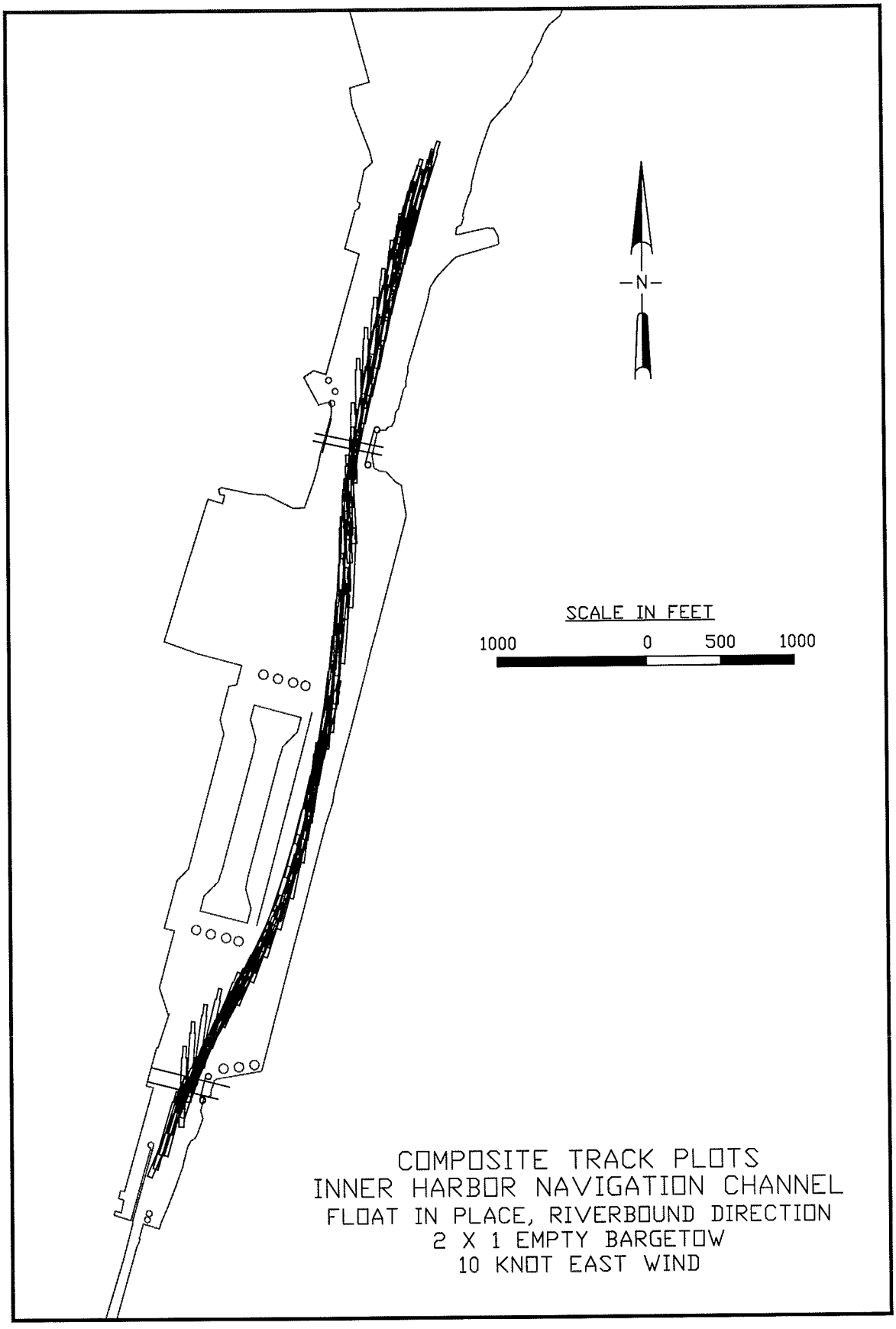
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 LOADED BARGETOW
20 KNOT NORTH WIND

Plate 70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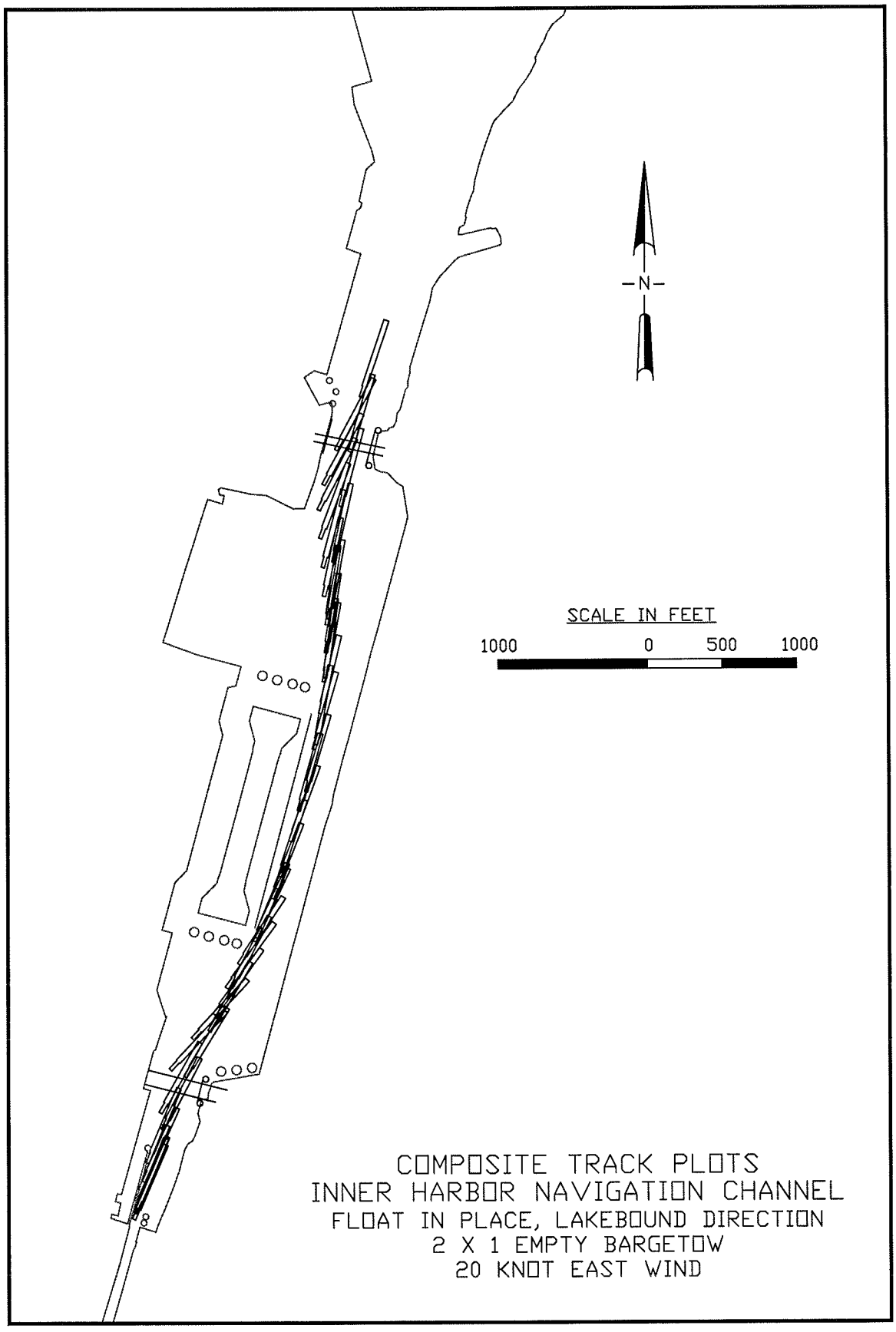
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 1 EMPTY BARGETOW
10 KNOT EAST WIND

Plate 71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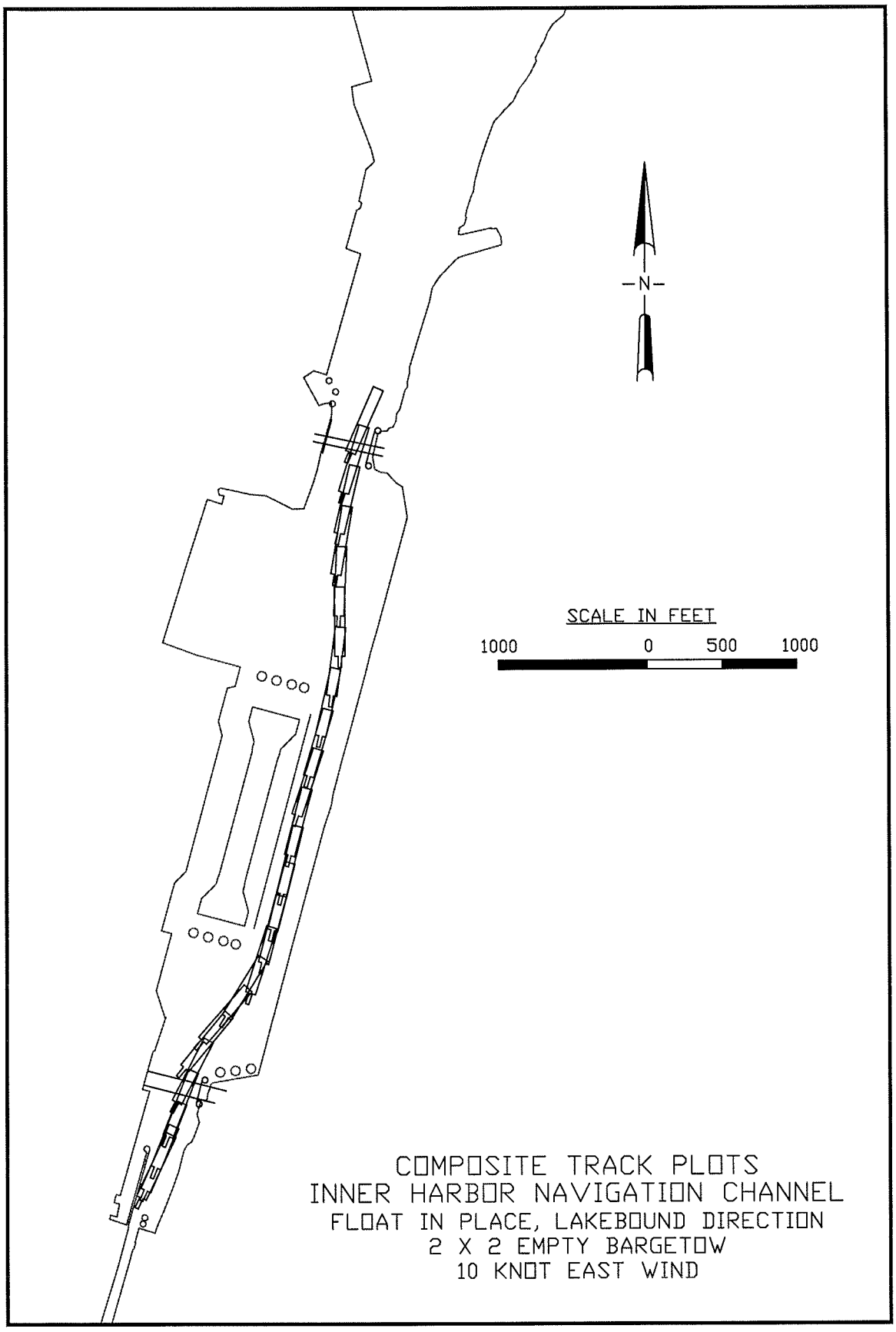
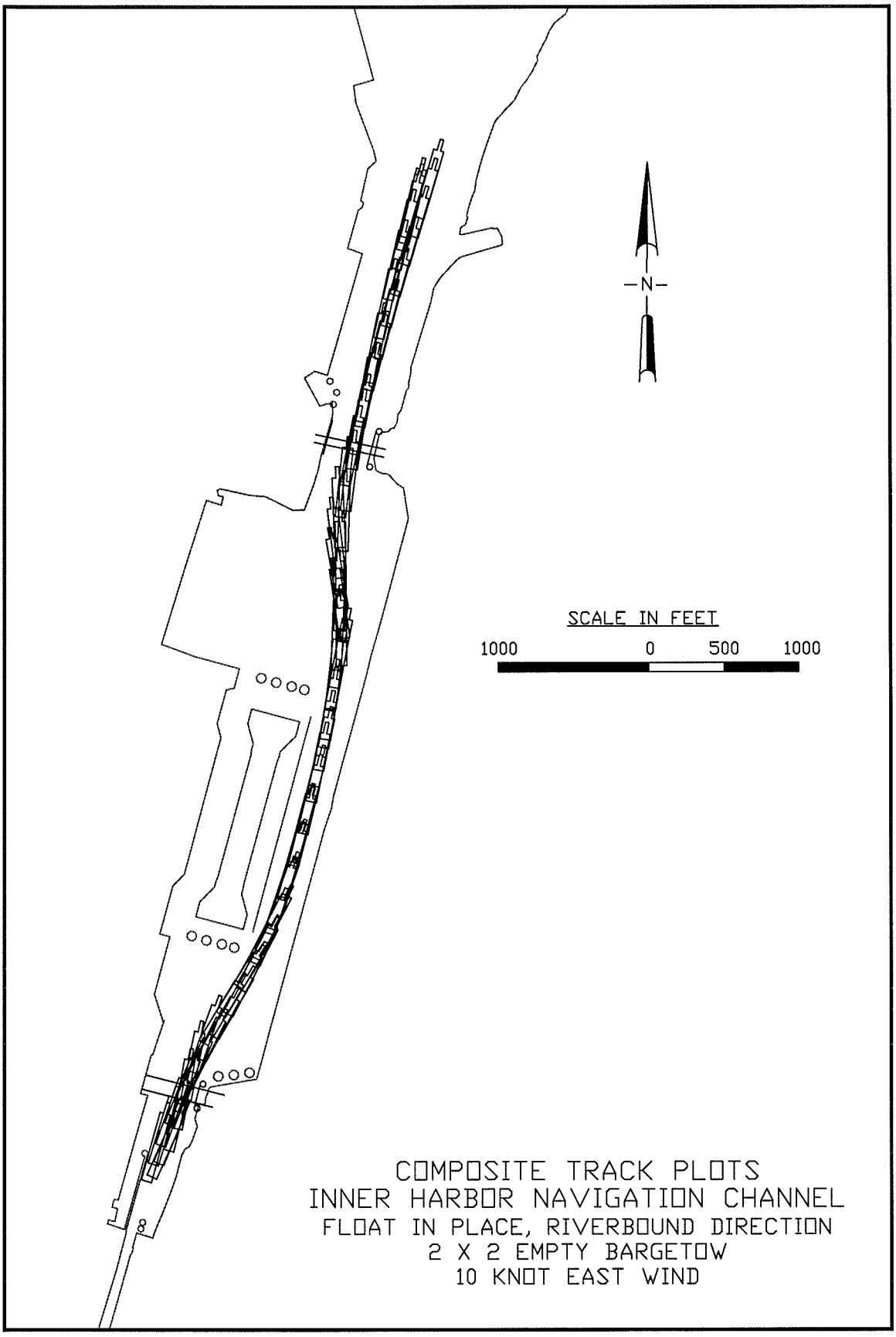
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 1 EMPTY BARGETOW
20 KNOT EAST WIND

Plate 72



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT EAST WIND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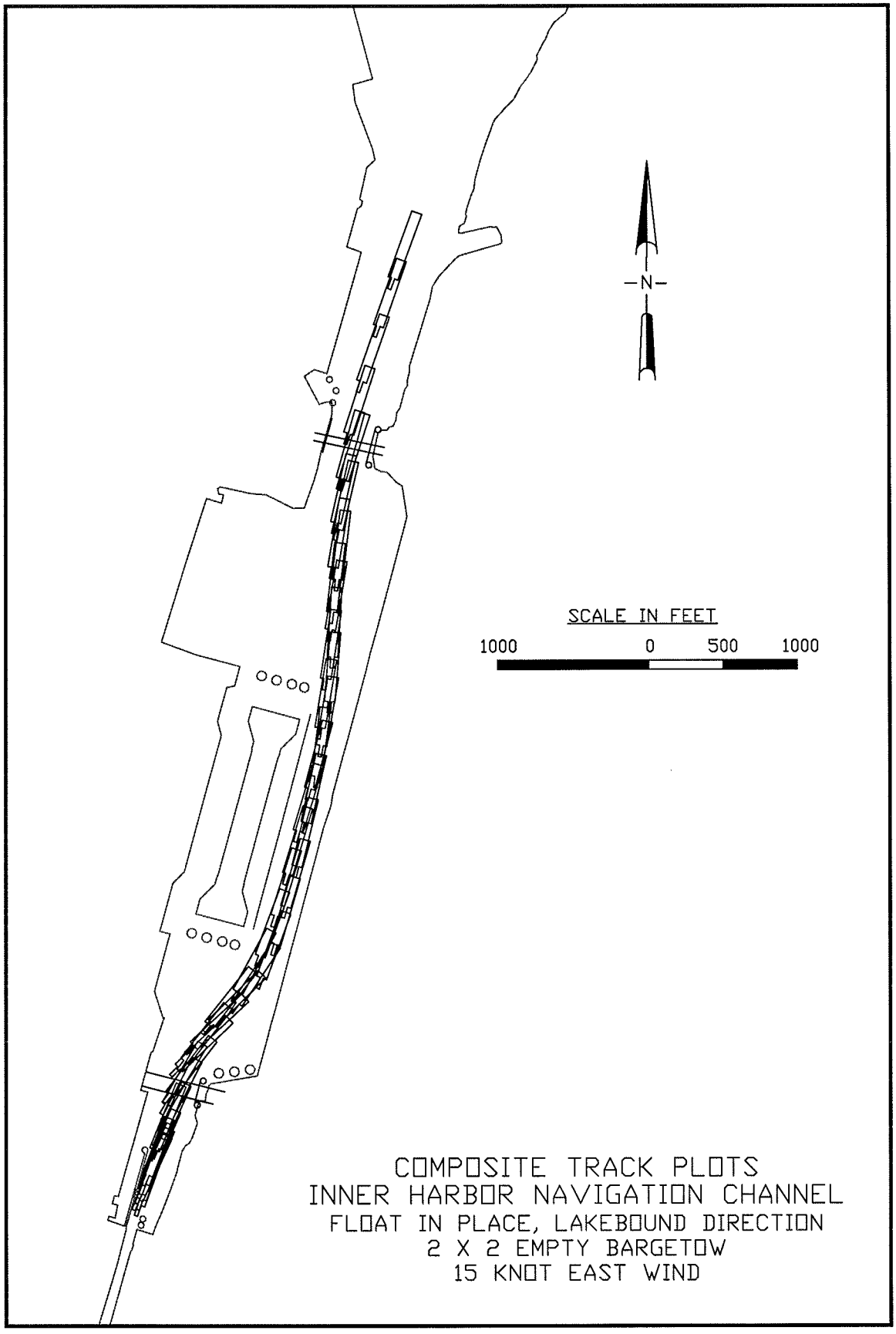
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT EAST WIND

Plate 74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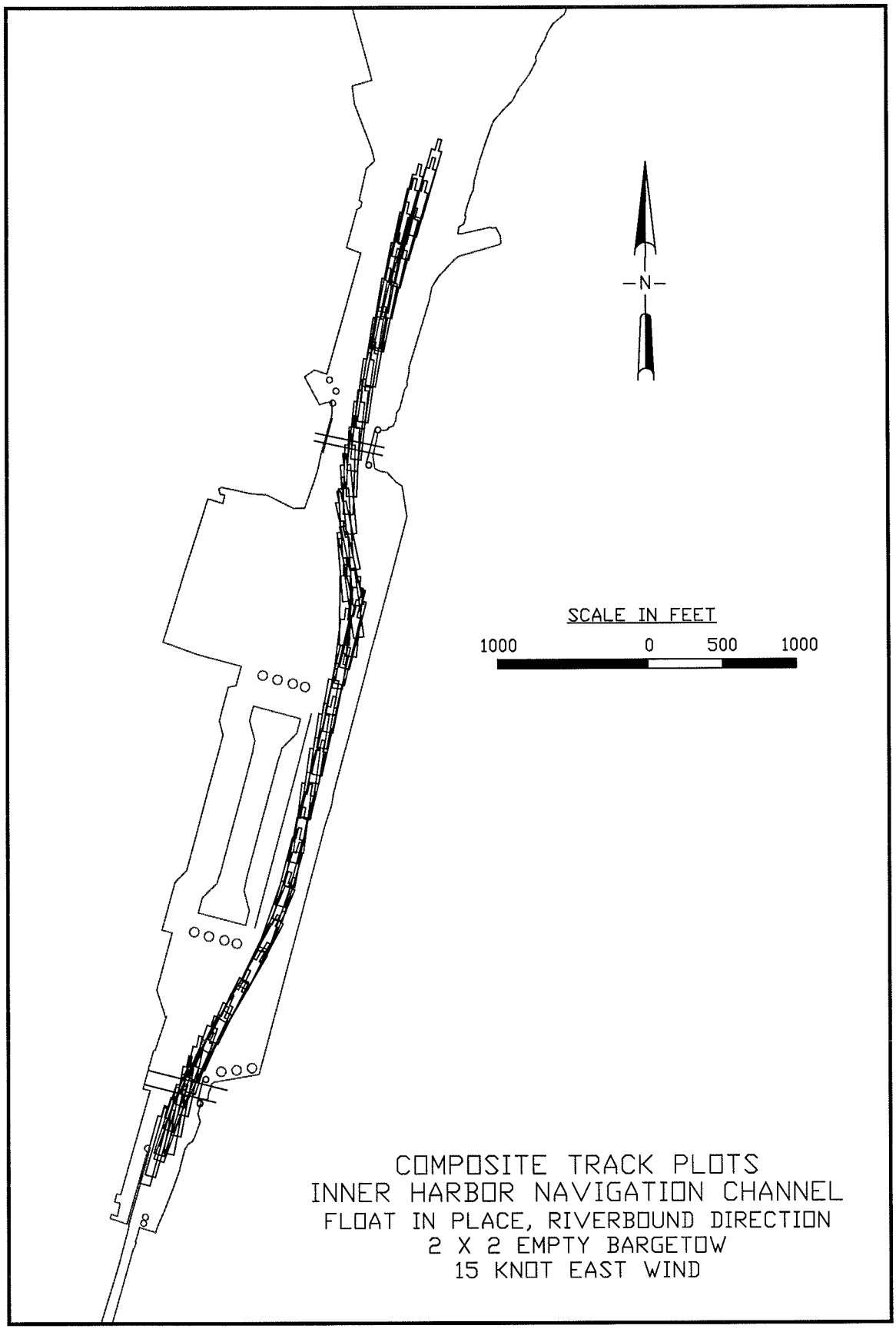
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT EAST WIND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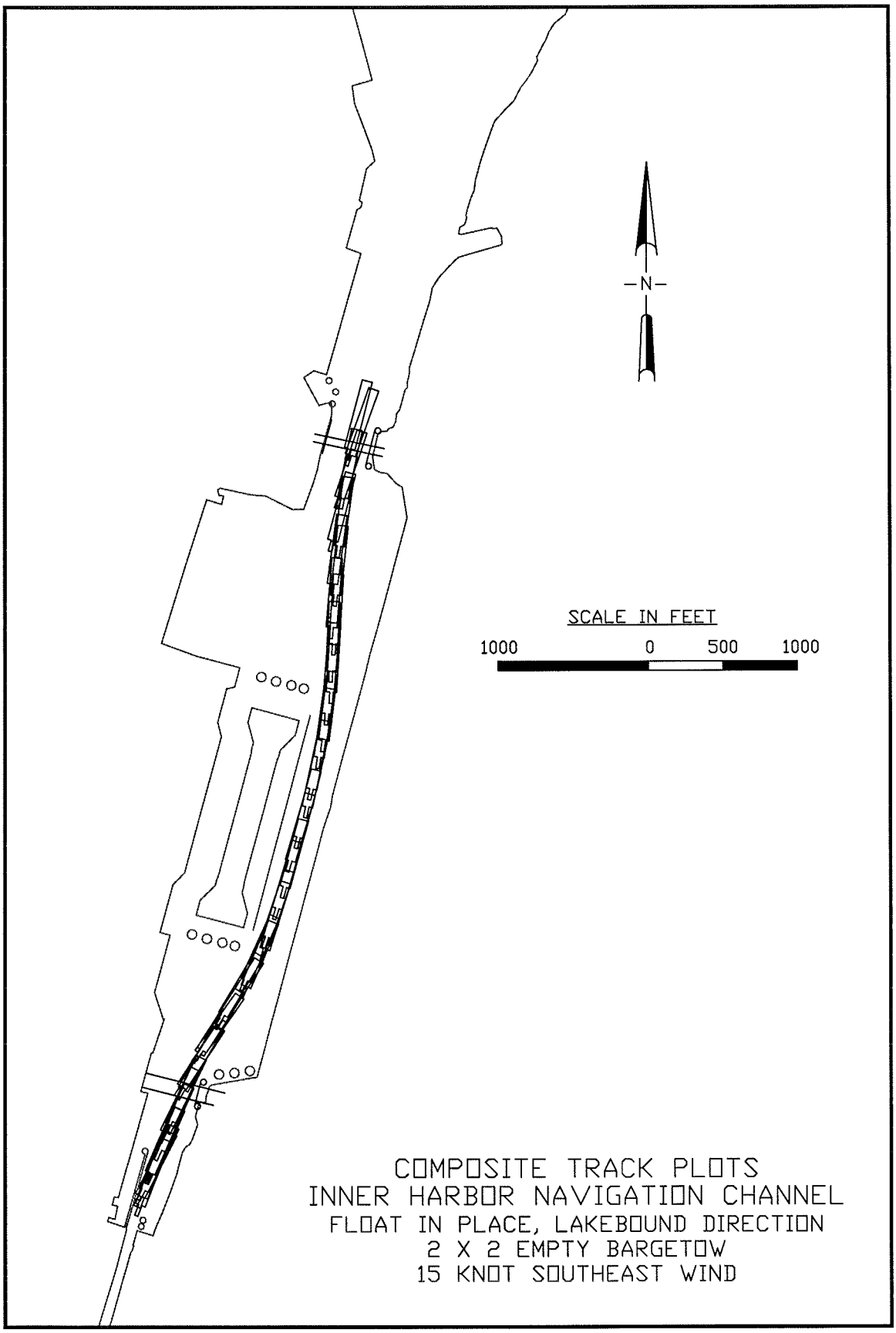
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT EAST WIND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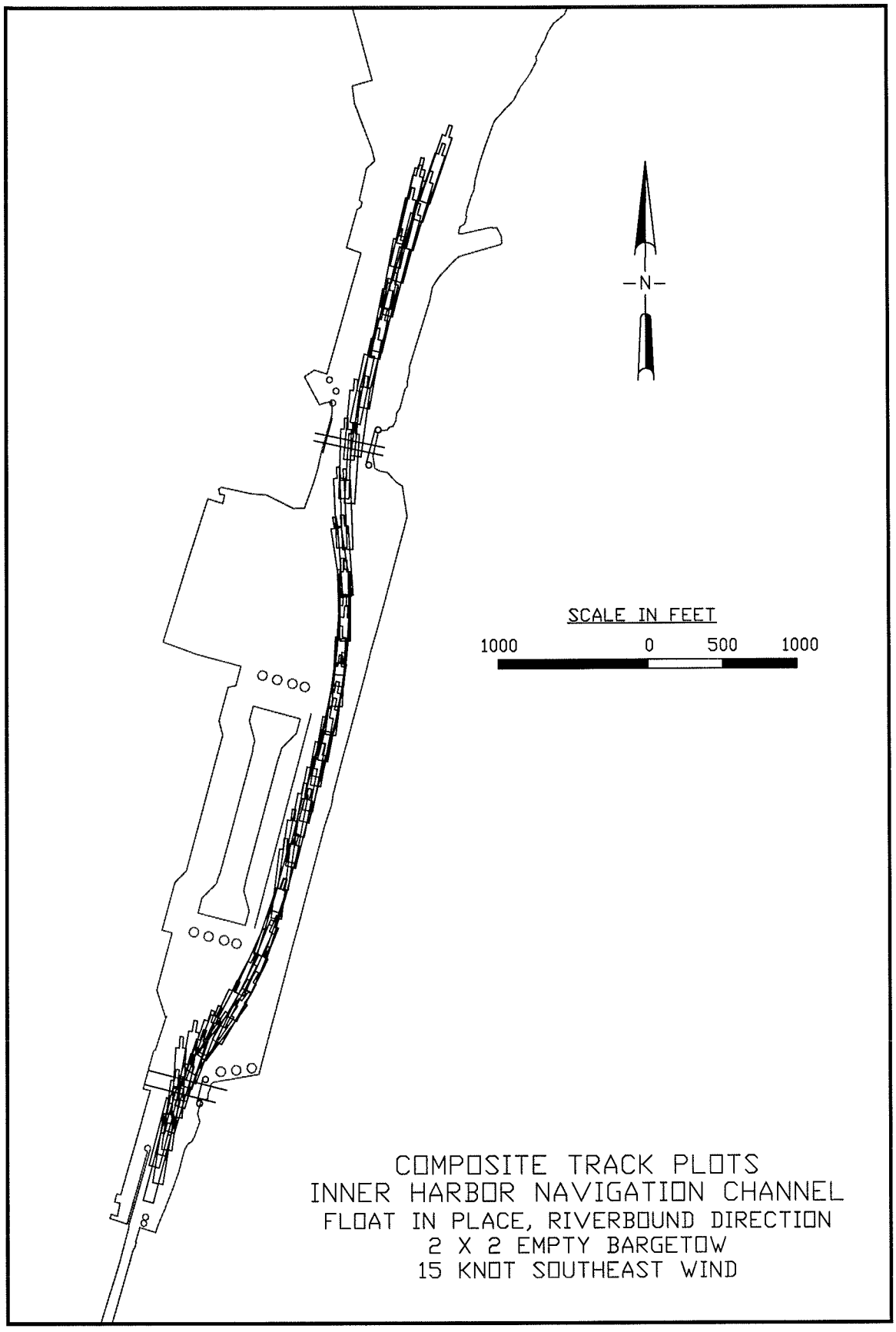
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT SOUTHEAST WIND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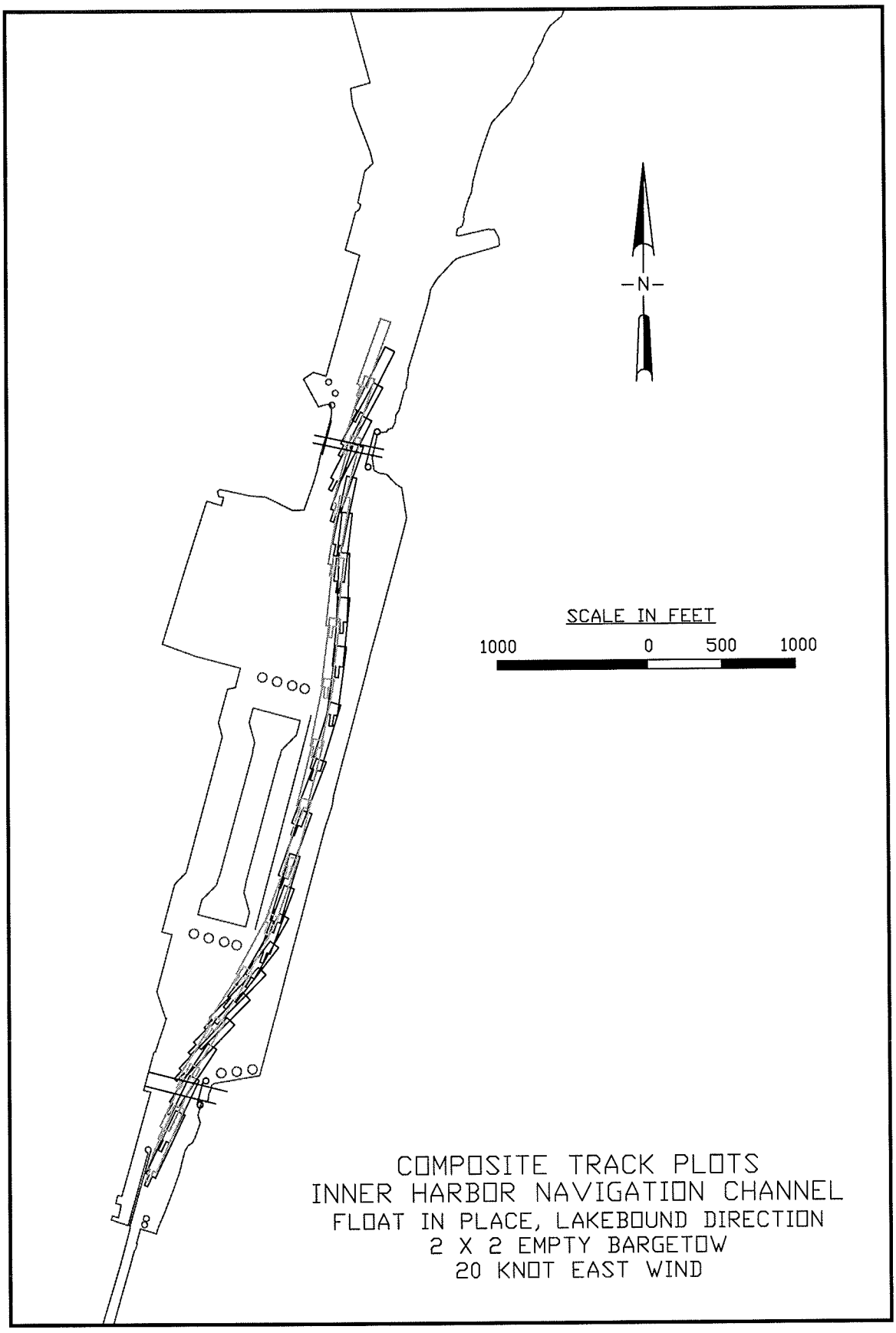
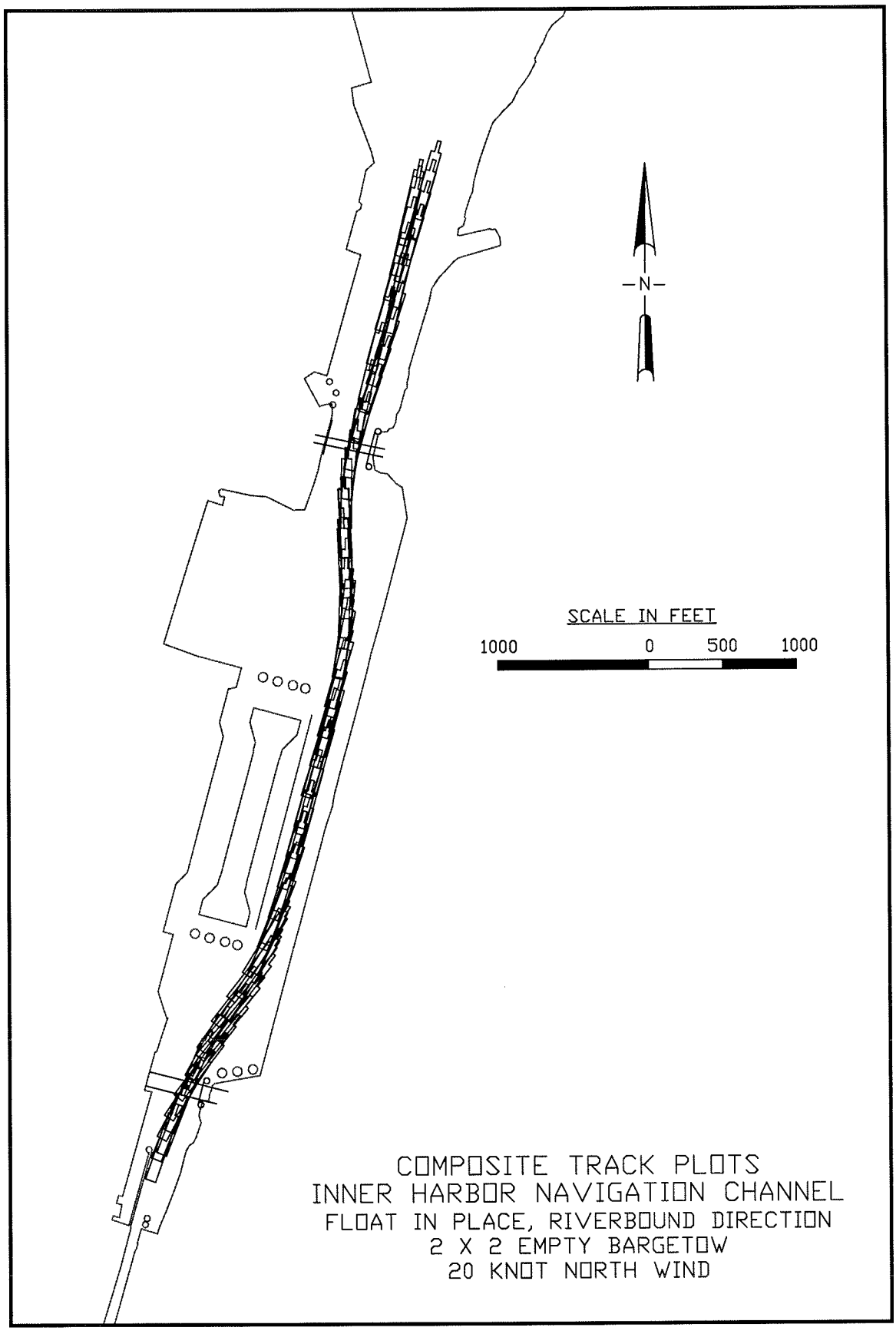
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
15 KNOT SOUTHEAST WIND



COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
20 KNOT EAST WIND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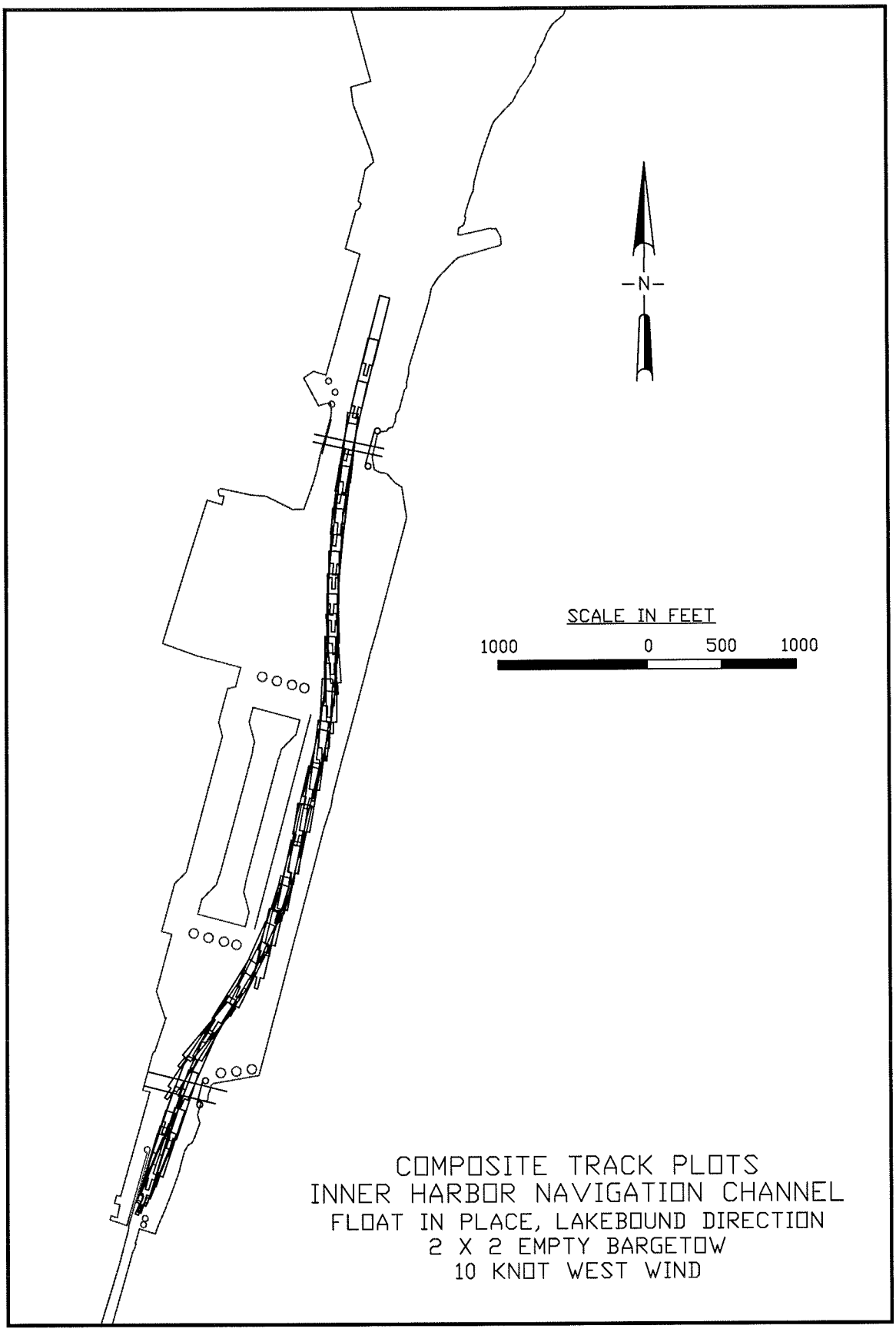
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
20 KNOT NORTH WIND

Plate 80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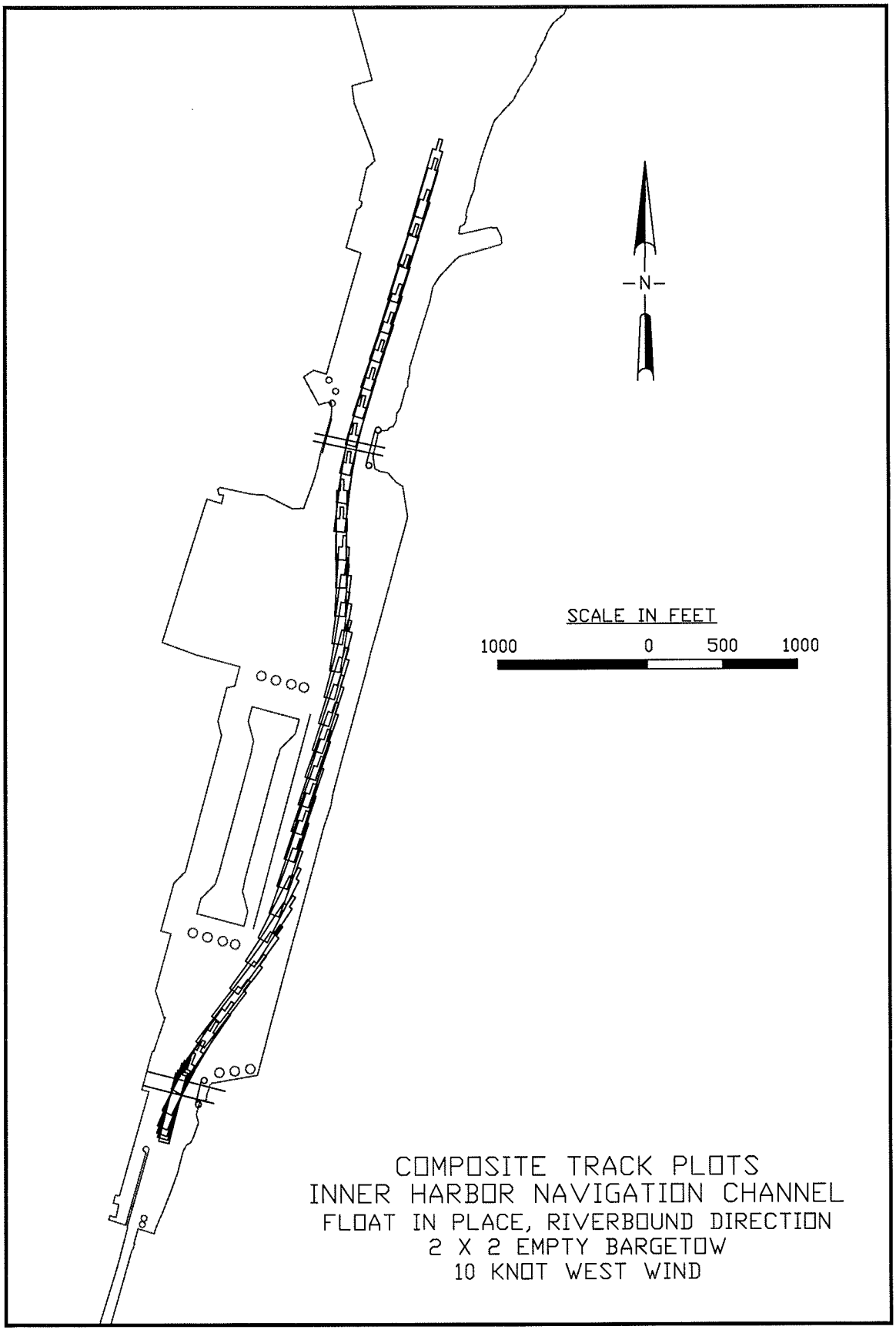
COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, LAKEBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT WEST WIND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COMPOSITE TRACK PLOTS
INNER HARBOR NAVIGATION CHANNEL
FLOAT IN PLACE, RIVERBOUND DIRECTION
2 X 2 EMPTY BARGETOW
10 KNOT WEST WIND

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Appendix A

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RICHARD C. DUCROS II

EMAIL
richardducros@aol.com

Simulator Study of Inner Harbor Navigation Canal
Cast-In-Place vs. Float-In-Place

DEEP DRAFT PILOT COMMENTS
Testing Dec 4-7, 2007

Comments and Observations for Cast-In-Place Conditions

SHIP'S + ASSIST TUGS PREFORM WELL

SHIPS ACT WELL WITH DIFFERENT WIND SPEEDS + DIRECTION "REAL LIKE" SHIPS INTERACT WITH BANK (REAL LIKE) IN GENERAL : THE SIMULATOR IS AS GOOD AS IT GETS.

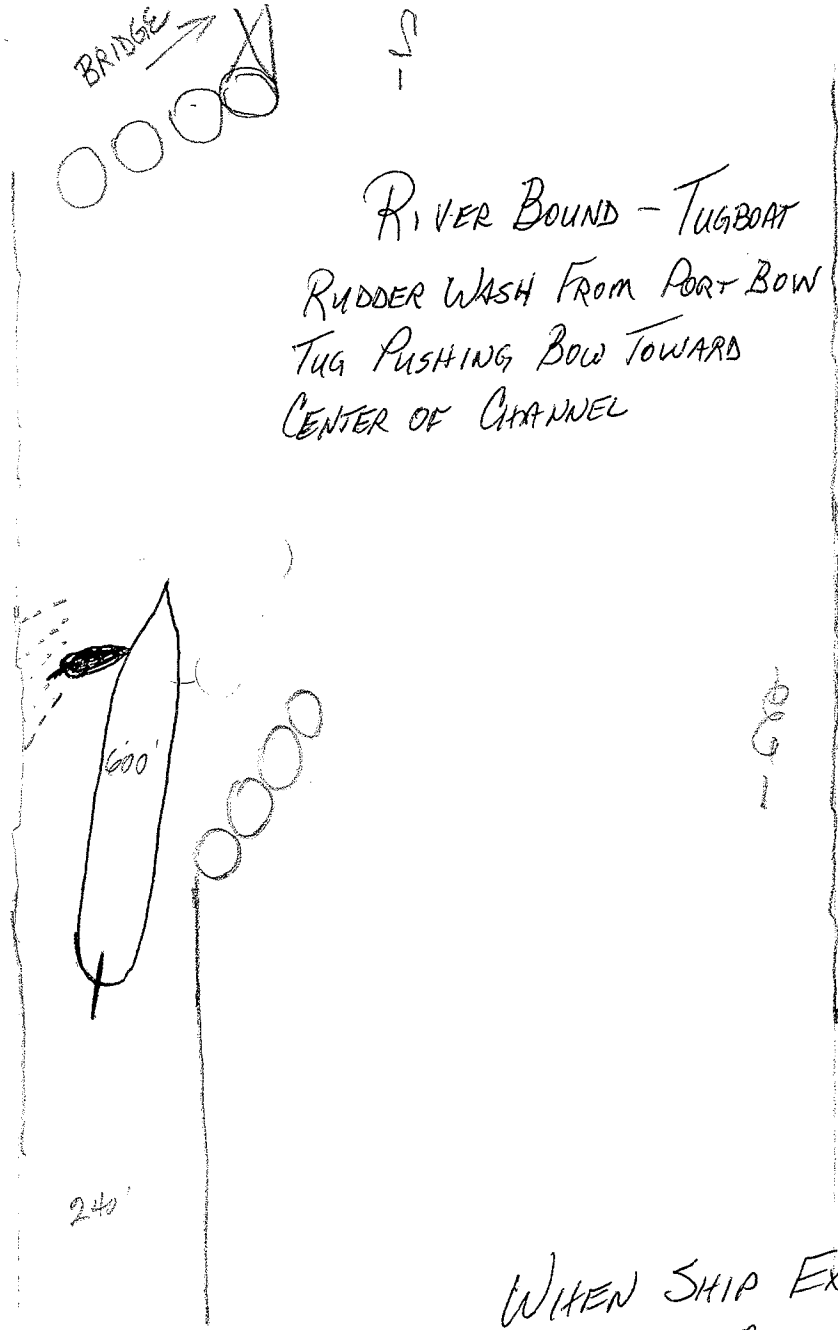
IT IS MY OPINION THAT THE CAST IN PLACE STRUCTOR IS LOCATED TO CLOSE TO EAST SIDE OF CANAL AND TO CLOSE TO CHAB. AVE BRIDGE (SOUTH SIDE) IS NOT ENOUGH ROOM FOR ERROR.

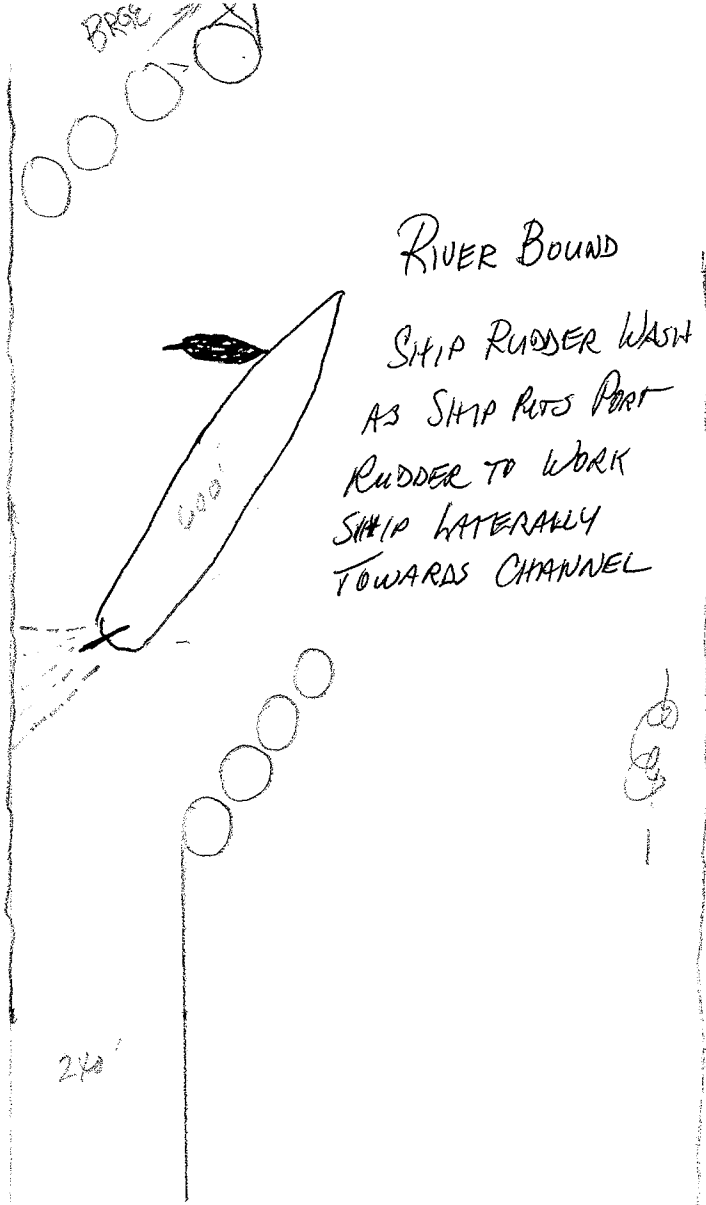
Simulator Study of Inner Harbor Navigation Canal
Cast-In-Place vs. Float-In-Place
Testing Dec 4-7, 2007

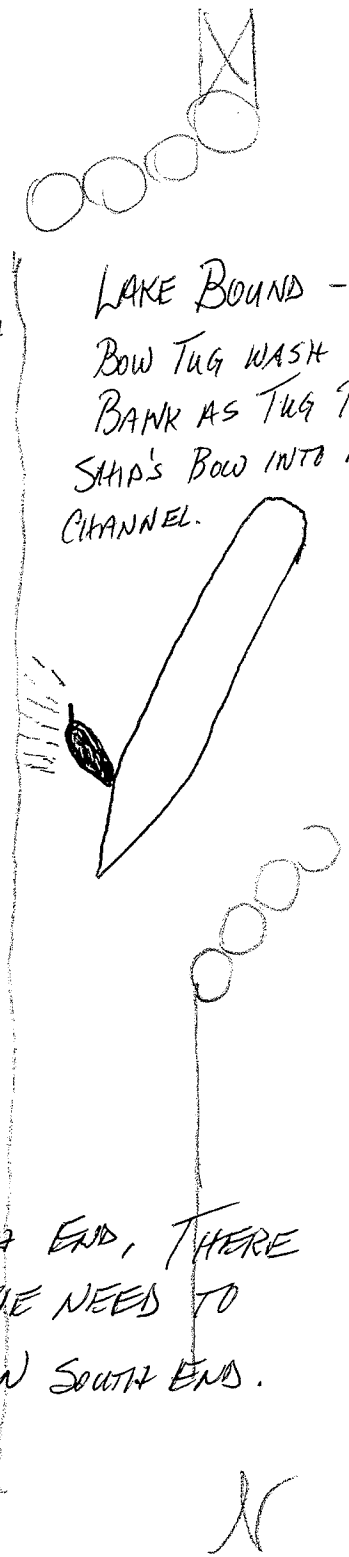
DEEP DRAFT PILOT COMMENTS

Comments and Observations for Float-In-Place Conditions

OF THE 2, THE FLOAT IN PLACE IS MY PREF. IT ALLOWS FOR MORE ERROR AND MORE TIME TO OVERCOME ANY MISHAPS. MUCH MORE ROOM ON THE SOUTH SIDE NEAR CHAR. AVE. BRIDGE TO MAN. SHIPS SAFELY FROM UNDER THE BRIDGE AND ENTER THE BYPASS CHANNEL.







WHEN SHIP EXITS BY PASS CHANNEL ON NORTH END, THERE IS MORE ROOM TO SET UP FOR NEXT BRIDGE. THE NEED TO WORK TUGS ON THIS END IS NOT AS GREAT AS ON SOUTH END.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C)ast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: (6) 650 TEU 11 – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CL6W21

----------Pilot Comments----------

West Wind made entrance (lake bound) into the by-pass more difficult. Had to maneuver tugs to set ship up in by-pass. Most of this was due to the fact that the set-up distance from old locks to by-pass is fairly short for the cast-in-place locks.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: (6) – 650 TEU 11 – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CRLeW21

----------Pilot Comments----------

West Wind more challenging because you use to tugs on the grassy bank to manuver. Without knowing where the true channel bank (15' ft. of water) is, there my be a reluctance of the tug to back alongside this bank. In a narrow channel, tugs are used more backing to steer the ship than pushing.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CL11E21

----------Pilot Comments----------

– Cross wind at 20 knots. It seems that a cross wind will set the ship so expect the vessel to be at 2.8 TO 3.5 KNOTS ABREAST OF NEW LOCKS.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: 1 (2) 3 4

Filename: CL11E22

----------Pilot Comments----------

– uneventful passage

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: CR6E21

----------Pilot Comments----------

had to use ship's engine at half for short time to over come wind while entering by-pass channel. Came up to 3 knots but still under control. Backed STBD tug to check headway. Nothing close quarters.

390'
47'
30'

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) cast in place F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CL11S2-1

----------Pilot Comments----------

Good passage

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CR11S21

----------Pilot Comments----------

-no problems w/ headwind going riverbound.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 25 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C)ast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – ~~15~~ 25 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: 1 (2) 3 4

Filename: CL11S22

----------Pilot Comments----------

~~25~~K WINDS MADE RISK OF DAMAGE HIGH. IF WINDS WERE HIGHER (THUNDERSTORM) NORMAL SHIP HANDLING MIGHT BECOME EVASIVE OR EMEGENCY SHIP HANDLING.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CL11W21

----------Pilot Comments----------

- Slightly more headway (3.7 K) made passage easier. Bank interaction would be in question with anymore speed.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CR11W21

----------Pilot Comments----------

good passage, less headway, easier set up to by-pass River bound because more room on LAKE side of lock.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CL11N21

----------Pilot Comments----------

Headwind no problem for passage.

Video 4

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: (C) (ast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: CR11N21

----------Pilot Comments----------

River bound — North wind had to make use of tugs more to set up for bridge after by-pass channel. Use of tugs due to smaller space to maneuver and reduced headway for next bridge.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 23 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound ((L)akebound

Ship: (6) 650 TEU 11 – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FL6E21

----------Pilot Comments----------

– good passage

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 23 Jan 08

Naming Convention:

1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: (6) – 650 TEU 11 – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FR6E21

----------Pilot Comments----------

good passage - smaller ship allows for more room to manuver

Video 2

IHNC

Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 24 Jan 08

Naming Convention:

1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: F211E21

----------Pilot Comments----------

good passage

~~Hdo05~~

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FR11E21

----------Pilot Comments----------

– good passage, used tug on port side to set up for bridge river bound.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (1) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FL11S21

----------Pilot Comments----------

good passage used tugboats only to control Headway

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 25 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FR11S21

----------Pilot Comments----------

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FL11W21

----------Pilot Comments----------

good passage

Video 1

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FR11W21

----------Pilot Comments----------

good passage, easier River Bound because of set up to enter by-pass. Backing tugboat controls headway + helps steerage.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 24 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (11) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FL11N21

----------Pilot Comments----------

good passage / headwind

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 25 Jan 08

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 6 – 650 TEU (1) – 11,000 TEU

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Pilot: 1 (2)

Number of Runs made: (1) 2 3 4

Filename: FR11N21

----------Pilot Comments----------

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

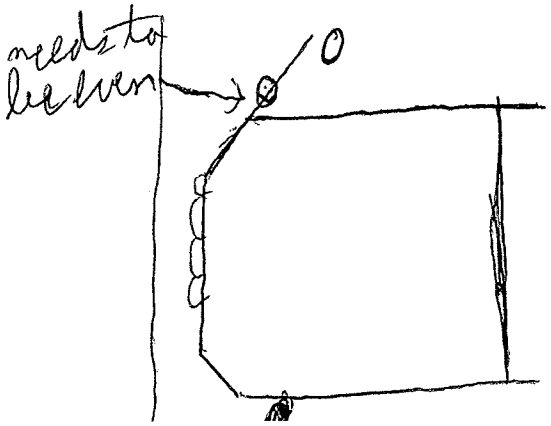
Wind Condition: (E) – ~~10~~ knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1CL1E1

----------Pilot Comments----------

2 barges loaded was an easy run. Plenty of room On the lock side of the coffer dam the cell is sticking out further than the wall. It needs to be even.



IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CL1E1

----------Pilot Comments----------

THIS TOW STEERED FINE THROUGHOUT THE NAVIGATION AREA.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CRIE1

----------Pilot Comments----------

SAME - OR BETTER NAVIGATING W/ LOADS. WIND HAD NO EFFECT ON NAVIGATION. (2 LOADS) ALTHOUGH - BANK SUCTION COULD TAKE PLACE IF TOW (OR BOAT) CLOSES IN [redacted].

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 (10) knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

This is a cast in place run

Filename: 1CL3E1

----------Pilot Comments----------

This run was fairly easy. The wind did not affect the loads very much. It would be nice to have wind socks on each end of the cofferdam & some range lights on the bank at each end for night running.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 ~~knt~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CR3E1

----------Pilot Comments----------

NAVIGATING FROM FLA. AVE BR. TO THE WEST END OF CASTING WALL WAS SIMPLE – FROM THE WEST END OF CASTING WALL TO THE GUIDEWALL TOOK A BIT MORE MANEUVERING (TURNING FROM HARD OVER STBD STEER – TO HARD OVER PORT STEER – TO LINE UP WITH THE GUIDEWALL @ INDUSTRIAL LOCK. BOOSTING ENG. RPM's TO MAKE THESE TURNS ARE ESSENTIAL, BUT DO-ABLE.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – ~~10~~ knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: 1 (2) 3 4

Filename: ICR3E2

----------Pilot Comments----------

This run I was fairly easy. The wind did not affect the loads very much. There was plenty of room on the Florida Ave. End to get turned into the strait stretch. The turn at the Lock is pretty light but not un-doable at a slow speed.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – ~~10~~ 15 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2 CL 3 E 1

----------Pilot Comments----------

WITH THIS TOW CONFIGURATION:
IT IS CRITICAL TO ① COME OUT OF THE LOCK AT AN ANGLE FAVORING THE RIGHT FENDER WORKS ON CLAIBORNE BRIDGE.
② TURNING AWAY FROM CELLS - TOWARD CHANNEL ALONGSIDE THE BUFFER WALL - TAKE POWER AND HARD OVER TO HARD OVER RUDDER - AND THAT IS JUST TO BE ABLE TO STEER TOW WITH THE SIM. BOAT. AFTER MAKING THE TURN (LEFT) ALONGSIDE THE BUFFER WALL - SPEED CAN BE REDUCED AND STEER MADE EASILY @ FLA. AVE. BRIDGE.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: ICR3N1

----------Pilot Comments----------

This run was not to difficult the extra room you have with the float in place makes a world of difference.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1CL2E1

----------Pilot Comments----------

Was slightly difficult to make the first part turn as you pass into the straight run. It be nice to have a little more room in the straight part so you can turn the empties into the wind.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CL2E1

----------Pilot Comments----------

WIND COULD PLAY A PART IN TRANSITING THE AREA WITH MTY BGS. IN TOW. HAVING TO DEVELOP SPEED EARLY ON WILL DETERMINE A SAFE PASSAGE.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

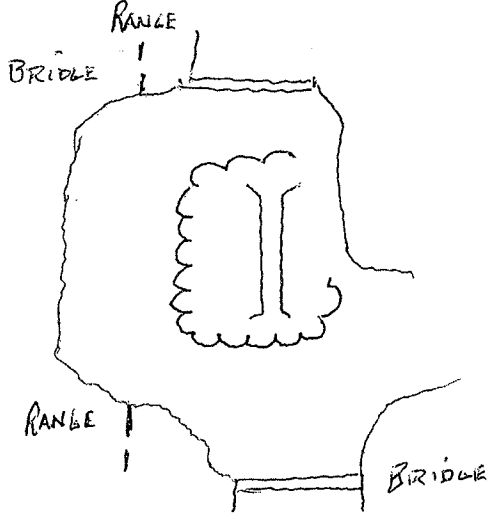
Wind Condition: (E) – ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CR2E1

----------Pilot Comments----------

TOW STEERED THROUGH CONSTRUCTION AREA WITH LITTLE PROBLEM – AS LONG AS SPEED WAS ABLE TO BE CONTROLLED AT A SLOW PACE. *SUGGESTION: RANGE LIGHTS WOULD BE USEFUL WHEN NAVIGATING FROM END TO END OF THE LONG CASTING WALL. (UPPER & LOWER LIGHTS W/ RANGE BOARDS)



IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – ~~10~~ knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1CL4E1

----------Pilot Comments----------

Very difficult to get turned into straight-way after Claiborn Ave. Bridge [redacted] If the winds were higher I would wait. The straight-way by the cofferdam wasn't to difficult, but I wouldn't go through there with higher winds.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CR4E1

----------Pilot Comments----------

STEERING TOW IN THIS AREA W/ 4 MTYS COULD BE TRICKY AT TIMES - BECAUSE OF WIND GUSTS WHICH COULD HIT AT INOPERTUNE TIMES - STEERING FROM CASTING WALL TO CLAIBORNE AVE BR. WITH WIND BROAD SIDE COULD IMPACT YOU'RE APPROACH TO THE GUIDE WALL @ INDUSTRIAL LOCK. OTHERWISE - THIS TOW STEERED FINE.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1CR4E1

----------Pilot Comments----------

Getting into the straightway on the Florida Ave. end was fairly easy. The hard part was getting the turn made at the claiborne Ave. end. It was hard because you had to let your head fall away from the wind, get it past the Claiborn bridge, and then wait for your stern to clear the cells behind you before you can turn your head back into the wind. (over)

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N ((G)) – 15 knt E

Number of Runs made: (1) 2 3 4

Filename: 1CL4G1

----------Pilot Comments----------

I have made this run about 30 times. If this would have been my first time through under these conditions there would have been a good chance for an accident. Especially at the south end near the lock. There needs to be a bumper on all corners.

IHNC
Cast in Place / Float in Place

Date 13 Dec 07

Bridge 1 (2) (circle one)

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N (G) 15 E

Number of Runs made: (1) 2 3 4

Filename: 2CL4G1

----------Pilot Comments----------

AFTER SIMULATING THIS SCENARIO – NUMEROUS TIMES - IT IS JUST AS HARD TO STEER WEST BOUND THE LAST TIME AS IT WAS THE FIRST TIME. THERE IS HARDLY ANY ROOM FOR ERROR AND NAVIGATING THIS AREA UNDER THESE CONDITIONS COULD COMPROMISE THE CONSTRUCTION AREA - LEAST SAY THE CELLS ON WEST END OF IT.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N ((G)) 15 knt East

Number of Runs made: (1) 2 3 4

Filename: ICR4G1

----------Pilot Comments----------

No very much room next the the cofferdam in the straight-way to stay pointed into the wind and when you make the turn @ the south end of the cofferdam it is very hard to get turned back up into the wind and not destroy the lock walls

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N ((G)) 15 Knt E

Number of Runs made: (1) 2 3 4

Filename: 2CR4G1

----------Pilot Comments----------

STEERING AROUND THE CLAIBORNE BRIDGE CRIBBING AND LINING UP FOR THE GUIDEWALL CAN ONLY BE MADE WITH EITHER ① TWIN SCREWING TOW AROUND CRIBBING AND LINING UP FOR LONG WALL OR ② HARD OVER TO HARD OVER RUDDER W/ MAXIMUM PROPULSION. REASON BEING - COFFERDAM CELLS MAKE FOR A HARD RIGHT HAND TURN TO CLAIBORNE CRIBBING - THEN A HARD LEFT AFTER HEAD OF TOW CLEARS BRIDGE CRIBBING.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CL4E1

----------Pilot Comments----------

WITH THIS TOW (4 MTY BGS) BEING ABLE TO MANEUVER FROM LOCK TO WEST WALL (WITH AN EAST WIND) WAS MADE WITH A LOT OF POWER AND STEERING. SUGGESTION: PLACING RUBBER FENDERS ON EACH CORNER (WEST/EAST ENDS) OF COFFERDAM SO AS TO PROTECT THESE CORNERS WHICH ARE SUBJECT TO BE ALIDED WITH THE TOW WHILE NAVIGATING MTY BGS. IN THE WIND.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

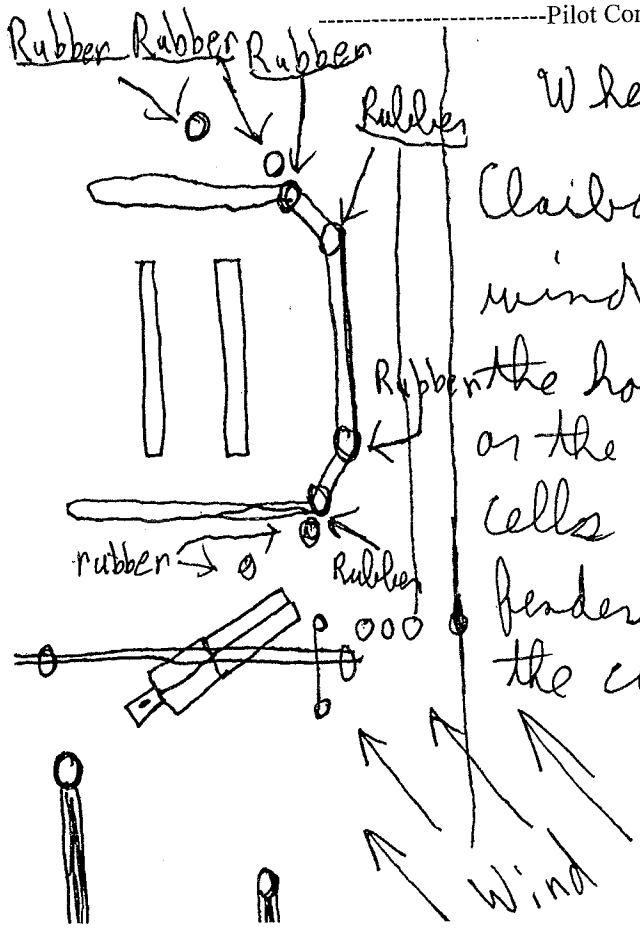
Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W ((S)) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: ICL 451

----------Pilot Comments----------



When I made the turn around Claiborn due Bridge these winds made it hard to get in the hole before landing on the cells on the corners of the cofferdam. The cells on both ends need rubber fenderworks. Also the corners of the cofferdam need rubber fenderworks

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CL4S1

----------Pilot Comments----------

BARELY ENOUGH ROOM TO NAVIGATE - FROM LOCK TO WEST COFFERDAM. WIND PLAYED HAVOC IN STEERING AROUND WEST END AND TRYING TO STRAIGHTEN UP AFTER CLEARING. PROTECTION NEEDED ON CELLS IN CASE OF LANDING ON COFFERDAM.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C)(cast in place) F (float in place)

Direction: ((R))iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: ICR451

----------Pilot Comments----------

This whole run wasn't extremely difficult, except for the lock end, because you had to steer around the cofferdam away from the wind or down in the wind and you don't have very much room after your stern gets past the cofferdam cells to get turned back up into the wind so it doesn't slam you into the lock wall. It would be good to have enough distance between the cofferdam and Claiborne Ave. Bridal cells to (over)

IHNC
Cast in Place / Float in Place

Date 12 Dec 07

Bridge 1 (2) (circle one)

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (ast in place) F (float in place)

Direction: ((R))iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W ((S)) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CR451

----------Pilot Comments----------

MAKING APPROACH TO EAST END OF CASTING WALL WAS EASILY ACCOMPLISHED - USING SPEED TO COUNTERACT WIND BUT, AFTER CLEARING WEST CASTING WALL - MAKING A HARD RIGHT TURN TO CLEAR CLAIBORNE BRIDGE CRIBBING THEN A ~~HARD~~ LEFT TO ① LINE-UP ON GUIDEWALL ② COUNTER THE 20 KNOT SE WIND WAS AND COULD ONLY BE DONE TWIN SCREWING THE BOAT AND LANDING THE HEAD OF THE TOW ON PROTECTIVE CELL - LOWER GUIDEWALL.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 10 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1CL4W1

----------Pilot Comments----------

This run was very difficult on the south end of the cofferdam. The wind tryes to set you down on the east bank and the claiborn bridge. If the wind was any higher I wouldn't make this run.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound ((L))akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E ((W)) – 10 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CL4W1

----------Pilot Comments----------

STEERING FROM THE LOCK WALL (INDUSTRIAL) THROUGH THE CLAIBORNE BR IT IS IMPERATIVE TO GET A POINT ON THE EAST END OF CLAIBORNE CRIBBING TO MAKE THE STEER AROUND THE WEST END OF THE COFFERDAM.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – ~~20~~ 10 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 (0)

Filename: 1CR4W1

----------Pilot Comments----------

This run was difficult at the lock end of the run. The tight S curve creates a good possibility you might hit claiborn bridge while you are trying to slow down for the lock.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CR4W1

----------Pilot Comments----------

THE TURN FROM THE WEST COFFERDAM TO THE GUIDEWALL (WITH A WESTERLY WIND) HAD TO BE MADE WITH STEERING TOWARDS THE CELL (LOWER GUIDE WALL) AND BACKING DOWN HARD SO AS TO ① KILL SPEED ② LINE TOW WITH GUIDEWALL. FROM 1 TO 10 (10 BEING DANGEROUSLY CLOSE TO CRASHING) THIS WAS AN EIGHT.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: (C)(cast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: ICR4N1

----------Pilot Comments----------

This run was OK except for the starboard turn at Claiborn Ave. The wind tried to set you down on the bridge so you had to cut the cofferdam pretty close and use a little more speed than wanted to get around the bridge. Then you are in a situation where you had to quickly back down to a safe speed for the lock.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: (C) (ast in place) F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2CR4N1

----------Pilot Comments----------

IN THIS SITUATION - STEERING FROM FIA. AVE. BRIDGE TO EAST WALL OF COFFERDAM WAS EASILY ACCOMPLISHED. BUT FROM WEST END OF COFFERDAM - AROUND THE PROTECTIVE CELL @ CLAIBORNE BRIDGE AND ONTO THE GUIDEWALL - TOOK PRECISION / PINPOINT STEERING IN ORDER TO COMPENSATE FOR WIND SET AND TO LAND ON GUIDEWALL @ INDUSTRIAL LOCK. POWER AND SPEED WERE OF THE ESSANCE.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FL1E1

----------Pilot Comments----------

TRANSITING FROM THE LOCK TO & THROUGH THE CONSTRUCTION AREA AT A 10 KNOT E-WIND, I WAS ABLE TO NAVIGATE THE TOW IN A SAFER-SLOWER SPEED AROUND THE AREA. * SUGGESTION: ① WIND SOCKS WOULD BE A BIG HELP IN NAVIGATION SO AS TO BE PREPARED TO STEER THE TOW IN THE CONSTRUCTION AREA. ② THESE SHOULD BE PLACED ON EACH CORNER (OUTSIDE) OF BUFFER WALLS.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR1E1

----------Pilot Comments----------

The float in place provides a lot more room on both ends and reduces the difficulty greatly. Kim for this design. As long as you curve the wall to the cells.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

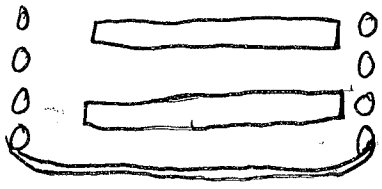
Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR1E1

----------Pilot Comments----------

1. This run was not hard.
2. Round off timber wall to the cells.



IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: (1) – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FRIE1

----------Pilot Comments----------

THIS TRANSIT WAS NO PROBLEM - SLOW & DELIBERATE.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

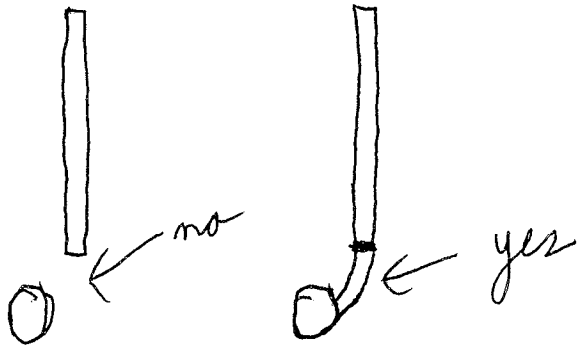
Wind Condition: (E) – ~~10~~ knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FL 3E 1

----------Pilot Comments----------

This run was easy. Plenty of room in all areas. Make sure to curve crib wall over to the protective cell.



IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR3E1

----------Pilot Comments----------

Easy run with loads. Plenty of room.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 10 Dec 07
2:17

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

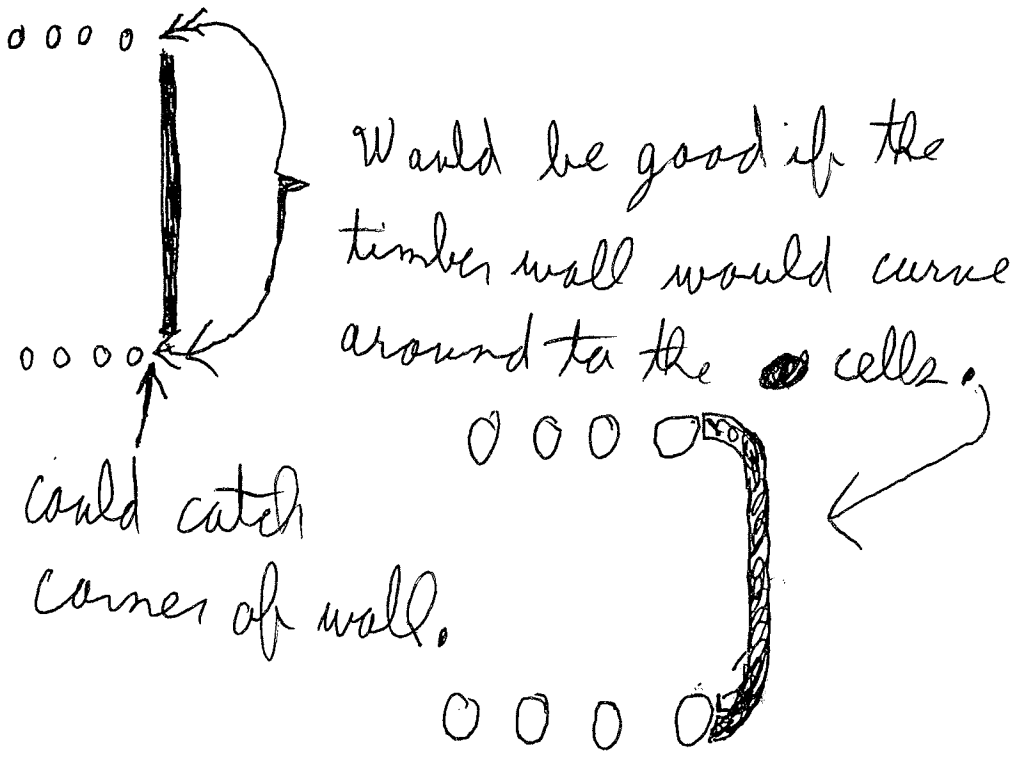
Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FL3E1

----------Pilot Comments----------



IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) 2x2 loaded 4 – 2x2 light

Wind Condition: (E) 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FL3E1

----------Pilot Comments----------

STEERING OUT OF THE LOCK CAN BE DONE IN A SLOW MANNER - UNTIL REACHING THE GUIDEWALL END - THEN ENGAGING THE THROTTLES AHEAD AT HALF SPEED WILL STEER TOW AROUND THE BUFFER WALL * THE MORE THROTTLE AHEAD - THE BETTER THE TOW STEERS - ALTHOUGH THE DANGER IN THIS IS THAT A LOSS IN STEERING AT THIS POINT COULD RESULT IN A LOT OF DAMAGE TO THE CONSTRUCTION AREA *

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR3E1

----------Pilot Comments----------

I TOOK A DIFFERENT APPROACH FROM THE FLA. AVE. BRIDGE TO THE EAST END OF BUFFER WALL (DEEPER APPROACH) AND FOUND THAT IT TOOK THE GUESS WORK OUT OF NAVIGATING ALONG THE BUFFER WALL. STEERING FROM THE WALL TO THE LOCK WILL TAKE LESS SPEED CONSIDERING STOPPING ALONG THE LOCK GUIDEWALL. REGARDLESS, A RUBBER FENDERWORK SHOULD BE IN PLACE TO IMPEDE ANY DAMAGE DONE BY LAYING TOW ON BUFFER WALL AT THE CORNERS.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light (3) – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR3N1

----------Pilot Comments----------

IN THIS SITUATION – STEERING (4) LOADED BGS - EAST TO WEST WAS EASILY TRANSITTED WITH A NORTH WIND

IHNC
Cast in Place / Float in Place

Bridge 1 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FL2E1

----------Pilot Comments----------

(1) IN ORDER TO NAVIGATE OUT OF THE EXISTING LOCK WITH AN EAST WIND @ 20 KNOTS - IT IS IMPERATIVE TO GET AN ANGLE ON THE CLAIBORNE AVE. BRIDGE AND BUILD UP SPEED AT A FAST PACE IN ORDER TO STEER AROUND THE PROTECTIVE BUFFER AND TO CLEAR THE FLA. AVE. BRIDGE

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – **Wind Condition**
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: ((R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR2E1

----------Pilot Comments----------

This run is doable. The hardest part was waiting to clear the cells at the lock end so you could get turned into the port wind so you didn't hit the lock wall.

IHNC
Cast in Place / Float in Place

Bridge (N) 2 (circle one) Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – ~~10~~ knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR2E1

----------Pilot Comments----------

Easy Run. Plenty of room to point up into the wind in the straight way & at the lock where it's tightest.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded (2) – 2x1 light 3 – 2x2 loaded 4 – 2x2 light

Wind Condition: (E) – ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR2E1

----------Pilot Comments----------

THIS TOW HANDLED FINE - MAINTAINING BARE STEERAGE-WAY - MAY ENTAILE MOVING AT A PRETTY FAST CLIP - BECAUSE OF WIND CONDITIONS. BUT OVERALL - STEER WAS ATTAINABLE AT A 5 TO 7 KNOT SPEED.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – ~~10~~ 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FL4E1

----------Pilot Comments----------

The float in place had enough room on both ends to handle these winds & this tow. Please curve the wall to the cells on both ends and put wind socks on each end.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F)(float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – ~~10~~ knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR4E1

----------Pilot Comments----------

This run was not to difficult. The hardest part was getting turned back into the wind at the lock.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – ~~20~~ 10 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR4E1

----------Pilot Comments----------

MAKING THIS TREK FROM BRIDGE (FLA. AVE) TO LOCK (INDUSTRIAL) THE WIND PLAYS A MAJOR ROLE IN KNOWING HOW MUCH SPEED IS NEEDED TO NAVIGATE. WITH JUST THE BUFFER WALL IN PLACE - THERE SEEMS TO BE MORE ROOM TO STEER FROM THE WEST END OF BUFFER WALL - THROUGH CLAIBORNE BRIDGE AND LINE UP ALONGSIDE GUIDEWALL @ THE LOCK

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N (G) - 15 knt E

Number of Runs made: (1) 2 3 4

Filename: 1FL4G1

----------Pilot Comments----------

This configuration was much easier due to the extra room between the end of the lock wall and new lock construction. I don't point up into the wind untill my stern clears the wall on the lock.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N (G) 15 Knts

Number of Runs made: (1) 2 3 4

Filename: 2FL4G1

----------Pilot Comments----------

NAVIGATING FROM LOCK TO LAKE WAS MADE EASILY AS LONG AS TOW CAN BE POINTED TOWARDS THE CRIBBING @ CLAIBORNE BRIDGE - (OFF THE LONG WALL @ INDUSTRIAL LOCK)

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: ((R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N ((G)) - 15knt E

Number of Runs made: (1) 2 3 4

Filename: 1FR4G1

----------Pilot Comments----------

This run was easy except for getting on the lock wall at the end.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N (G) E-15 Knt

Number of Runs made: (1) 2 3 4

Filename: 2FR4G1

----------Pilot Comments----------

THIS SIMULATION WAS EASIER MADE BECAUSE OF
(1) EXPERIENCE IN TRANSITING AREA
(2) ROOM TO NAVIGATE W/ BUFFER WALL IN PLACE

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 10 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

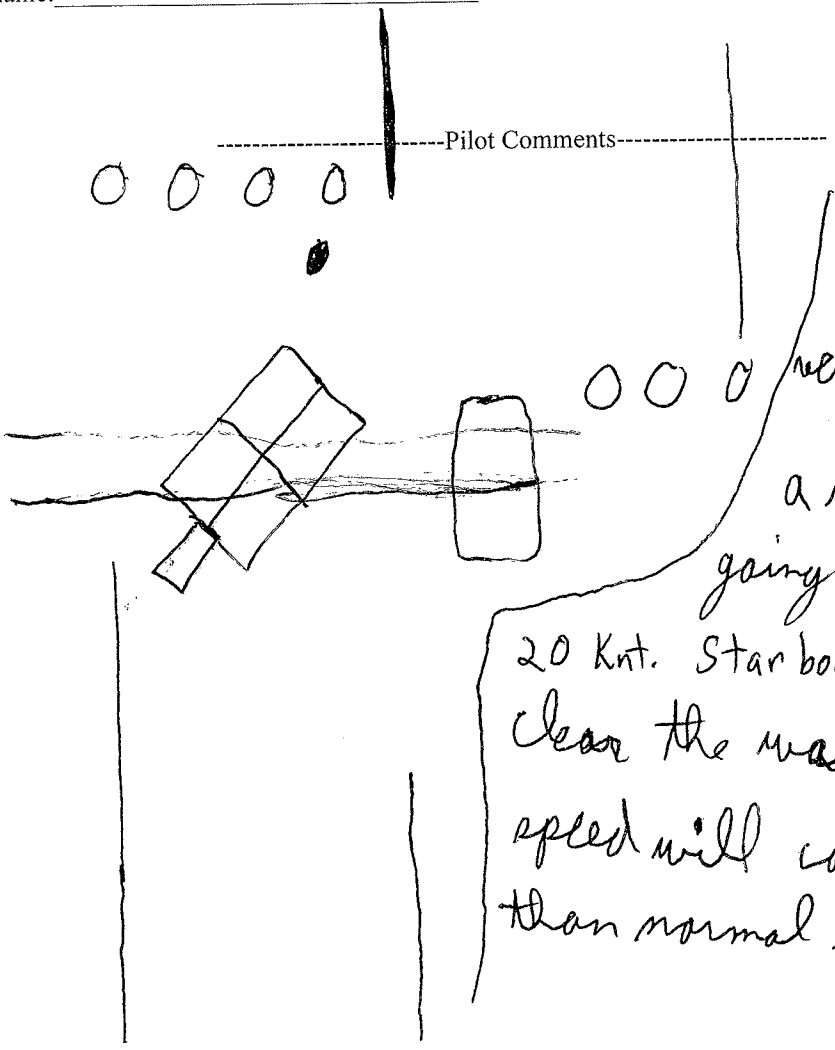
Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FL4E1



IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 11 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4 – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FL4E1

----------Pilot Comments----------

IN ORDER TO STEER AROUND THE "CONSTRUCTION AREA" WITH EMPTY BGS. IN A HIGH WIND, YOU'LL HAVE TO BE ABLE TO PIVOT THE TOW TO GET AN ANGLE ON THE CLAIBORNE BRIDGE - HOOK UP THE THROTTLES AHEAD AND NAVIGATE THROUGH THE AREA AT A HIGH SPEED - BECAUSE OF THE WIND SET TOWARDS THE BUFFER WALL. THE BUFFER WALL NEEDS TO HAVE A CORNER OR BEND ON BOTH ENDS BUT NOT WITH REFLECTIVE MARKERS ON THOSE ENDS!

IHNC
Cast in Place / (Float in Place)

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1 F L 4 S 1

----------Pilot Comments----------

This run had fairly high winds, but there was plenty of room to fight these winds and make the necessary maneuvers.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 15 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FL4S1

----------Pilot Comments----------

STEERING FROM LOCK TO THE FLOAT - SEEMED EASIER BECAUSE THERE WAS MORE ROOM TO MANEUVER - EVEN WITH A SOUTH WIND. SUGGESTION: TAPER BOTH ENDS OF BUFFER WALL (PROTECTIVE WALL) WITH RUBBER FENDERS ON EACH CORNER. (AND WIND SOCKS)

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: IFR4S1

----------Pilot Comments----------

This run was only difficult at the end @ Claiborn Ave. Getting turned back up into the wind

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 12 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR451

----------Pilot Comments----------

NAVIGATING EAST TO WEST WAS EASIER - ALTHOUGH SPEED WAS OF THE ESSANCE. GETTING AROUND CLAIBORNE BRIDGE CRIBBING WAS EASIER BECAUSE OF THE ROOM TO MANEUVER.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 10 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FL4W1

----------Pilot Comments----------

THIS STEER WAS EASILY DONE WITH THE FLOAT IN PLACE.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (10) (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR4W1

----------Pilot Comments----------

NAVIGATING THE ZONE WAS MADE EASIER WITH THE BUFFER WALL IN PLACE BECAUSE OF THE EXTRA ROOM TO MANUEVER.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR4W1

----------Pilot Comments----------

This run was not to difficult

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: IFL4W1

----------Pilot Comments----------

This run was easy. Plenty of room.

IHNC
Cast in Place / Float in Place

Bridge (1) 2 (circle one)

Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: (1) 2

Alternative: C (cast in place) (F)(float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 1FR4N1

----------Pilot Comments----------

This run was fairly easy. Plenty of room to fight the North winds.

IHNC
Cast in Place / Float in Place

Bridge 1 (2) (circle one) Date 13 Dec 07

Naming Convention:
1 – Pilot number
2 – Alternative
3 – Direction
4 – Ship
5 – Wind Condition
6 – Number of times run

Pilot: 1 (2)

Alternative: C (cast in place) (F) (float in place)

Direction: (R)iverbound (L)akebound

Ship: 1 – 2x1 loaded 2 – 2x1 light 3 – 2x2 loaded (4) – 2x2 light

Wind Condition: (E) – 20 knt E (W) – 20 knt W (S) – 15 knts SE (N) – 20 knts N

Number of Runs made: (1) 2 3 4

Filename: 2FR4N1

----------Pilot Comments----------

IN THIS SITUATION - STEERING THE TOW AROUND THE BUFFER WALL WITH A NORTH WIND AND MTY BGS. WAS DONE PRIMARILY USING A SLOWER OR MEDIUM SPEED AND THE ANGLE TAKEN FROM THE WEST WALL TO THE LOCK GUIDEWALL WAS EASIER BECAUSE OF THE EXTRA ROOM TO MANEUVER. IT WOULD BE BENEFICIAL TO HAVE THE BUFFER WALL TAPERED TO THE CELLS AND HAVE WIND SOCKS IN PLACE ON EACH CORNER.

H.S.

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CEMVN-ED-H
10 Dec 07

MEMORANDUM TO FILE

SUBJECT: IHNC LOCK REPLACEMENT PROJECT – NAVIGATION MODEL STUDY (SHIP SIMULATOR) – SUMMARY OF MY OBSERVATIONS DURING RUNS USING THE DESIGN SHIPS ON 6 AND 7 DEC 07

Attendees / Participants were as follows:

Richard Ducros - Pilot
Gary Lynch – ERDC
Howard Park – ERDC
Donna Derrick – ERDC
Dennis Webb - ERDC
Don Alette - MVN, H&H Branch

I arrived at the ship simulator at 1300 Hrs. on Thursday, 6 Dec 07 to observe runs using a configuration of a ship (sizes as shown below) with two helper tugs that are normally tied up to the sides of the ship and run parallel to it; however, under some conditions (as indicated below), these tugs can be re-configured to push at right angles to the ship.

The first two runs that I observed used the smaller design ship (400 ft (L) X 67 ft (BEAM WIDTH) X 30 ft (DRAFT) – a worst-case scenario based on the dimensions of 3 ships that have been arriving at the Seaboard facility lately, as provided by Joe Cocchiara of the Port of New Orleans in his E-mail to Larry Poindexter of MVN dated 10 Sep 07) going riverbound and included a 20-knot wind from the east (it was quickly found that, out of all of the wind directions included during previous runs, the east wind turned out to be the worst condition (i.e., the most difficult to navigate) relative to the vulnerability of the ship hitting the construction site cofferdams (or protection wall for the float-in-place (FIP) plan). The first run was for the cast-in-place (CIP) plan; the second run was for the FIP plan. The FIP plan can be navigated much more easily because it provides much more room along the bypass channel between the construction site and the east bank as well as much more room between the south end of the construction site and the dolphins just north of the Claiborne Ave. Bridge.

The third (CIP) and fourth (FIP) runs that I observed used the smaller design ship going lakebound and included a 20-knot wind from the east. It was noted that, in addition to the need for considerable tug assistance within the dogleg just north of the Claiborne Ave. Bridge, the straightaway portion of the bypass channel was tricky to navigate because the strong east wind was exerting so

much force on the stern of the ship (which has a lot more cross-sectional area perpendicular to the wind than the bow does, so it acts like a sail) that the bow had to be kept as close to the east bank of the bypass channel as possible to keep the ship going straight.

Richard noted that tug assistance was seldom needed to navigate the bypass channel for either plan during the runs on 5 Dec that did not include wind.

IMPORTANT NOTE: All of the runs are being made assuming that NO obstructions (including construction fleet for the FIP) will ever exist within the bypass channel as this would restrict the navigation area much more and make ship navigation through the bypass channel much more difficult. The procedure during construction should be that the bypass channel will be closed to ship navigation at all times during which a construction fleet must be located within the bypass channel during the time that the FIP lock is being set into place.

Gary noted that the cofferdam for the CIP was laid out based on the drawing furnished by Carl Balint of MVN.

The fifth run that I observed was for the CIP plan using the smaller design ship going lakebound, west wind at 20 knots. As explained in the first paragraph of this MTF, this condition was less difficult to navigate than east wind at 20 knots.

INFORMATION TO BE VERIFIED: location of protection wall (appears to be a sheetpile wall in the ship simulator visual scene) for the FIP relative to the edge of the lock and the east bank of the bypass channel, either via a drawing or via "X" and "Y" State Plane coordinates at each end. Gary presently has it located 10 meters from the edge of the lock based on his best estimate of its location using a Powerpoint slide from a recent presentation that Christie Nunez of MVN had E-mailed to Howard. The location of this wall is not too critical as long as it isn't significantly further east of where Gary has it now (in which case it would further restrict the width of the bypass channel). ERDC also requested the elevation of the top of this wall. - **UPDATE** - as of the date of this MTF, Mike Rist of Huntingdon District has furnished drawings showing the alinement and the elevation of the top of the wall).

At this point Richard said that, as a result of the testing that had been done thus far, he had a strong preference for the FIP plan – much easier to navigate. He and Donna also noted that the transit time through the bypass channel was much shorter (about half as long) for the FIP plan as compared to that for the CIP plan.

The sixth run (last of the day on Thursday) that I observed was for the FIP plan using the larger design ship (which represents the largest ship that would ever be expected to navigate the bypass channel during construction of the

replacement lock (475 ft (L) X 70 ft (BEAM WIDTH) X 28 ft (DRAFT), as ERDC ascertained using the list of ships using the IHNC during March through October of 2007 that Richard provided to Dennis during Nov 07) going riverbound, no wind.

The first run made on Friday was for the CIP plan using the larger design ship going lakebound and included a 20-knot wind from the east. Considerable tug assistance was needed within the dogleg just north of the Claiborne Ave. Bridge., including having a tug line up once at right angles to the front of the ship in order to push the bow over to the east. The additional ship length of this larger design ship (as compared to the length of the smaller design ship) made a considerable difference – it was much more difficult to maneuver it within the bypass channel.

Richard noticed that, along the east bank of the bypass channel just south of the Florida Ave. Bridge, a point of land that projects out into the bypass channel is shown in the visual scene for the CIP that is not shown in the visual scene for the FIP (Richard thinks that this point is not actually there). I told Gary about this, and he said that he would check to make sure that an accurate depiction of this area is shown in the visual scenes for both plans.

The second run made on Friday was for the CIP plan using the larger design ship going riverbound and included a 20-knot wind from the east. Richard experienced about the same difficulty navigating riverbound as he did navigating lakebound for these conditions. He told us that he felt that MIDSA may implement restrictions (i.e., daylight navigation only, no navigation when east winds are higher than 20 knots, etc.) for navigation along the bypass channel that may be more restrictive for the CIP plan than those that would be implemented for the FIP plan. He noted that the wider channel area available between the east bank and the construction area for the FIP allows for more cushion as well as for more flow area on each side of the ship; therefore, navigation is much easier for the FIP than for the CIP in the straightaway section of the bypass channel.

The third run made on Friday was for the FIP plan using the larger design ship going lakebound and included a 20-knot wind from the east. Very little tug assistance was needed; in fact, Richard was able to navigate the dogleg just north of the Claiborne Ave. Bridge without any tug assistance.

The fourth run made on Friday was for the FIP plan using the larger design ship going riverbound and included a 20-knot wind from the east – also relatively easy to navigate.

The fifth run made on Friday was for the FIP plan using the larger design ship going lakebound and included a 30-knot wind from the east – some tug assistance was required, but this was generally not too hard to navigate.

The sixth run made on Friday was for the CIP plan using the larger design ship going lakebound and included a 30-knot wind from the east - considerable tug assistance was needed, as was the case for Friday's first run.

Dennis highly recommended that, if the project schedule would allow it, additional ship pilots should be brought in to make runs using the same conditions as described above to expand the data base for this model study. He told me that we should always obtain the viewpoint of more than one pilot in order to ensure the validity of the model study results.

DON ALETTE
Lead Hydraulic Engineer
New Orleans District

CEMVN-ED-HE
2 Feb 08

MEMORANDUM TO FILE

SUBJECT: IHNC LOCK REPLACEMENT PROJECT – NAVIGATION MODEL STUDY (SHIP SIMULATOR) – SUMMARY OF MY OBSERVATIONS DURING RUNS USING THE LARGER DESIGN SHIP ON 25 JAN 08

Attendees / Participants were as follows:

Billy Vogt - Pilot	Dennis Webb - ERDC
Gary Lynch – ERDC	Don Alette - MVN, H&H Branch
Donna Derrick – ERDC	Eric Glisch – MVN, H&H Branch

Eric and I arrived at the ship simulator at 0830 Hrs. on Friday, 25 Jan 08, to observe runs using a configuration consisting of the larger design ship (480 ft (L) X 70 ft (BEAM WIDTH) X 28 ft (DRAFT)) with two helper tugs that are normally tied up to the sides of the ship and run parallel to it; however, under some conditions, these tugs can be re-configured to push at right angles to the ship.

The first run that Eric and I observed was for the float-in-place (FIP) plan with a 20-knot wind from the north with the ship going riverbound. Billy noted that vessels will tend to hug the lock side of the bypass channel since they may be unsure how much navigable room they will have on the east bank (since a wide strip of the area along the east bank will be above the channel side slope and therefore may not have sufficient depth).

Gary noted that the 20-knot wind setting actually simulates winds in the 13-24 knot range to account for the fact that wind speeds are never constant in reality.

The second run that we observed was for the FIP plan with a 20-knot wind from the south with the ship going riverbound. Billy noted that the FIP plan provides about 50 additional feet of navigable width along the lock (or sheetpile) side of the bypass channel as compared to the CIP alinement. Billy required a moderate amount of helper tug assistance to safely navigate during this run.

Billy noted that two additional dolphins are needed - one at each end of the sheetpile - for the FIP plan to protect each end of the sheetpile and to

protect helper tugs that could be sunk if they are punctured due to an impact with the end of the sheetpile.

Billy provided drawings (see enclosure) outlining his concerns regarding the potential for washout of the east bank of the bypass channel just north of the Claiborne Ave. Bridge for both riverbound and lakebound ships and helper tugs. He stressed that it is very important that the riprap design for this area be reviewed to ensure that it is adequate to prevent washout in this area.

Billy noted that a difficulty with navigating during a strong west wind is that the helper tug on the east side would be reluctant to get too close to the east bank for fear of running into the rocks on the channel side slope; however, he agreed with Richard Ducros (the pilot who completed the 6-7 Dec 07 ship simulator runs) that a strong east wind posed the most difficulties overall.

The third run that we observed was for the FIP plan with a 20-knot wind from the west with the ship going lakebound. Billy said that the trick for navigating through difficult alinements (such as this bypass channel) consists of fine-tuning the ship's speed – that is, maintaining a balance between running at too slow a speed (making the ship too vulnerable to environmental effects, including crosswinds) and too fast a speed (making the ship too vulnerable to bank interaction). The speed that usually provides the best balance is between 1.8 knots and 3 knots. For this run, Billy said that he would to use the deep side (or lock side) helper tug more for maneuvering as necessary, and use the ship power for the rest of the maneuvering, since the depth on the lock side is known.

The fourth run that we observed was for the CIP plan with a 20-knot wind from the east with the ship going lakebound. Billy said that it would be better for navigability if the cofferdam cell could be narrower to provide more room (which may not feasible from an engineering standpoint). Considerable helper tug assistance was required during this run.

Billy noted that bow thrusters (for ship speeds up to 2.5 knots) for smaller ships (350 ft long, for example) can help in maneuvering but helper tugs are better because bow thrusters are less effective for ship speeds above 2.5 knots.

Billy agreed with Don that it would be very helpful to the navigation industry to make the width of the channel bottom widely known for either the FIP plan or the CIP plan so that the vessels will know exactly how much horizontal room they have to navigate within.

Billy felt that headwinds tended to provide minimal problems during these runs.

The fifth run that we observed was for the CIP plan with a 25-knot wind from the southeast with the ship going lakebound. Billy had overcompensated slightly

for the wind conditions, ending up a little closer to the east bank of the channel than he had intended to, but was still safely traveling within the confines of the channel and able to navigate through. Because he was closer to the bank wall than he had intended to be, he was unable to use the starboard helper tug for turning at the south end of the lock. He added that the tug would have required a water depth greater than roughly 13 feet and a length of free space of at least one tug along the east bank to be able to assist with the turn.

Billy noted that evasive (or “emergency”) ship handling (i.e., run over to the bank and hold there) would be in effect if a sudden 25-60 knot wind (i.e., during a severe thunderstorm) occurred.

Don asked Gary what water surface elevation was being simulated in these runs. Gary indicated that the water surface elevation being used was 0.

DON ALETTE
Lead Hydraulic Engineer
New Orleans District

ERIC GLISCH
Environmental Engineer
New Orleans District

Enclosure

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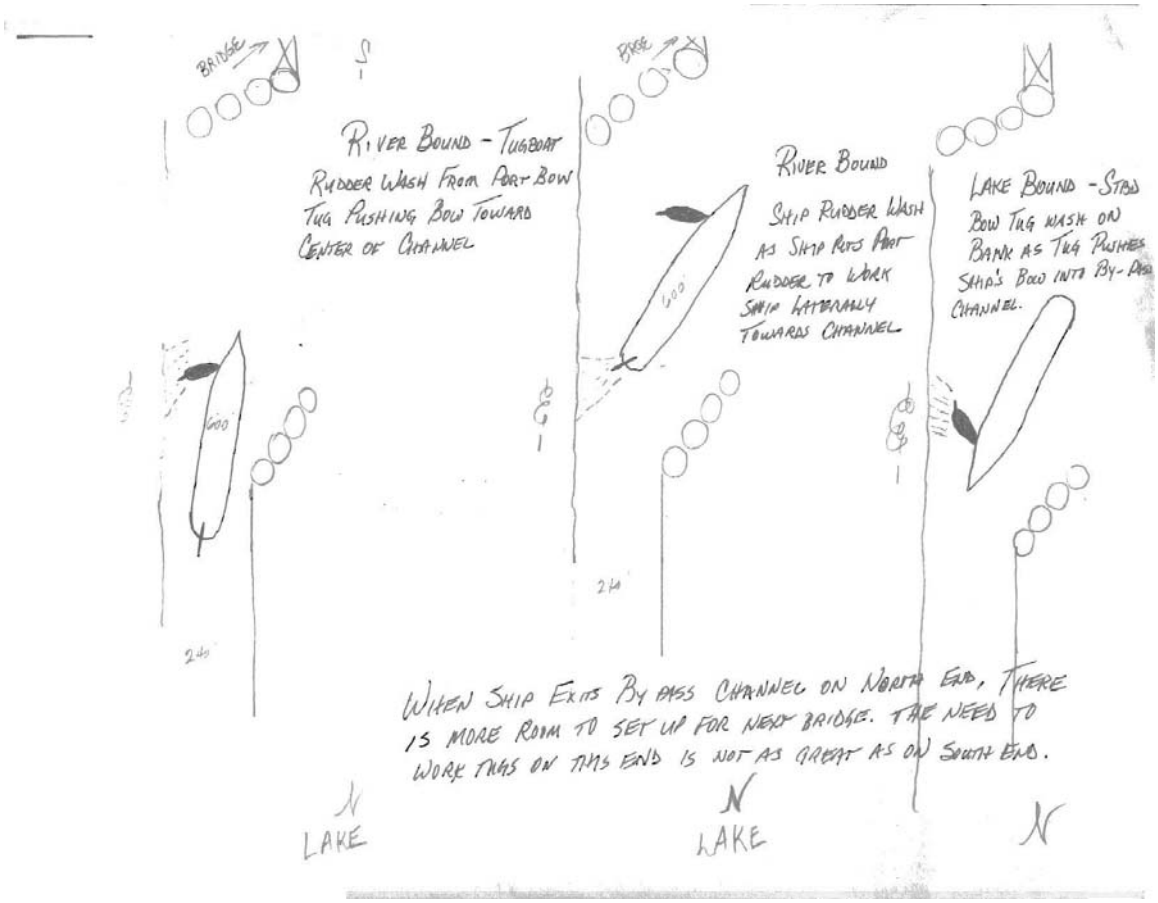
BRIDGE
RIVER BOUND - TUGBOAT
RUDDER WASH FROM PORT BOW
TUG PUSHING BOW TOWARD
CENTER OF CHANNEL
600
240
LAKE
BRIDGE
RIVER BOUND
SHIP RUDDER WASH
AS SHIP PUTS PORT
RUDDER TO WORK
SHIP LATERALLY
TOWARDS CHANNEL
600
240
LAKE
LAKE BOUND - STBD
BOW TUG WASH ON
BANK AS TUG PUSHES
SHIP'S BOW INTO BY-PASS
CHANNEL.
WHEN SHIP EXITS BY PASS CHANNEL ON NORTH END, THERE
IS MORE ROOM TO SET UP FOR NEXT BRIDGE. THE NEED TO
WORK THIS ON THIS END IS NOT AS GREAT AS ON SOUTH END.
LAKE

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