

Harbor Recollections

“Racing between the North and East Shore boats often enlivened these early ferry trips. A collision between the *Wave* and *Samson*, alleged to have been caused by reckless racing, resulted in the dismissal of Captain Braisted of the *Samson*.”

– *Beauregard Betancourt, 1837*



“Before Michael Moran brought order to the chaos of towing, many tugs would race to the mouth of the harbor for an approaching ship and wage a bidding war through megaphones. Sometimes it got physical, with tugboaters tossing shovels, frying pans, and anything else they could find to quiet their competitors.”

– *Marian Betancourt, of the start of Moran Towing Company*



New York Harbor has more stories than could ever be told, and still more story-worthy events take place every day as working vessels and their crews keep the harbor at its tasks. This Shoreline Guide celebrates the harbor and all its aspects, and we invite you to join all tours, culminating in the North River

Tour – actually a parade of ships as you’ll see – as part of that harbor celebration.

– *Working Watercraft of NY-NJ*

Maritime Day

Adopted in May 1933, early in the administration of the newly elected President Franklin D. Roosevelt, Maritime Day has been observed each 22 May since - commemorating the sailing of the *Savannah*, first oceanic steamship, on 22 May 1819, and thus in recognition of the great contributions of the U.S. Merchant Marine to the welfare and security of the United States.

Discover the Hidden Harbor . . .

Shoreline Guide

To New York’s Working Waterfront Saturday 17 May 2003



Robbins Reef lighthouse

the activity of all these ships! Their cargo for this, the nation’s most important industrial center, being loaded and unloaded onto piers, warehouses, barges, and railway cars.

Add to that the tugs needed for moving barges and docking ships, lighters for unloading ships at anchor, and dozens of ferry routes that criss-crossed the harbor amidst frenetic activity. ★ The monarchs of this water were the great trans-Atlantic liners - pride of their respective nations, made fast at their piers on North River (as the lower Hudson is properly called), in both Manhattan and Hoboken. No great city harbor in Europe could accommodate these magnificent liners – instead, passengers had to take a boat

train from London, Paris, or Rome to the docks. ★ But in New York the docks were just a cab ride away. Our embracing harbor, as well, connected railroads from the west directly to Long Island and New

England. And freight cars moved straight across the harbor by “car float” – special barges with



Tug Admiral Dewey

rails. ★ Waterfront maps of the 1940s show that most of New Jersey’s shore from Staten Island to Edgewater (opposite 110th Street) was taken up with active rail yards, as was the Brooklyn waterfront from the Navy Yard all the way to the Verrazano. Our was truly a *working* waterfront with thousands of working watercraft each doing a job. ★ New York harbor is vastly quieter today.

Only *QE2* crosses the Atlantic, and then only from time to time. Car floats at work are rare sights these days; most piers are empty or demolished - collapsing riverward as cleaner harbor waters invite marine life not seen for 200 years to come back and eat their wooden piles. ★ Today, too, virtually all cargo travels in containers and goes to Newark Bay.

Gone are the sounds of the stevedores, the waterfront bars, the sailors, and the rough sets that depended on them. ★ But little known to most New Yorkers . . . ours remains a *working harbor*, with working vessels, active shipyards, busy ferries, and hard-working tugs with barges – as well as oil depots and container ports active around the clock. And to prove it, we offer a Shoreline Guide to the working watercraft and waterfront of today – with recollections of yesterday as well.

– *Huntley Gill, North River Historic Ship Society • John Doswell, Working Watercraft of NY-NJ*



Pier A, the Battery

#1 NEW JERSEY / STATEN ISLAND TOUR

Whitehall Ferry Terminals: Last of the large ferry terminals that dotted the Manhattan shoreline, these serve the Staten Island Ferry (70,000 passengers a day – and free) and the Governor’s Island Ferry. The Staten Island Ferry Terminal is being rebuilt after extensive fire damage in 1991.

■ Staten Island Ferry was owned by

the Baltimore & Ohio Railroad, and has been a City service since 1905.

■ *Ferries land in “racks,” the collection of wooden piles meant to cushion their frequent landings. Currents here are particularly fast depending on tide, so you might see a ferry landing at what seems an odd angle – the Captain is just compensating.*

The Battery: It is from here that mariners calculate tides and low and high water. One of two Circle Lines (see notes, Brooklyn Tour)

leave here for Statue of Liberty and Ellis Island.

■ *Tides and currents in the harbor are remarkably complex. Counter-intuitively, water keeps flowing north up the Hudson and East rivers after high tide, and south after low tide. Tides within the harbor differ by hours. This is clearly not possible, yet it happens that way!*

Deep Water Range: The channel running from the Upper Harbor to

continued

#1 TOUR *continued*

the East River is rather narrow. Look behind the boat toward Brooklyn Heights and you'll see two "range lights" (green and red) on top of one of the pier sheds. When they align one above the other, a captain knows he's in the "range" and deep-water.

Governor's Island: See entry in Brooklyn Tour.

■ *The fort on Governor's Island is Castle Williams, built in 1811 (along with Castle Clinton at the Battery) to protect New York during the War of 1812. It worked: the British burned Washington DC instead.*

Statue of Liberty & Ellis Island: Ellis Island was part of the working waterfront until 1954, when it was closed by the Immigration and Naturalization Service.

■ *Water behind these islands is so shallow you could almost walk to New Jersey.*

Main Channel continues toward Narrows: we bear toward New Jersey—

The Back Channel: Also known as Pierhead Channel, cut through Jersey flats in the 1930s to utilize Jersey marshland.

Caven Point: The huge Claremont Scrap Yards, served by ships and barges, on the south side. The big cone-shaped mound is pulverized scrap iron exported for steel (and often re-imported into Newark Bay as Toyotas). The Army Corps of Engineers has a fleet on the north side, largely for "drift collection" – removing floating debris from the harbor. See the remains of a World War II troopship pier on north side.

■ In April 1943, a Panamanian freighter *El Estero* was at a World War II ammunition depot here when she caught fire. She and three adjacent ships were loaded with some 11 million pounds of explosives, with more on adjacent piers. An explosion would have destroyed Jersey City, Bayonne, northern Staten Island and much of lower Manhattan. In one of the greatest heroic deeds in harbor history, two New York City fireboats, 1938 *Fire-Fighter* (still working) and 1933 *John J. Harvey* (retired but operational) towed the burning ship into the harbor and sank her before she could explode.

■ *To the north, see a new apartment complex at Port Liberté done in "Mediterranean" mode. Planned originally with a yacht berth for each apartment, it instead has a great view of the scrap yard.*

Greenville Railroad

Yards: The name of both channel and rail yards, it is owned by CSX.

McAllister, one of the harbor's biggest tug companies, which still tows "car floats" (special barges for up to 15 railway cars) back and forth from here to 52nd Street Brooklyn almost directly east.

Paper is a common (and very heavy) cargo.

■ Freight cars can reach New England and Long Island only via car floats. At the harbor's height, a remarkable percentage of the waterfront was given over to rail yards for this purpose; this is the last one left.

■ *Congressman Nadler has proposed, and the Federal Government is reviewing, the idea of a freight tunnel from Staten Island to Brooklyn at a cost of tens of billions of dollars.*

Weeks Marine, a fourth-generation stevedoring company, has branched out from its original business of loading and unloading ships to dredging and maritime construction.

■ *Originally ships had their own cranes for loading and unloading; now stevedores bring their mobile cranes alongside, either at anchor or dockside, to do this work.*

Global Marine Container

Terminal: Containers, developed after World War II, dominate world shipping because they are filled once, put on truck or train, loaded on a ship, with the process simply reversed at the other end. This eliminated stevedores and expensive, time-consuming labor of break-bulk cargo but meant the death of shipping on New York's traditional piers. Most containers pass through terminals in Newark Bay.

■ Last major harbor landfill, done in the late 1970s - early 1980s.

■ *Today's environmental regulations would likely prohibit this landfill.*

Military Ocean Terminal was planned as the Port of Bayonne, but taken over by the military in World War II and now closed. Still active is an enormous "graving dock," a dry-dock cut into land. A ship floats in, then a floating steel gate is dropped into slots at the end and forms a dam. Then water is pumped out. This, along with two at the Brooklyn Navy Yard, is one of three graving docks over 1000' in the harbor.

■ *In 1992, QE2, en route from Halifax, ran aground near Martha's Vineyard. She was brought here for emergency repairs.*

Robbins Reef Lighthouse: Lighthouses mark harbor entrances,



Cargo hatches, Port Johnston

major landmarks and major hazards to shipping.

■ Original stone lighthouse was built in 1883, replaced by the current cast iron one in 1933, automated in 1966.

■ *The light's most famous Keeper was widow Kate Walker.*

From 1886 to 1919, she

kept the light burning and raised two children, rowing them to school on Staten Island every day.

Passaic Valley Sewer Outfall is nearby. It is often mistaken for the base of an earlier lighthouse.

Constable Hook was a major oil depot in the harbor.

■ Developed after the Civil War by John D. Rockefeller's Standard Oil, "Con Hook" was the terminal of one of the earliest major oil pipelines from the Pennsylvania oil fields. By 1914 the world's largest refinery, shipping products as far as Russia.

■ *Two historic vessels still in the harbor, Tug Pegasus (built as Standard Oil No 16, now at Pier 62, Chelsea Piers) and Wavertree (now at South Street Seaport Museum) worked here from time to time.*

Kill van Kull is the industrial core of today's working harbor. This narrow waterway between Staten Island and Bayonne handles all the container ships and car carriers bound for Newark Bay, and all other traffic bound for the Arthur Kill.

■ *The Kill is being dredged to accommodate a new, larger class of*



Sandy Hook Lighthouse

container ship. Sadly for the Army Corps of Engineers, the channel is bedrock and has to be blasted.

There is lots of water elsewhere in the harbor, but only this narrow water leads to the container port on the mainland at Newark Bay and so handles most large ships.

To the north in Bayonne:

Oil and chemical docks: We pass oil docks now largely owned by ExxonMobil; also here are Atlantic Cement and Powell-Dufrin

Chemical Docks.

■ Home to coal companies and independent oil depots, where deliveries arrived by ship and were stored pending local delivery by barge.

■ *Ships calling at the chemical dock are nicknamed "Drug store ships."*

Port Johnston is home to Coastal Bayonne, built over a line of wrecks that were schooner barges used for the coal trade; next are the Bayonne City Dock and parkland.

Bayonne Bridge is the longest arch bridge in the world.

■ Built in 1931, it was designed by O.H. Ammann, engineer of most modern large bridges in New York, and Cass Gilbert, architect of the old Custom House at Bowling Green and the Woolworth Building.

■ *Two views of this lovely bridge are notable: the one from here by water, and the view as you drive through (rather than over) the bridge.*

Past the bridge, and too far for us to travel, are Shooter's Island, now a sanctuary, Arthur Kill to the south (the other waterway that makes Staten an Island), and Newark Bay to the north - note large cranes of the port's largest container terminals. Note also major automobile piers, served by ships called "RoRo's - Roll On Roll Off - as cars are literally driven on and off ships.

To the south, on Staten Island (as we turn around):

Car Yard, Contractors' Yards: Various small yards are here.

■ Former site of the ferry to Bayonne. A large arrow-shaped sign once directed cars to the ferry rack.

■ *Don't miss the covered barge, with the partially sunken wreck of lovely little tug Phillip T. Feeney (1892).*

Tug Yards: Reinauer Transportation started 80 years ago delivering oil by truck, and is today one of the largest towing companies - handling oil barges, coal, scrap, and wheat barges. This yard is their worldwide headquarters. Moran has by far the largest presence in the tugboat business. They virtually control the ship docking business.

■ In the days of steam, docking a large ship required up to eight tugs. Commands by the docking pilot were given and acknowledged by a series of whistle signals, still used occasionally today. Modern diesel tugs are much more powerful and fewer are required.

■ *Tugs perform all sorts of functions, and you will see them pushing barges, towing barges and with barges "on the hip" (made up alongside). But ship docking is the*

continued



SHORELINE GUIDE TOURS

Notice to Visitors

Explore the Hidden Harbor by Boat - Tours #1 and #2

Explore the working-harbor back bays, docks, and special shoreline places of the City. All harbor tours offer knowledgeable narration about hidden harbor aspects you might otherwise never know.

Vessel departures: All Tour #1 and Tour #2 departures 11 am-2 pm from Pier 11, foot of Wall Street, Manhattan (A or C train to Fulton St; or 4 or 5 train to Wall St). For Tour #3, see below.

Tickets & Tours: All tours last about 1 1/2 hours. • Tickets from Pier 11 on day of event only, first come first served. • Suggested price: \$2 adults, \$1 children, students, seniors.

Special Hidden Harbor Finale Parade - Tour #3

Vessel departures: 4 pm at Circle Line Pier 83, foot of West 42nd St, Manhattan (M42 bus to Pier 83).

• Departures also: 4 pm at Pier 11, foot of Wall Street in Manhattan (A or C train to Fulton St, or 4 or 5 train to Wall St).

Tickets & Tour: Finale Parade Tour #3 lasts about 1 1/2 hours. • Tickets sold at departure locations on day of event only, first come first served. • Suggested price: \$2 adults, \$1 children, students, seniors

Details—
www.NY-HiddenHarbor-NJ.com

New York Water Taxi Hidden Harbor Special - 10 am - 4 pm

Take the water taxi from the following locations to Pier 11 (foot of Wall St; half-price with coupon).

In Manhattan -
Pier 84 (West 44th St)
Pier 62 (West 23rd St at Chelsea Piers)
North Cove (World Financial Center)
Pier A (Battery Park)

In Brooklyn -
Fulton Ferry Landing (foot of Old Fulton St)

Frequent departures all day - details www.nywatertaxi.com.

Hidden Harbor Tours 17 May 2003

#1 New Jersey-Staten Island Statue of Liberty & Ellis Island down New Jersey shore to Kill Van Kull, Port Johnston, tug and railroad yards.

#2 Brooklyn Under the bridges to Empire Stores, Brooklyn Navy Yard, back to Atlantic and Erie Basin, Red Hook, Gowanus Canal.

#3 North River Up the North River (Hudson) New Jersey side, Morris Canal ferry terminal, Hoboken piers. Coming downriver, explore Manhattan side and escort four cruise ships as they depart the Passenger Ship Terminal. Flotilla will be led by retired fireboat John J. Harvey.

#1 TOUR continued

most desirable work, both because it requires the most skill, and because it puts relatively little wear and tear on the boat. (It takes little time compared, say, to taking a gravel barge to Albany).

Caddell Ship Yard is the largest and best repair yard left in the harbor. (Penn Maritime and Kosnac Towing are between Caddell's East and West Yards.) Caddell has multiple "dry docks" - large floating open-ended vessels which can be flooded and sunk; a ship is then moved into its center, the dry dock is pumped out and re-floated, allowing work on the ship. Caddell works principally on barges and tugs, but is also known for its work on historic vessels such as *Peking* (South Street Seaport Museum) and others. ■ Remarkably, most dry docks here and throughout the harbor are wooden and many date back to the 19th century.

Penn Maritime and **Kosnac Towing and Heavy Lift** yards: Kosnac has the yellow tugs. The family is the third generation of Freddy Kosnacs. Originally they were in the stevedoring business at Pier 11, East River (our departure point); now in towing and dock building business.

■ Until recently, Kosnac owned and operated the 1887 cast iron tug "Hey De," originally *New York Central No. 13* (owned by the railroad). After working some 112 years, she was sold and is now being restored at Pier 63, North River (West 23rd Street). These boats were built to last!

Neighborhoods here called *West Brighton*, *Port Richmond*, and *Mariners Harbor* are communities long involved in shipbuilding and ship repair, home to dock workers and ship captains. Also note *R. H. Tugs*, a restaurant with fattening and fortifying fare and a notable view. Farther east was "Planter's Row" - large houses of southern plantation owners who came here in the summer to "escape the heat."

Snug Harbor Cultural Center: Past the ferry dock, you can see the entrance to what was Sailor's Snug Harbor, once the largest home in the world for "aged, decrepit and worn-out sailors" (over 1,000 at one time).

Now home to various cultural activities including a museum devoted to New York harbor artist John Noble. ■ Built in 1831, financed by Robert Richard Randall at suggestion of his lawyer, Alexander Hamilton. It is a National Historic Landmark comprised of a series of striking Greek Revival pavilions. ■ Much reduced in scale, like the community it serves, *Sailor's Snug Harbor* has moved to North Carolina where, on a shallow sound behind the outer banks, the old salts fend off the heat, all without a view of the ships they retired from.

Gypsum Board Plant: These largely abandoned industrial buildings manufactured plaster, and later gypsum board (its modern replacement). The west end is still used to store salt, delivered by ship. ■ The business was around 100 years old when it closed in 1976. Gypsum came from mines in Nova Scotia in sailing ships, schooner barges, later steamships. ■ Fresh produce, high value cargo, and the like rarely move by ship, but the working harbor remains crucial for heavy goods like gypsum, concrete, gravel, and petroleum.

Staten Island Yankees Stadium: Built at the behest of baseball lover Rudy Giuliani, houses a Yankees farm team. ■ You can see the remains of one of the many float bridges of the extensive Baltimore & Ohio Rail Yards that were here until the 1960s. One of the major East Coast railroads, B&O freight trains ran across the first railroad bridge to cross the Arthur Kill

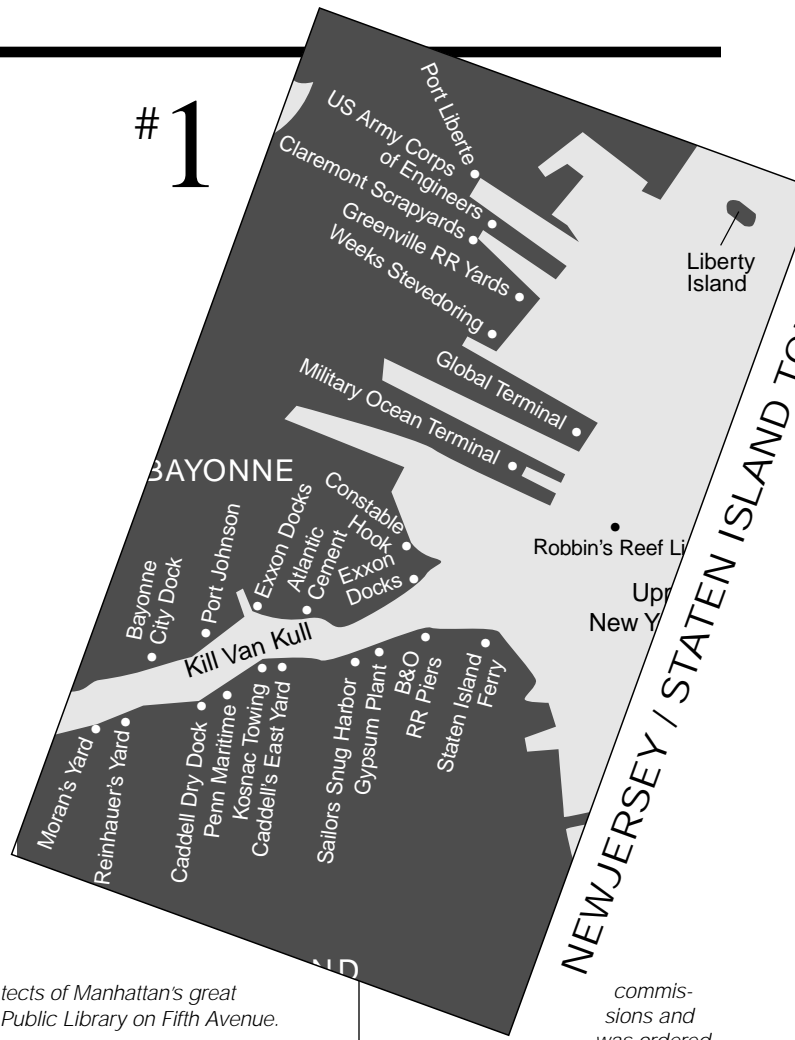
to reach this distribution point for the rest of the harbor, Long Island, and New England.

■ B&O also acquired the *Staten Island Railroad* and the ferry to Manhattan. (Most harbor ferries were owned by

railroads.) The ferry was bought by the City in 1905, and the MTA now runs the railroad as a nominal part of the subway system.

Saint George Ferry Terminal: Staten Island Rapid Transit System and Staten Island Ferry meet here. ■ The current building replaced one which burned in 1940s.

Inland from the ferry terminal is the 1906 *Borough Hall* (prominent clock tower) and *Court House* (columns), both by Carrere & Hastings, archi-



itects of Manhattan's great Public Library on Fifth Avenue.

National Lighthouse Museum: Many sites around the nation competed for this museum, which will be housed in historic buildings behind the pier, now being rebuilt. In June, the lightship *Nantucket* will arrive here. (See Brooklyn Tour section.) ■ Since the early 19th century, this served the US Revenue Cutter Service, then the US Lighthouse Service, and finally the US Coast Guard as a base and repair facility for lightships, lighthouse tenders, and buoys. It was also the nation's major workshop for development of aids to navigation. ■ A new addition to the harbor's historic vessels, the 1933 steam-powered lighthouse tender *Lilac* served here for part of her career.

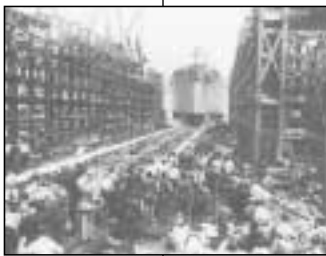
Staten Island Home Port: New piers and buildings were a Naval Station built in 1980s and closed in 1996. One fast naval supply ship is still stationed here, as is the 1938 fireboat *Fire-Fighter*, one of two large active FDNY harbor fireboats. ■ Part of Navy efforts to strategically disburse its forces beyond large bases in Norfolk and San Diego, this brand new facility was opposed by some New York politicians; it eventually was recommended for closure by one of the civilian base closure

commissions and was ordered closed by congress. The ships were returned to Norfolk.

Main Channel: The harbor's main channel runs between Governor's Island and The Statue of Liberty, and is the route followed by large vessels to both the East and North (lower Hudson) rivers. ■ Channels are marked by large buoys that follow a system used in the Americas, Japan, Korea and the Philippines. Returning to port, you keep red buoys on right, green on left ("Red Right Returning").

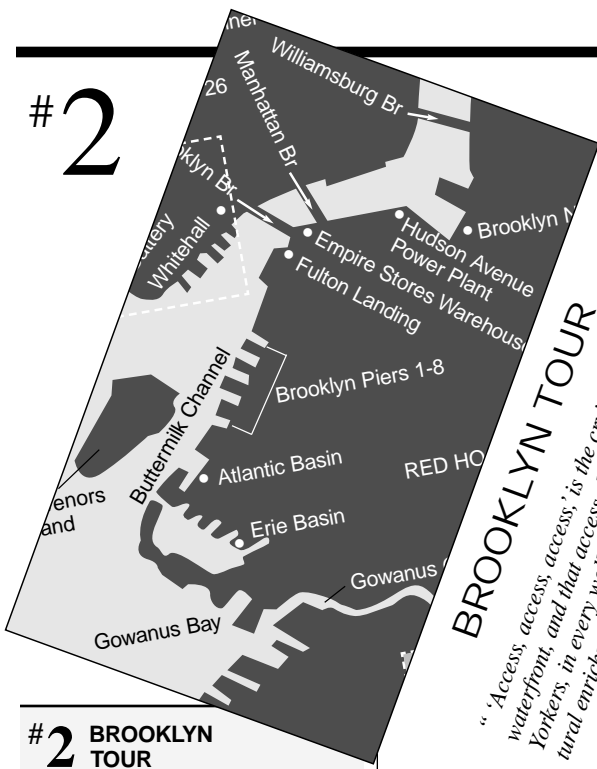
East River: Named not for its relation to Manhattan, as most think, but for the direction a ship is ultimately headed - East out Long Island Sound. Likewise, lower Hudson River is properly called the North River. ■ Captains communicating by radio describe themselves as "eastbound" or "westbound" if in the East River, and "northbound" or "southbound" if in the North River - and so need not mention which river they are in.

South Street Seaport Museum / Fulton Market: Historic vessels, famous old market, 1812 Schermerhorn Row - go see!

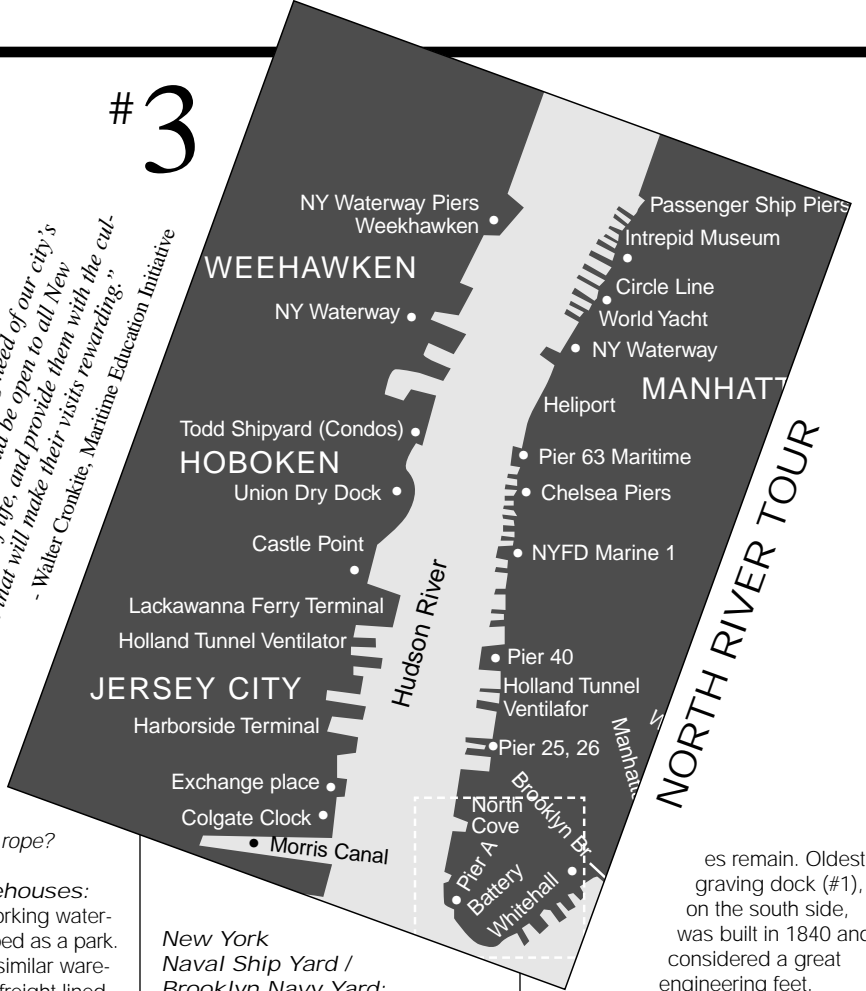


SI Shipbuilding, WWI

#2



#3



#2 BROOKLYN TOUR

Fulton Ferry Landing: Ferry service was restored in 2002 by NY Water Taxi for the first time since 1924. Concert venue Barge Music and River Café both on barges and early parts of the revival of the waterfront. Eagle Warehouse with the large clock, now apartments, was originally home of the Brooklyn newspaper, the *Eagle*.

- The first ferry started here in 1642; Robert Fulton (as in Fulton Streets Brooklyn & Manhattan) steam-powered ferry service started in 1814. The fireboat house with hose-drying tower was built 1926; the last fireboat was stationed there in 1970. Once the home of the National Maritime Historical Society, it is now an ice cream parlor.

- *Revolutionary War patriots lived in Boston or Philadelphia - New York was very Tory (pro-England). It was here that General Washington and his troops crossed the river, abandoning the City in August 1776. The British controlled the City until the war was over.*

Brooklyn Bridge: The world's longest suspension bridge when finished in 1883, and thought by many to be the most beautiful to this day. One of the world's engineering marvels, it rests on giant timber caissons 80 feet below the surface.

- 133 feet above high water, which was the height needed for sailing ships to pass below (look at the masts of *Wavertree* and *Peking* at South Street Seaport in Manhattan).
- *Bridges were a useful side-line for their designers, the Roeblings, whose principal business was making "Wire Rope" near Trenton. A*

coincidence that the bridge uses lots of wire rope?

Empire Stores Warehouses: No longer part of the working waterfront, now being developed as a park.

- Built 1870 and 1885, similar warehouses for water-borne freight lined this waterfront south to Red Hook.

Manhattan Bridge: Completed in 1909.

- *The first was named Brooklyn; only fair to call the second Manhattan.*

Hudson Avenue Power Plant: Power plants require water for cooling and fuel delivery; they occupy much waterfront land in New York. Never a problem on working waterfronts, they become an issue on waterfronts that are being gentrified.

- Site of Poillon Shipyard, builders of well-known schooners.



Sailors Snug Harbor, SI

- *Some of the world's greatest shipyards were on the East River; many of the greatest clipper ships — the fastest and most romantic sailing ships ever — were built in yards nearby.*

BROOKLYN TOUR

"Access, access, access, is the crying need of our city's workers, in every walk of life, and provide them with the cultural enrichment that will make their visits rewarding."

- Walter Cronkite, Maritime Education Initiative

JERSEY CITY

Harborside Terminal
Exchange place
Colgate Clock
Morris Canal

New York Naval Ship Yard / Brooklyn Navy Yard: Commonly called the Brooklyn Navy Yard, this was a vital part of the City's working waterfront since Colonial times. It is now leased to private industry. North side: A cement terminal with giant barge for storage and transfer to ships.

Farther inland, headquarters of the Marine Division of FDNY, the small fireboat *Kane*, and the reserve fireboat *Smith*. East side: Several very large (1,000' and over) Graving Docks (dry-docks cut into land; a ship is floated in, floating steel gate drops into slots at the end to form a dam, water is pumped out.) South side: Smaller graving docks, and Statue of Liberty Circle Line yard. Also a water treatment plant. Water to the north of the Yard: Wallabout Creek had "float bridges" (the ruins remain) which connected to barges carrying railroad cars; they connected in turn to the Navy Yard's internal railroad.

- Site of shipyards ever since the English ran things before the Revolution. Bought by the Navy in 1801 who left in 1966. Several important Greek Revival style houses

es remain. Oldest graving dock (#1), on the south side, was built in 1840 and considered a great engineering feat. *Legendary Monitor*, one of the world's two first iron-clad ships, was built here and along with the Confederacy's *Merrimac* rendered all the world's navies obsolete in one Civil War encounter. Battleships built here include *Maine* of Spanish-American



Fulton Street ships, South Street

war fame, *Arizona* now a memorial on the bottom of Pearl Harbor, and *Missouri*, on which Japan surrendered in Tokyo Bay at the end of World War II. During the war, 71,000 people worked here!

- *There are two Circle Lines. The companies split in 1981, with the original owners keeping the boats that serve the Statue of Liberty and Ellis Island, and new*

investors running the other Circle Line around Manhattan from North River Pier 83.

Heading south from Brooklyn Bridge —

Williamsburg Bridge: Opened in 1903 and named after the Brooklyn neighborhood in which it lands.

- *When completed, the bridge was*

continued

#2 TOUR continued

considered so ugly that the City created a City Art Commission to review all public works to be sure it did not happen again.

Brooklyn Port Authority Piers 1-6: Numbered north to south, now disused and soon to become part of a new park. These piers replaced narrow ones in the 1950s and worked until recently. At Pier 6 is the retired lightship *Nantucket*. Lightships are floating lighthouses, and have been replaced by unmanned structures that resemble oil platforms. *Nantucket* (LV 112), built in 1936, is the largest lightship ever built in the US and is owned by the new National Lighthouse Museum on Staten Island (see the New Jersey-Staten Island Tour), where it will go in June when their pier is restored.

Between Piers 4 and 5 are the remains of another float bridge for railway cars, which was part of the massive Baltimore & Ohio Railroad System; they also had yards near the Staten Island end of the Ferry.

- Between Piers 5 - 6 is the foot of Atlantic Avenue, original terminus of the Long Island Railroad whose tunnel still exists below grade. Ferries left here for Manhattan.

- Before GPS (global positioning systems, using satellites), ships would navigate using radio beacons. One such beacon was on a former *Nantucket* (LV 117), in 1934, when the British liner *Olympic* followed that radio beacon a bit too faithfully - right into the middle of the lightship. The British government paid for its replacement, LV 112, in embarrassed compensation.



Brooklyn Navy Yard

Atlantic Basin: Outside is a container terminal operated by American Stevedoring, along with adjacent Piers 7-8. Containers, developed after the Second World War, dominate world shipping because they are loaded once, put on a truck or train, loaded on a ship, with the process reversed at the other end. This eliminates stevedores and expensive, time consuming labor of break-bulk cargo but meant the death of shipping on New York's tra-

ditional piers. NY City was for most of the last two centuries the most important cargo port in the nation. Now this facility, with Howland Hook in Staten Island, is one of only two cargo-handling docks left in the City; cargo now moves through Newark Bay and New Jersey.

Inside are another car float for rail cars (south end), used until the mid 1990s, and a large barge broken in half due to incorrect loading and awaiting an insurance settlement. The *Verrazano* was built in the early 1950s for the Staten Island Ferry.

Inland is a red brick ventilating tower for the Brooklyn-Battery Tunnel (counterpart to one on the north end of Governors Island).

- Basin built in the 1850s for transfer of cargo between ships, warehouses, and canal boats. New York City's growth in the early 19th century is largely attributable to trade with the rest of the country via the Erie Canal system, and it was here that goods from the west were transshipped to vessels for trade with the east coast and the world. Original warehouses were replaced in the early 20th century by the present concrete structures.

- The water between Atlantic Basin and Governors Island is called *Buttermilk Channel* because (a) it was so shallow that farmers could drive cows across it at low tide or (b) lovely maidens were reputed to have milked their cows at the water's edge while flirting with passing boatmen or (c) the milk transported to NY from Long Island ended up at the East River as buttermilk because of the rough wagon trip. All legends are unconfirmed!

- Governors Island was given to New York by the Federal Government this past year. Uses are being studied, and include historic tourist attractions, a college campus, and housing. Tower at north end is a ventilator for Brooklyn-Battery Tunnel—longest vehicular tunnel in the City.

- Home of the Colonial Governor of New York after 1698. After the Revolution served as headquarters for the Army in New York, which turned it over to the Coast Guard in the 1960s. The northern half is a National Historic Landmark with historic buildings, including three early 19th century forts. The southern half of the Island was created by landfill, early 20th century.

- In 1934 Mayor LaGuardia proposed building an airport on the island (he loved airports). Fine for small propeller planes - less so for 767s. Mayor O'Dwyer proposed putting the UN there in "splendid isolation" from the City. Diplomats doubtless prefer the East Side.

Red Hook: This neighborhood is undergoing change as a center of loft living for artists; several large retail proposals have stirred up controversy among residents. There is a waterfront arts festival annually (which happens to fall on 17 May this year). The large wrapped items are trolley cars for a projected revived trolley line.

- These wonderful, simple, and substantial brick warehouses were built shortly after the Civil War and have been converted to apartment lofts.

- Home to the infamous "Gas House Gangs," the neighborhood had the third highest rate of juvenile delinquency in the nation in 1927.

Erie Basin: This water is protected by "rip-rap" walls. On the north side is a large conical structure for storing sugar. In front of it are the two light towers of the sunken *Lightship 84*, which served off Brunswick, Georgia; she is sister ship to *Ambrose* at the South Street Seaport Museum. You also see some dry docks. The large collection of barges past the dry docks are rental barges belonging to Hughes, one of the harbor's largest barge companies. On the outer side, Reinauer, a prominent tug company, stores its barges. Its tugs can be seen on the New Jersey-Staten Island Tour.

- A swamp in colonial times, it was dammed to form ponds for tidal mills. In 1869 the large breakwater was built and two large graving docks were built. This was the busiest private ship repair facility in the port during World War II.

- Reputedly, original rip-rap walls were off-loaded ballast removed from ships traveling to New York from Europe without cargo.

Gowanus Inlet & Canal: On the north is Columbia Street Grain Terminal, its ten-story high towers built in 1922 for grain traffic on the NY State Barge Canal. The additional towers on top house machinery for drying and cleaning the grain. It closed in the 1960s. The restored covered lighter barge LVRR No 79 (Lehigh Valley Railroad) built in 1914 is now temporarily moored here as a floating museum and theater (she is normally at Red Hook). The piers to the east were the last in the harbor to handle traditional "break bulk" cargo (vs containers). Lee-Vac Oil (formerly Hess) has a major terminal here - watch for some of their tugs and barges. The old ship on the south side at 21st Street is permanently moored and operated as a



Railroad car float

cement terminal, off-loading cement to other vessels.

- The two-mile long Gowanus Canal was built from 1849 to 1860 to provide access to inland sites in Brooklyn, and large industrial sites developed along it. Since it is dead-end, it is not really a canal, but more properly a

creek, but only canals could qualify for state construction money, so. . . . Todd had shipyards in New Jersey, Erie Basin, and on the south side of the Inlet (as well as elsewhere around the nation). They were one of the country's biggest ship builders through the 1960s.

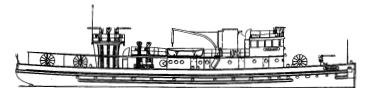
- New York harbor produced lots of seafood even in its filthiest days because it is regularly flushed by the Hudson River from the north, Atlantic Ocean tides from the south and Long Island Sound tides from the northeast. An exception was this canal; with no tidal current it was truly rancid. In 1911, the Gowanus Flushing Tunnel was built from Buttermilk Channel to the head of the canal, its seven foot propeller constantly flushing the canal. It failed in the late 1960s and was allowed to languish. Renewed interest in the area led the City to restore it between 1994 and 1999, and the area (no longer smelling of Very Bad Things), is experiencing a rebirth.

#3 NORTH RIVER TOUR

Traditional Water Displays: As long as there have been fireboats, they have been doing spectacular water displays at civic events. They have traditionally escorted ships in and out of harbor on important events, and particularly on maiden voyages. Today, retired fireboat John J. Harvey (1931, 103' x 28' x 9', 18,000 gallons per minute), and (if we are lucky) an active FDNY boat will escort cruise ships out of the harbor with traditional displays as we ride along for the view.

Active FDNY boats which might join us include:

- Kevin C. Kane (1992) - 52' x 16' x 4'6", 6,500 gallons per minute. • Governor Alfred E. Smith (1961) 105'6" x 27' x 9', 8,000 gpm.
- John D. Mc Kean (1954) - 129' x 30' x 9', 19,000 gpm. • Fire Fighter (1938) - 134' x 32' x 9', 20,000 gpm.



From the East River to the North River: Neither the East nor the North (as the lower Hudson is properly called) rivers are, in fact, rivers. The Hudson is an estuary, and the East River is a strait connecting New York Bay and Long Island Sound.

■ The Hudson River is brackish almost to Poughkeepsie, which is the first town to take water from the river. Thereafter, it is fresh water (although affected by tides all the way to Troy). In winter, the "fresh water ice" can descend the river and be dangerous both because it is harder than salt-water ice, and because it can move in crushing packs. Wooden ships could be badly damaged by that ice, which is why the East River was the center of the port until the 19th century, when iron and steel boats (which could resist the ice) predominated. Then the North River, with its bigger water and slower currents, became the focus of shipping in Manhattan.

**NORTH RIVER,
NEW JERSEY SIDE:**
Heading north from Morris Canal –

Morris Canal is the common name for the body of water just south of the Colgate Clock in Jersey City, and is properly called the Morris Canal Big Basin. Until 1971 the south side was occupied by the Jersey Central and Lehigh Valley railroads. Its passenger ferry terminal is to the south on the river and has been restored as part of Liberty State Park. Almost the entire south side and much of the north side is now host to pleasure boats. At the west end, one important marine contractor and one scrap yard remain as working waterfront.

■ Named after the 1825 canal that ran from just inside near the Clock across northern New Jersey to the Delaware River at Phillipsburg. The complete trip took five days and traveled via 34 locks. In addition, because it crossed some steep terrain, it also include 23 inclined planes; barges were floated onto cradles and moved uphill on tracks using water power. Abandoned in 1924, the Canal was largely destroyed within five years.

■ *The Colgate Clock has been preserved, even though the factory once below it is long gone. Vessels commonly report their position to one another by radio as being "Southbound at The Clock."*

Holland Tunnel Ventilator: On each side of the river stand ventilator towers for the Holland Tunnel.

■ *Vessel Traffic Service, operated by the Coast Guard on Staten Island,*

uses a series of radar arrays and cameras throughout the port to monitor large vessel traffic. This is the northernmost point of its jurisdiction on the North River, and all ships and tugs with tows must report by radio as they enter or leave the VTS area.

Lackawanna Ferry Terminal (Hoboken) is the end of the line for myriad rail lines in New Jersey; ferry service has been restored by NY Waterway, and will be shifted from the float on the Terminal's south side to the original ferry racks once they are restored by NY State. PATH trains also terminate here. Many such terminals once stood along shore south from Edgewater.

■ Transatlantic liners preferred piers in Manhattan, because of the ferry and rail connections. Hoboken was an alternative for the overflow, such as the Hamburg-Amerika, North German Lloyd, and Holland America lines.

Hoboken Piers: Pier A was slated to become the base for an office tower when in 1990, Hoboken citizens challenged the plan, and created this award-winning park as the first in a series to run north for the length of Hoboken. Its simple, open design should serve as an inspiration for Manhattan's Hudson River Park. Note apartment buildings – New Jersey early recognized the value of waterfront for residential use.

■ Once heavily industrial waterfront, including Todd Shipyards, General Foods (Maxwell House Coffee), Delaware and Lackawanna yards, and the Hoboken Shore Railroad.

Union Dry Dock is the last working waterfront site in Hoboken. These dry-docks repair barges.

■ *Atop Castle Point just to the south is Stevens' Institute.*

NY Waterway Yard: This site, just below the ventilators for the Lincoln Tunnel, is the yard for the harbor's largest commercial ferry operator. Ferry service has thrived since PATH trains between Jersey City, Newark, and the World Trade Center were shut down.

■ From the 17th century, ferries were active in the harbor. In the 19th century, they were largely owned and run by railroads (only New York Central, The Pennsylvania Railroad, and the Long Island Railroad had direct access to Manhattan, and even then maintained massive operations). As the railroads left the passenger business in the 1950s, the ferries closed down until only the municipally operated Staten Island Ferry was left. Private ferry service is now returning.

**NORTH RIVER,
MANHATTAN SIDE:**
Heading south from passenger ship terminal piers



Liner Olympic

Manhattan's North River Piers are numbered from south to north. Subtracting 40 from the pier number will give you the corresponding street number. Pier 40 is at Houston Street (the beginning of numbered streets) and, for example, Pier 63 is at West 23rd Street.

New York Passenger Ship Terminal: Piers 88, 90, and 92 were rebuilt in the 1970s for the cruise ship business. Today, only Cunard's *QE2* makes the North Atlantic crossing; she will be replaced on the run next year by *Queen Mary 2*, billed as "The largest, longest, tallest, and most expensive ocean liner in the world." She is 1,132 feet long but carries only 2,600 passengers.

■ The world's great transatlantic liners left from here ("Luxury Liner Row") as required by their great 1,000' length. *Queen Mary*, *Queen Elizabeth*, *Normandie*, and *United States* were the last great super-liners. The pre-war Queens survived until 1967 and 1968 respectively; *Queen Mary* is a hotel in Long Beach, CA; *Queen Elizabeth* burned in Hong Kong while being refitted as a university; *United States*, the fastest passenger ship ever built, was withdrawn from service in 1969 but is being restored as an American Flag vessel by Norwegian American Cruise Lines. *Normandie*, arguably the most beautiful ship ever built, caught fire here in 1942 and was sunk at her pier by fire-fighters; she was scrapped in 1945.

■ John J. Harvey, *the retired fireboat which will escort cruise ships out of port on Hidden Harbor Day '03, May 17, was among those that welcomed the liner Normandie on her maiden voyage in 1935, and then sank her in the 1942 fire.*

Intrepid Sea Air and Space Museum on Pier 86 is home to World War II vintage aircraft carrier *Intrepid*. Other major vessels include the destroyer *Edson* and submarine *Growler*.

■ *The Navy gives surplus ships to qualified not-for-profits and local governments, but retains the right to reclaim them should they not be cared for properly.*

Circle Line and World Yacht at Piers 81 and 83. Operating charter and public trips, some Circle Line boats pre-date WWII and many were built originally as Coast Guard cutters.

■ *The "Other Circle Line" is a separate company, operates boats from the Battery to the Statue and Ellis Island, and has its yard in the Brooklyn Navy Yard.*

Hudson River Park: The profound change in waterfront use is formalized with this park, now under construction and encompassing the entire North River waterfront from Battery Park to West 59th Street. Its mixed uses will include recreation, outdoor space, working piers (the Passenger Ship Terminal), mixed-use piers (25, 54, and 97), museums (e.g. *Intrepid*), and State Route 9-A. Managed by the Hudson River Park Trust, a City and State joint body.

■ *Westway* was a proposal made in the 1970 to bury the elevated West Side Highway in new landfill to the pier head line. Funded by Federal transportation money, it would have included a massive real estate development and a river-side park. It also would have obliterated any memory of this working waterfront that built the City's wealth in the 19th and 20th centuries. Once the proposal was defeated, much of that Federal transportation money was diverted to the subway system, starting its renaissance.

■ *Westway inspired heated passion on both sides. But it was ultimately defeated not by consideration on the merits, but by striped bass which used the rotting piles as habitat. Environmental lawsuits in support of the fish doomed the proposal. Note old pile fields in the Park – piers without their platform or shed – left for the striped bass.*

Pier 63 Maritime is a retired car float (a barge for freight cars) that serves as a pier for *Frying Pan*, a retired lightship, *John J. Harvey*, a retired fireboat, *New York Central 13*, an 1887 railroad tug, and other historic vessels.

■ *Pending reconstruction of designated historic ship piers, Pier 63 is the most important single refuge for historic boats in the City.*

Chelsea Piers is a sports and film complex that also serves as working piers for party boats, pleasure craft,

continued

yachts, and historic tugs, including *Pegasus* (former Standard Oil tug which worked from 1907 to 1998!).

- In Manhattan, only Piers 86 to 92 and Chelsea Piers (59 to 62) could handle the biggest ships. When built in the 1910, designed by Warren and Wetmore, who also designed Grand Central Terminal, the pier-heads were built well inland and the docks were excavated, as piers could not extend beyond the Federal Pier-head Line.
- A pier is a structure perpendicular to the shore to which a vessel is made fast. When there, it is in its dock, which is the water in which the vessel floats. Therefore, to be correct, a vessel can be in its dock but not tied up at one.

Pier 57 replaced the Grace Line pier, burned in 1947. Built on three concrete caissons sunk in the river (rather than the traditional pile field) this pier has usable basements. Used as a bus depot by the MTA until next year, its rôle in the Hudson River Park is yet undetermined.

Pier 53 / *Marine 1* is the last of three fireboat houses that were once on the North River. *John D. McKean*, the boat stationed here, is one of two large boats in service. These large boats can pump the equivalent of 24 land-based fire engines, and were critical at the World Trade Center disaster as the sole source of water for FDNY for three days. Just south of Pier 63 is Gansevoort Peninsula, site of the Gansevoort Destructor Plant (Department of Sanitation, no longer used) and a DoS Transfer Station (also unused), and the largest single piece of land in the new Hudson River Park

- The harbor's piers held mixed cargoes which could include, say, cotton next to barrels of naphtha. They were built on pile treated with flammable creosote. Fires were very common. At its peak, New York had ten large fireboats on station throughout the harbor. These large boats are now rarely needed, but when they are, there is no substitute.
- The Dept of Sanitation has several of the transfer stations, where garbage trucks could drive to the upper level and dump trash into barges, which

then took the trash to Fresh Kills or to waterside recycling plants.

Pier 40 was built in 1962 as the first new pier in the North River in many years, replacing Piers 38-40. It has a hollow center to accommodate trucks – the replacement for the railroads that traditionally served these piers – with parking for passenger ships' customers on the roof.

- Leased for years by Holland America Line, which moved from Hoboken and operated seven passenger liners and 28 freighters.
- Pier 40 is built on steel piles (rather than traditional wooden ones).

Piers 26 & 25: Symbolic of the change of use of this waterfront, these have been used for years for kayaking and rowing (Downtown Boathouse), a historic vessel (*ferry Yankee*), and recreation.

World Financial Center: Like the rest of the North River in Manhattan, the site was once filled with working piers. They have been replaced, and all memory of them obliterated by the landfill out to the Federal Pier Head Line.

- Manhattan has grown almost throughout its length through landfill since the 17th century. In the late 19th century, it occurred to the Federal government that New York and New Jersey might merge unless this was brought under control. Hence the pier-head line beyond which piers (or landfill) is not allowed.

- Ironically, here where the working waterfront was totally erased, it proved its worth on 11 September 2001 when dozens of tugs, pilot boats, ferries and even historic vessels took countless people out of harm's way from here – even without cleats or fendering or gates in railings. North Cove, the protected marina, was intensively used throughout the rescue effort and for months thereafter to provide transport for workers at the site. The area between the *World Financial Center* and Pier 25 was dredged and barges landed there transported the rubble from the site to the closed landfill at Fresh Kills, Staten Island.

In time of crisis in New York, its Working Watercraft once again proved that they and the working harbor are irreplaceable and invaluable.

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Fireboat at Brooklyn Bridge

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