

# THE ROPEWALK



Boston Landmarks Commission  
Environment Department  
City of Boston

Report to the Boston Landmark Commission  
on the potential designation of the  
ROPEWALK BUILDING  
as a Landmark Under Chapter 772 of the Acts of 1976

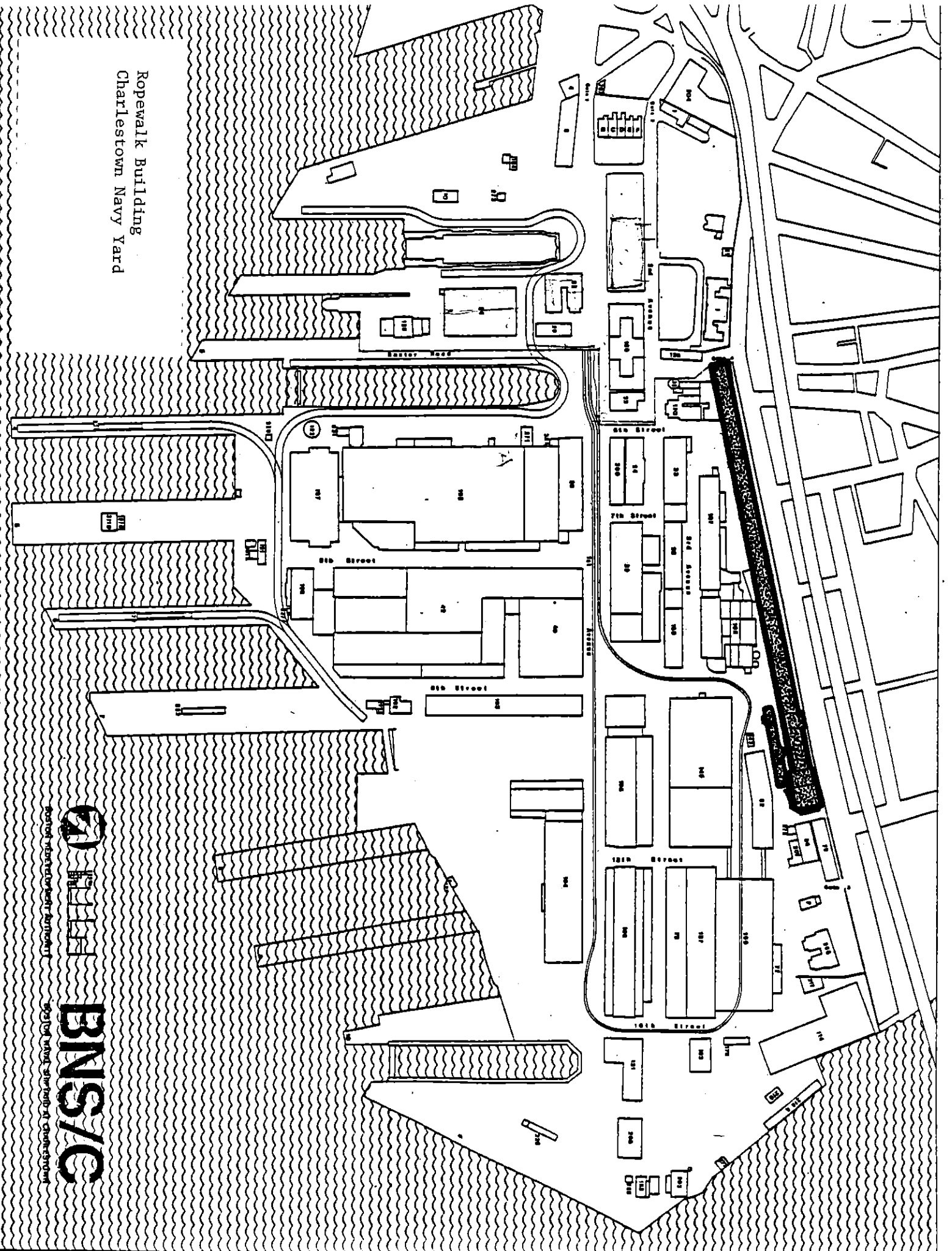
Approved John B. McDonough June 7, 1988  
(Executive Director) Date

Approved Henry June 7, 1988  
(Chairman) Date

Final Amended Study Report posted on January 12, 2024

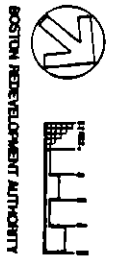
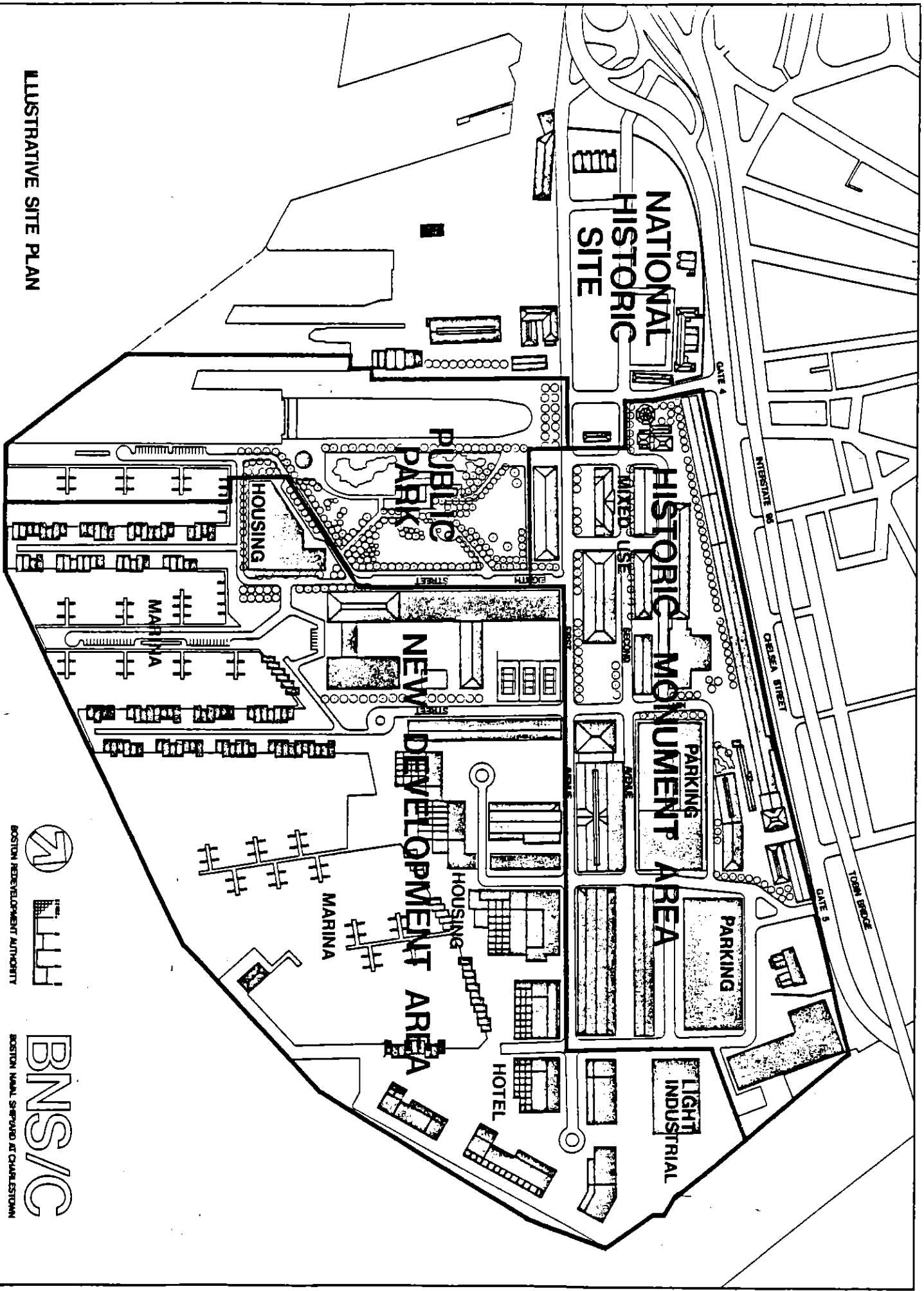
Final Amended Study Report Accepted and Landmark Designated January 23, 2024

Ropewalk Building  
Charlestown Navy Yard



 **BNSYC**  
Boston Redevelopment Authority  
603 Old World Street, Charlestown, MA 02129

ILLUSTRATIVE SITE PLAN



BOSTON REDEVELOPMENT AUTHORITY

BOSTON MARINA SUPERFUND AT CHARLESTOWN

**BNS/C**

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## 1.0 LOCATION OF THE PROPERTY

### 1.1 Address and Assessor's Parcel Number:

The address of the ropewalk is 155 Chelsea Street, Charlestown. It is in Ward 2, Precinct 2. It is included in a larger assessor's parcel number is 3510.

### 1.2 Area in which the Property is Located:

The building is located on the northerly boundary of the Charlestown Navy Yard. It is sited at a slight angle to the rectilinear grid pattern of the Navy Yard, forming a massive horizontal granite border for the Navy Yard property. It runs from Gate 4 along Chelsea Street to just south of Gate 5, parallel to the yard fence. The two level Mystic River (Tobin) Bridge looks down on the property from the other side of Chelsea Street.

Charlestown Navy Yard, also known as Boston Naval Shipyard or Boston Navy Yard, lies at the easternmost point of Charlestown, at the foot of Breed's Hill and the Bunker Hill Monument. The ropewalk is situated in the Historic Monument Transfer Area which is owned by the Boston Redevelopment Authority. Many of the adjoining buildings, including the Hemp House, which was part of the original ropewalk complex, are being redeveloped by private developers. The ropewalk building lies within the boundary of the Boston National Historical Park at Charlestown Navy Yard, although it is owned by the BRA. The original twenty-seven acres of the park lie in the southwest corner of the Shipyard, adjacent to the harbor berth of the USS Constitution. The ropewalk building is not immediately adjacent to the other buildings in the National Historical Park, but is located about two blocks away, down Fifth St.

The Boston Redevelopment Authority has developed a master plan for the Navy Yard that will result in a million square feet of office space, over 100,000 square feet of retail space, and over 3,000 units of housing. More than fifteen private developers have undertaken rehabilitation projects within the Navy Yard. Many of the other buildings are also substantial early nineteenth century granite structures. Nevertheless, there is great variety in materials, size, and style of the Navy Yard buildings, including two enormous industrial storage buildings built during World Wars I and II, a former Chain Forge Building constructed of brick and granite, a turn of the century power plant, and a group of 1880's brick rowhouses.

### 1.3 Map Showing Location:

Attached.

## 2.0 DESCRIPTION

### 2.1 Type and Use:

The ropewalk is a long low structure, 1360 feet long and 45 feet wide, with a three story head house at the eastern end. The "walk" is 1300 feet long; approximately 3/4 of this section is two stories. Built and used almost exclusively for the manufacture of rope for the United States Navy, the building has been idle since 1971. The BRA utilizes part of the building for storage.

### 2.2 Physical Description:

The ropewalk was designed by Alexander Parris and constructed between 1834 to 1837, with later some alterations. The ropewalk incorporates many of the elements common to Greek Revival buildings in particular and are hallmarks of the indigenous Boston Granite style: rough granite blocks with architectural detailing of smooth hammered granite; bold massing; a hipped roof of low pitch in the head house, with a gabled roof on the rest of the walk and all slopes covered with slate; a heavy, simple cornice line with smooth architrave; a simple, regular fenestration pattern; and a large triangular pediment capping the protruding central pavillion on the eastern facade. The building conveys power, clarity, simplicity, and attention to proportion.

The ropewalk was designed with an architectural heirarchy among its sections, from the eastern facade of the head house to the western end of the walk, together forming an unusual telescope massing. The head house, and its eastern facade in particular, have the most architectural detailing; the sides of the head house and the walk itself are more simple.

The head house is three stories tall and square in plan with five bays on each elevation. Quoins articulate the corners of the block and its projecting central pedimented pavillion which holds the main entrance flanked by a pair of window bays. The main entry is flanked by square pilasters of a simplified Doric design which support a simple wide entablature, and is capped by a narrow pediment. The three wood and glass entry doors, deeply recessed, may be original. Simple entrances are fit into the end bays of the head house block as well as one in the southern side: their paired door leaves are boarded up. While many windows are presently boarded up on the head house, the sash were wooden, double hung originally 12 over 12 on the first and second stories and 8 over 8 on the third story. Each window was protected by a single-sided cast iron window shutter, only the hardware of which remains today.

A metal fire escape is attached to the second and third story windows, and a projecting wooden loading bay alters the head house's eastern elevation. Other elements, such as conduit pipe, meters and signage, have left scars or remnants of the heavy industrial use of the structure. Chimneys, apparent in historic photos, are no longer present. Flush skylights penetrate the roof slopes and above the intersecting pavillion gable. Gutters and a snow board exist, but downspouts have been removed.

A two story intermediate section, also five bays wide, connects the head house to the walk. This section is approximately 3 to 5 feet narrower than the head house. The roof of this section is gabled, with a small pedimented dormer attached on the northeast corner, adjacent to the head house. Below the dormer, a door opening formerly connected by a bridge to the hemp house, has been sealed with cinder block. Below this, on the first story, another doorway is sealed up.

Adjacent to this second section is the third and longest section of the ropewalk, which is approximately 5 feet narrower than the second section. As with the rest of the ropewalk, the rough granite block elevations are accentuated only by the regular window pattern and contrasting smooth granite window sills and the cornice architrave. It is two stories in height with 12/12 wooden double hung sash in most windows on the second story and the 8/8 sash on the first story. (The first 200 feet, approximately, of this section date from the 1834 construction: the second story was added soon, in 1856 and again in 1908). Early 20th c. photos suggest medium toned paint, however a mesh grating covers nearly all window openings on the northern and southern elevations of the walk. Hardware remains in situ or evidence of same is apparent. (A 1921 photograph reveals single leave iron shutters hinged on the westerly window reveal of the ground floor windows). Evidence of gutters is apparent. Metal fire escapes are attached to the second story windows at the second, thirteenth, nineteenth, thirty-fifth, fortieth, forty-eighth, sixty-fourth, and seventy-fifth bays of the south side. A bridge to the adjacent tarring house is attached to a second story doorway at the seventh bay. A 1921 photo reveals another metal bridge at the last bay possibly to serve railroad access.

The west end of the third section, like that of the second section, is covered with galvanized sheeting. The raked cornice is wood. A lunette window is located in the gable.

The slate covered roof, which emphasizes the length of the walk, is relatively uninterrupted: five irregularly square cupolas (for ventilation) rise above the ridge line and a dozen regularly placed flush skylights, now mostly boarded over, are set below the ridge line.

The fourth section of the ropewalk is a single story in height (see section on alterations below), with evenly spaced windows that match the 8/8 size window openings of the adjacent section in size. There are double door openings adjacent to the third section, followed by twenty-one window bays, another double door opening, nineteen window bays, another set of double doors - perhaps original but certainly with original door hinges-- and a final window. The western end of this section has a pedimented gable, but no windows.

The northern elevations of the walk are almost identical to the southern sections. However, a small brick addition projects out about ten feet from the third section of the building, twelve bays down from the second section. It is approximately sixty feet long and two stories high. It has several windows on two of its sides and one door on the ground floor of the east end. Otherwise, there are no door openings.



The ropewalk was part of a complex of three buildings which also included the tarring shed and the hemp house. All were designed by Alexander Parris to compliment each other and to facilitate the transfer of materials needed in the ropemaking process.

#### Additions:

The original ropewalk included the three story head house and a 1300 foot walk, 200 feet of which was two stories. Additions in 1856 and 1908 extended the second story by 848 feet. These additions match the original building in form and material.

Besides the other projecting sections previously described, a three story wooden addition was constructed on the west end of the Walk in 1943 for office space. This addition was removed in the early 1970s when the roof was restored to the earlier roof line and re-slatted. The timbers supporting this new roof section do not conform to original specifications.

#### Construction:

Fire protection was of utmost importance in the construction of the ropewalk. The load-bearing brick walls, faced with granite blocks, are two feet thick. The head house has cast iron I beams with alternating segmental brick vaults. Timber trusses were used for the rest of the building where fire was a lesser hazard. Doors and window shutters were made of wrought iron and the roofs were covered with the "best" Welsh slate.

#### Interior:

The ropewalk itself was functionally divided into three sections. The power section, engine room and boilers, were located in the head house along with the support operations section which included a machine repair shop, an oiling room, and offices for the Superintendent of the ropewalk: third was the walk section.

The walk itself, a quarter of a mile in length, occupied the ground floor of the succeeding sections. Here four parallel railways running the length of the building transported the rope-laying machinery. The process required a long, large open space without partitions as the rope was "walked" the entire length of the building. The second story contained the spinning machinery.

Today, sections of the interior of the ropewalk look much as it did when the building was closed in 1971. Much of the machinery has been removed, but some ropemaking equipment remains. The first floor consists of a long, open space, interrupted only by structural posts evenly spaced through the center of the walk. Four sets of tracks, used to walk the rope, run the length of the floor. Mechanical equipment, including sprinkler systems, heating and plumbing pipes, are suspended from the ceiling. The interior walls are constructed of red brick, much of it

painted. The second floor, which runs approximately 3/4 of the length of the first floor, is a long, uninterrupted space. Remaining on the second floor are horizontal shafts and hangars, used to transfer power to the spinning jennies which lined the walls of the room.

The first floor of the head house contains floor to ceiling structures which hold multiple reels of strands. It also houses other representative ropemaking machinery. The second floor of the head house is divided into several rooms, all empty.

Machinery in the ropewalk was replaced periodically with more efficient equipment, although some of the original Treadwell machinery remained until the close of the ropewalk in 1971. A major refitting was carried out in 1898 with machinery manufactured by the Watson Company of Patterson, New Jersey. When the ropewalk was closed in 1971, much of the ropemaking machinery still was in use. Examples of this machinery include: a draw frame, cordage and rope machine to process raw fibers into slivers, designed by the Watson Manufacturing Company in 1898; fine and coarse spreaders also manufactured in 1898; a laying machine, used for laying strands into rope, manufactured in 1895 by the Thomas Ditson Company; a forming machine and hauler, used to twist yarn into strands, manufactured in 1895; and, a reel and rope winder, manufactured at the Navy Yard in 1918. The National Park Service has acquired representative examples of this machinery.

### 2.3 Photographs:

Attached.

Photo opposite: Exterior view  
Photo courtesy Martha Maher, 1986



Photo opposite: Headhouse  
Photo courtesy Martha Maher, 1986

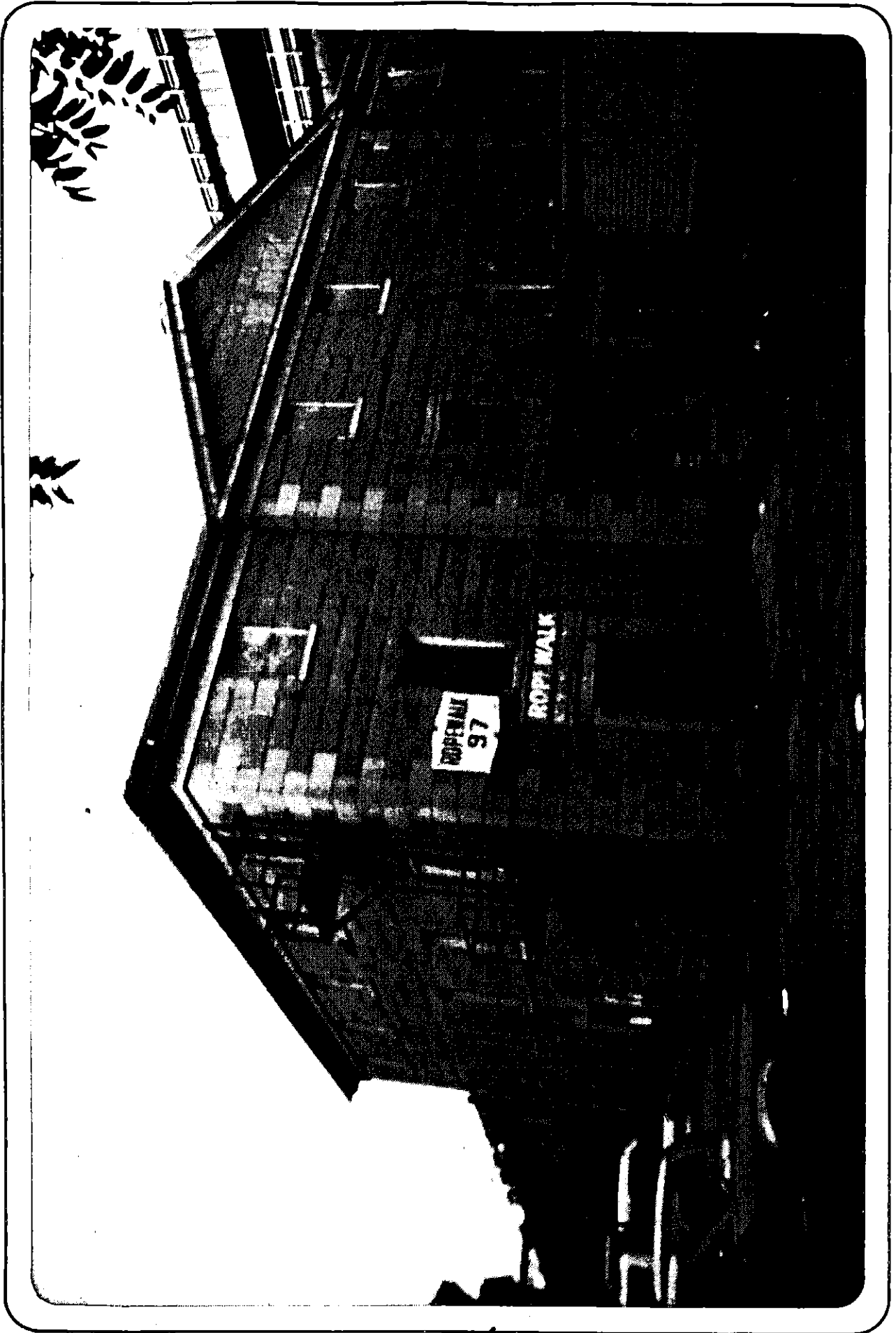


Photo opposite: Entrance to Headhouse  
Photo courtesy Martha Maher, 1986

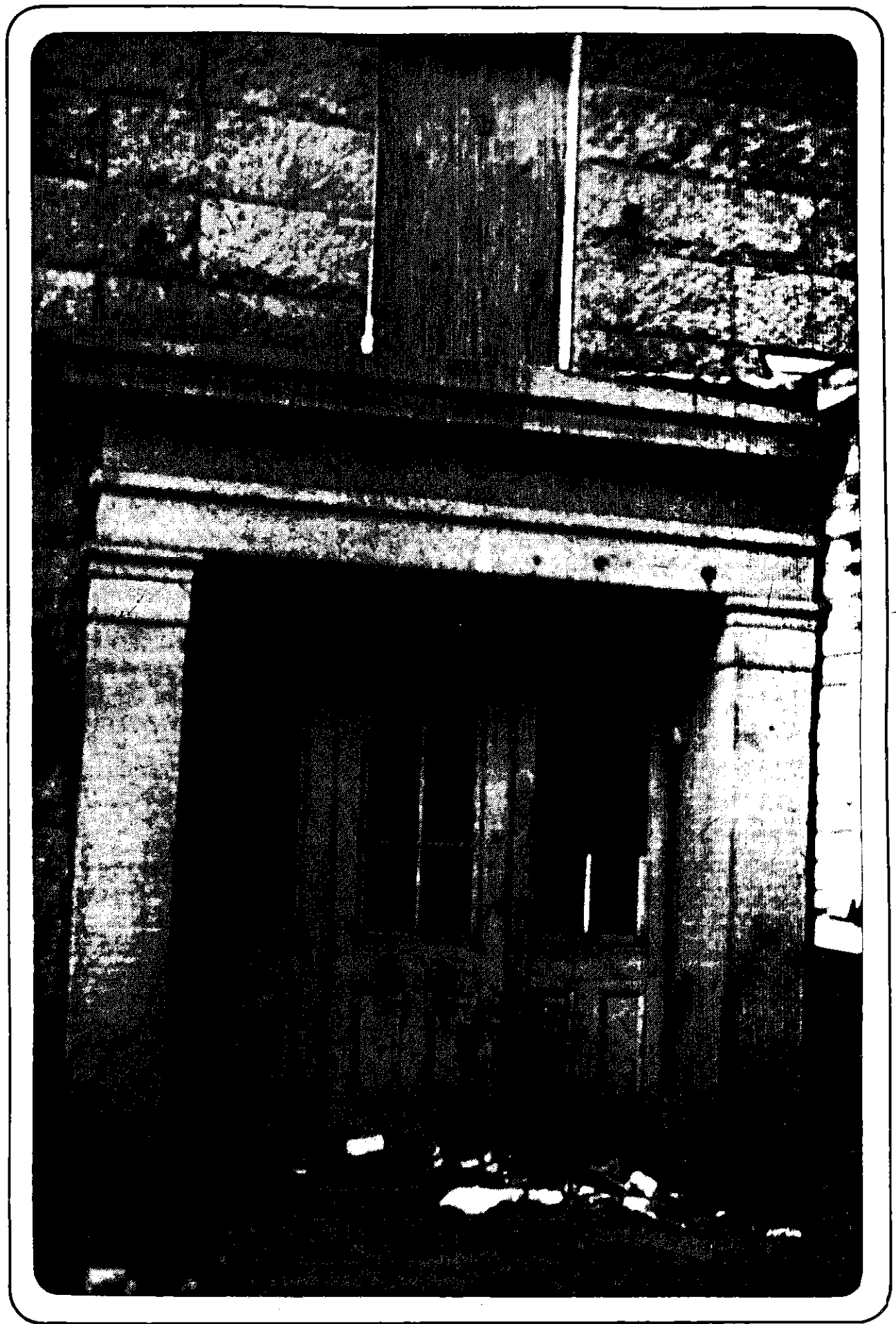




Photo opposite: Exterior view, c. 1950s

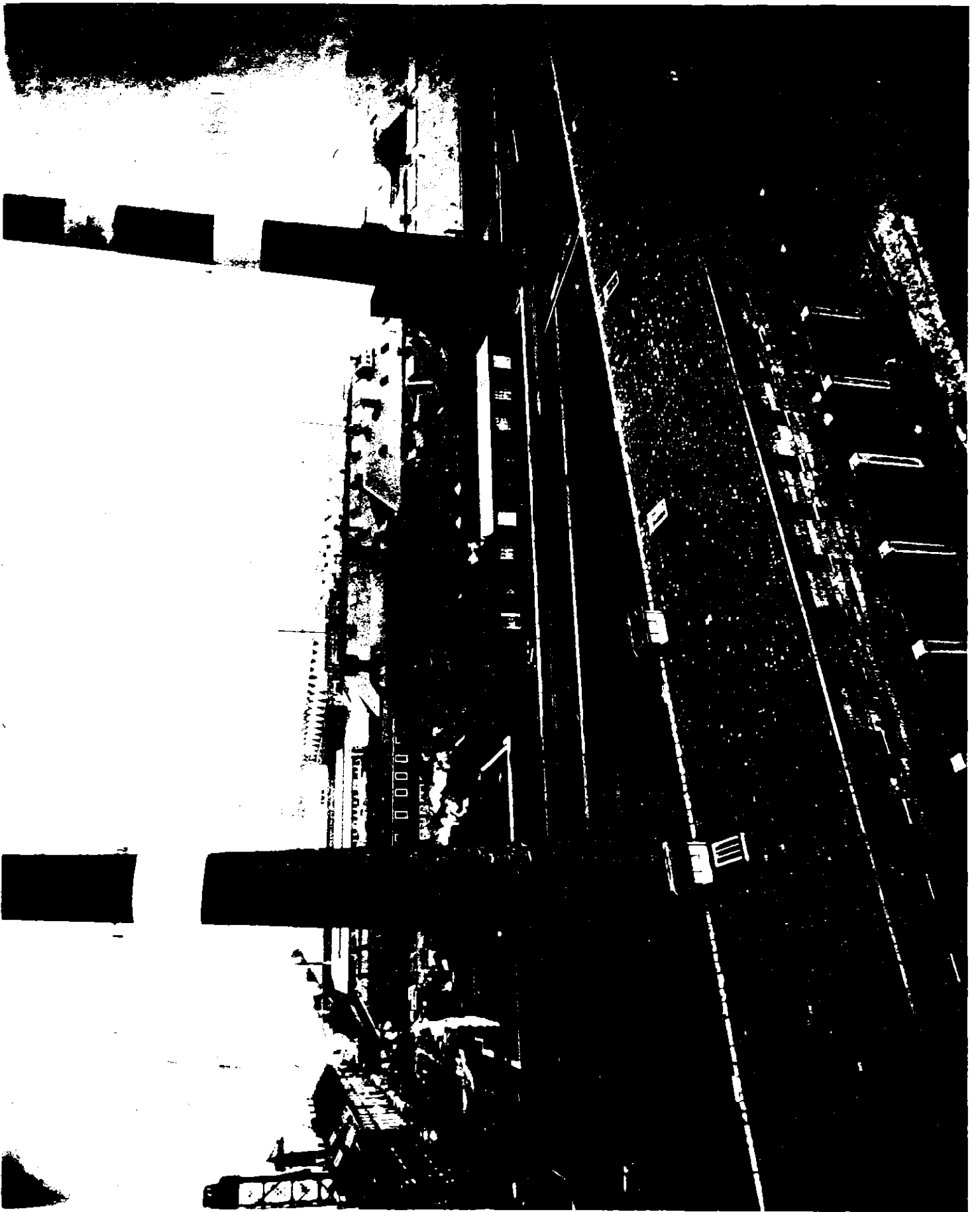


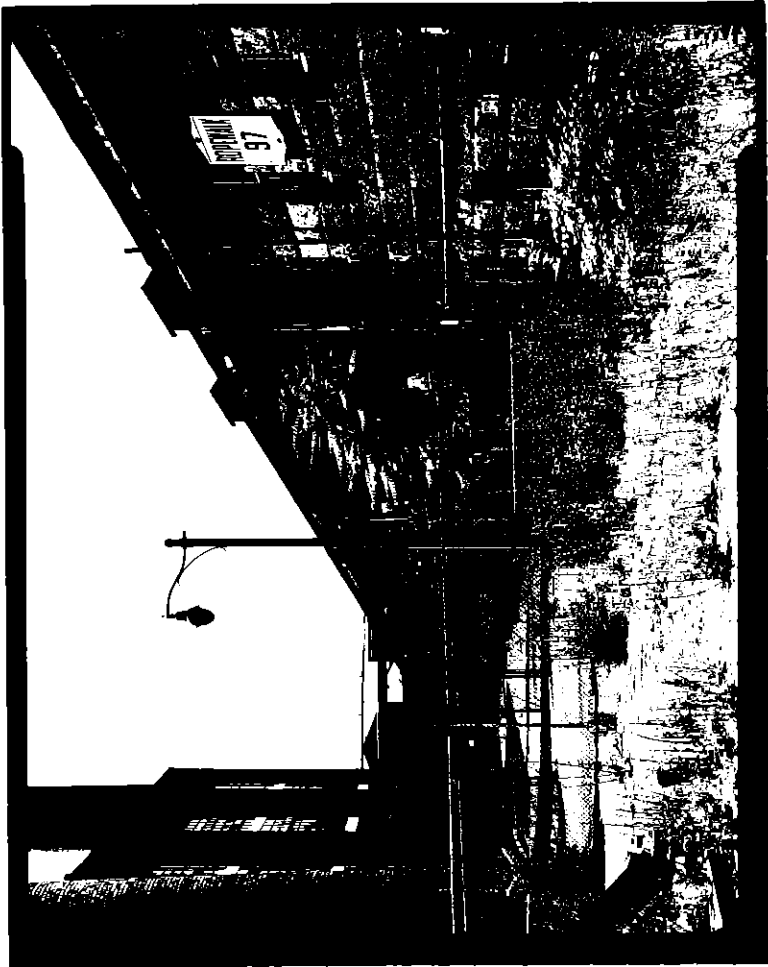
Photo opposite: View towards Headhouse from gate



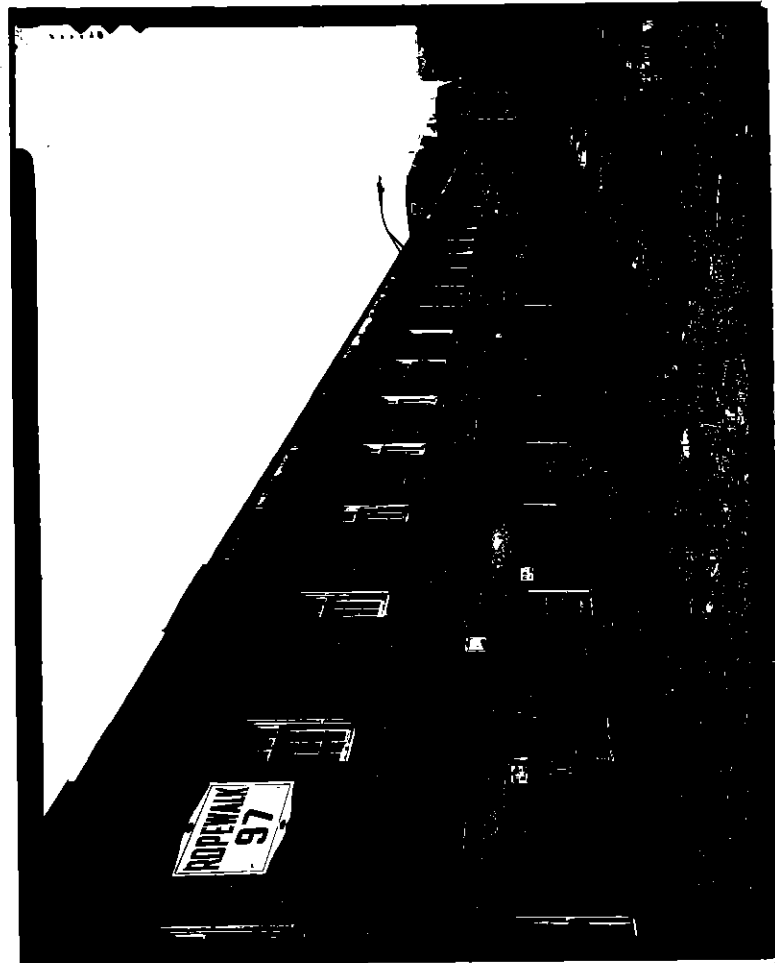
Photos opposite: Views along southeastern elevation,

- A. Two-story section; headhouse at far right in distance
- B. Central section (two story)
- C. Southerly section (one story)

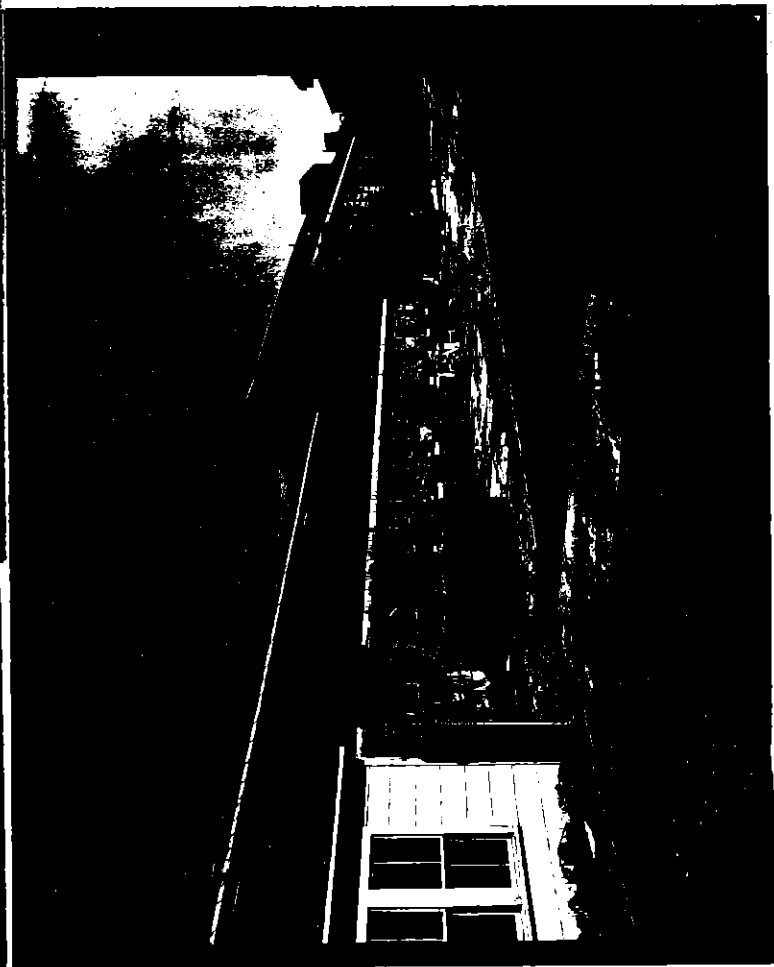
Courtesy Boston Redevelopment Authority;  
Photographer William W. Owens, Jr., 1978



B



A



C

Photo opposite: Historic view, 1921  
Courtesy Navy Yard Archives, National Park Service





Photo opposite: Exterior view, c. 1950s



Photo opposite: Interior  
Ropemaking machinery, c. 1950s.  
Photo courtesy National Park Service, Navy Yard Archives



Photo opposite: Interior, rails, c. 1940s  
Photo courtesy National Park Service, Navy Yard Archives

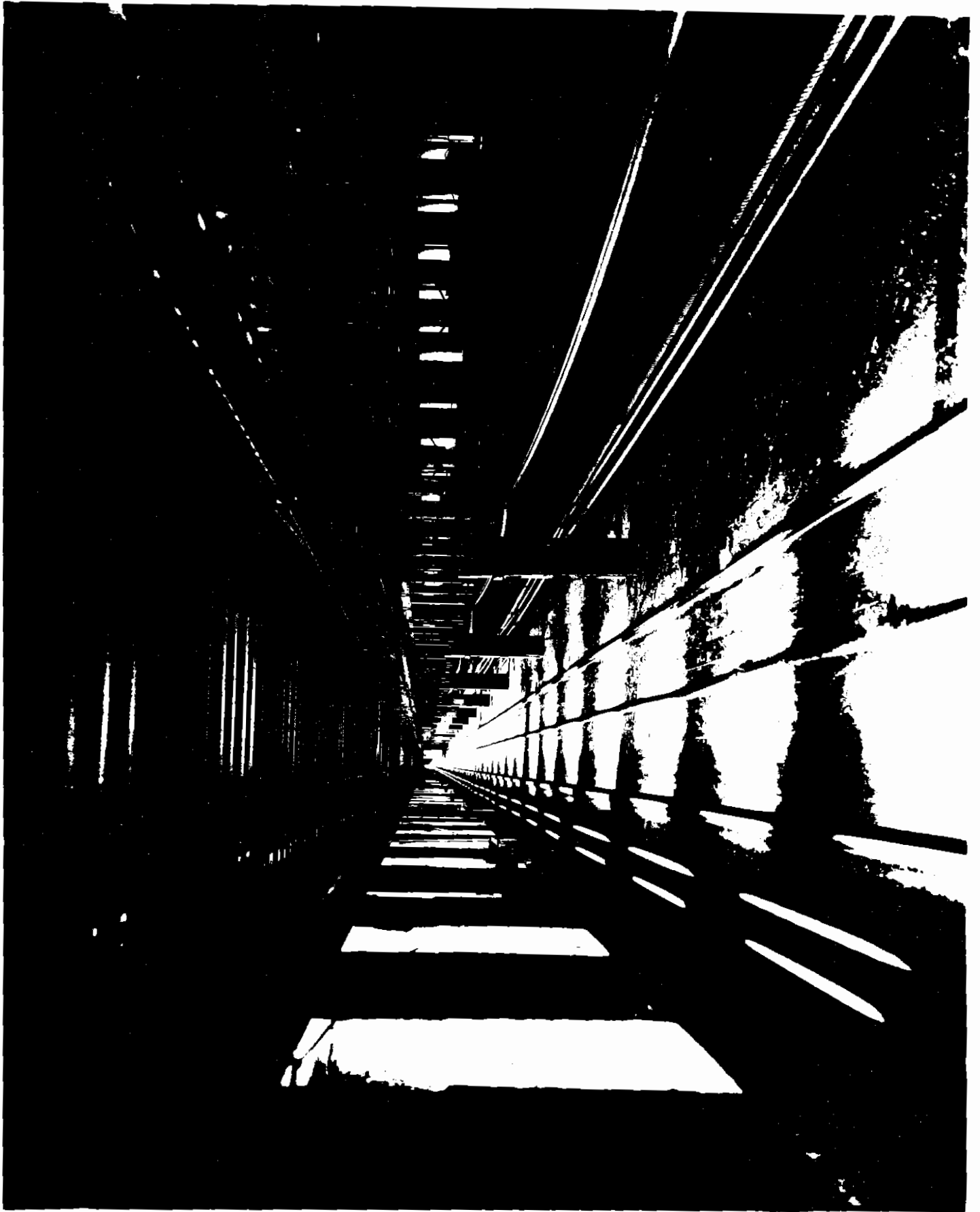


Photo opposite: Interior, machinery, c. 1930s  
Photo courtesy National Park Service, Navy Yard Archives





Photo opposite: Interior, machinery, c. 1930s  
Photo courtesy National Park Service, Navy Yard Archives

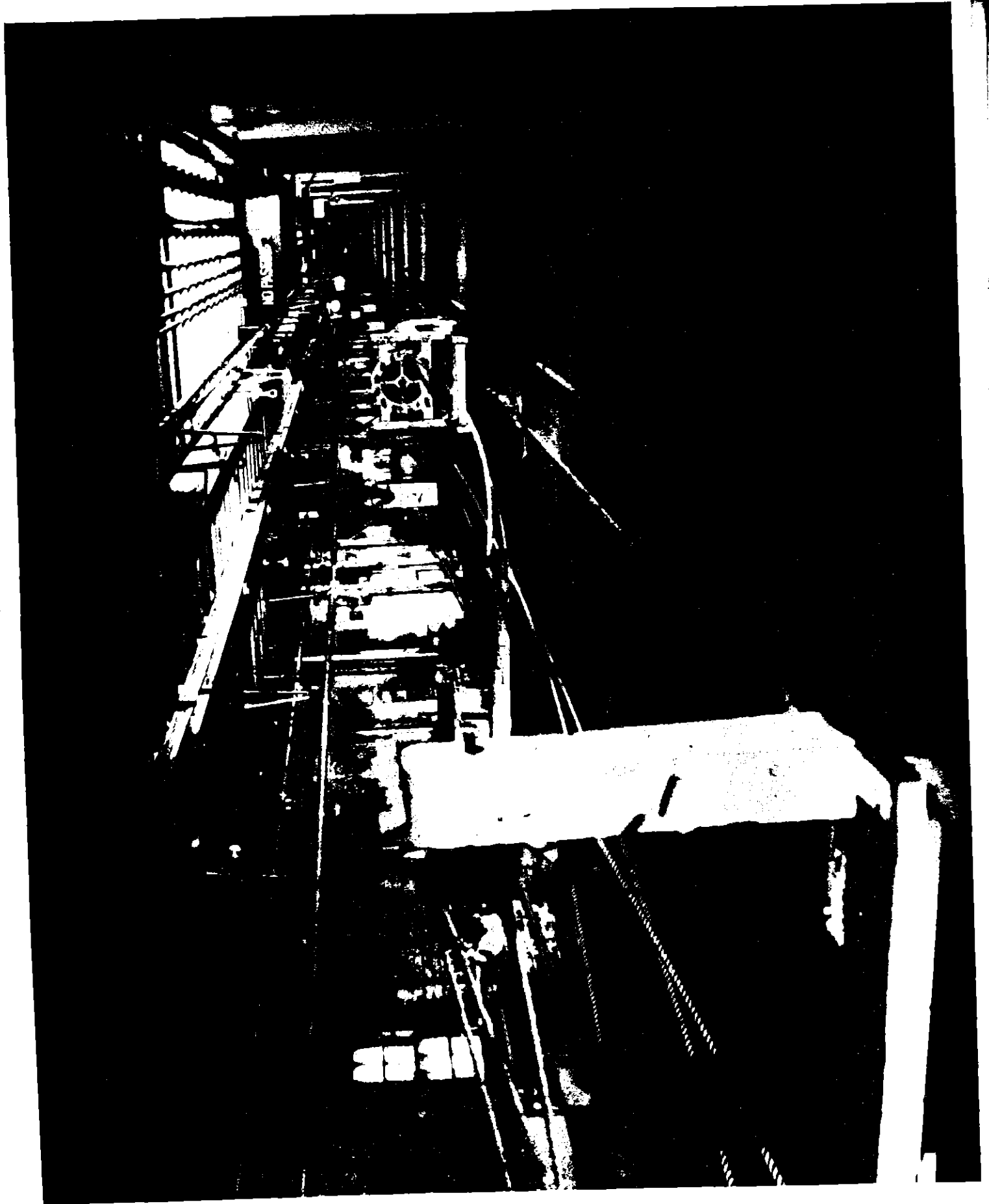
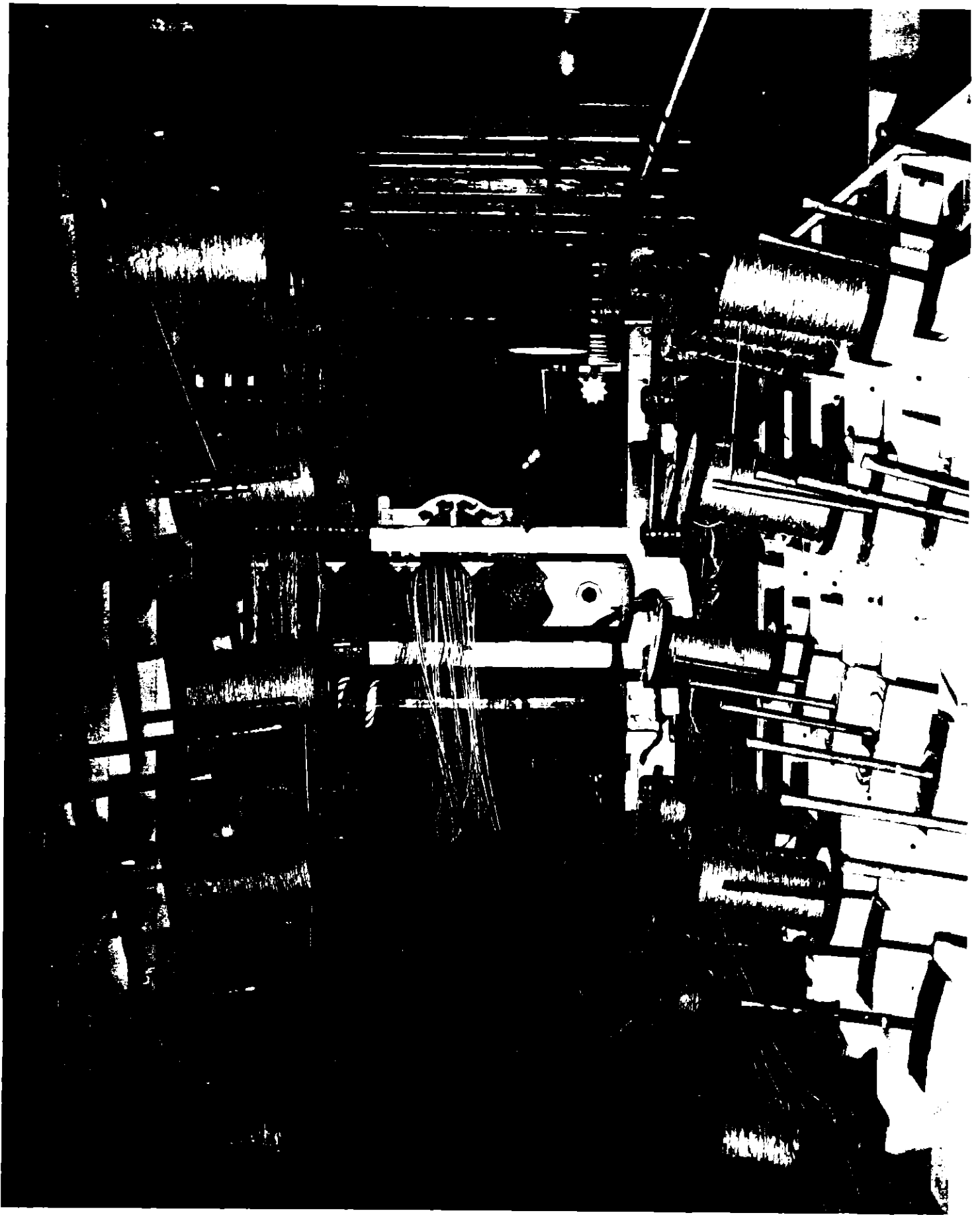


Photo opposite: Interior, c. 1890s  
Photo courtesy National Park Service, Navy Yard Archives



Photo opposite: Interior, 1970s  
Photo courtesy National Park Service, Navy Yard Archives



### 3.0 SIGNIFICANCE OF THE PROPERTY

#### 3.1 Summary of Historical Significance:

##### The Navy Yard

The ropewalk at Charlestown Navy Yard is a unique historical resource. It is the single remaining masonry ropewalk in the United States and possibly the world. Furthermore, the ropewalk has great importance in US Naval history. The Navy's decision to build the ropewalk and to produce its own rope was a controversial one which was soon justified by the quality of the rope and the financial advantage of producing it on site.

In the early days of the Republic, a Navy was created in order to safeguard the growing shipping industry. Facilities were needed to build and maintain the fleet. Soon after the appointment of Benjamin Stoddart as the first Secretary of the Navy, Congress authorized funds in February, 1799 for the construction of ships and shipyards. Secretary Stoddart suggested Moulton's Point, Charlestown, where the British landed to assault Bunker Hill on June 17, 1775, as a possible location for a Navy Yard.

In the following decades, the Yard expanded to fill the demands of the Navy for shipbuilding and repair. Charlestown Navy Yard, also called Boston Navy Yard and Boston Naval Shipyard, served as a major shipbuilding and repair facility from 1799-1973. Some of the more illustrious ships built there include "Boston" (1799), "Independence" (1814) and the "Merrimac" (1854-1855), which was seized by Confederate forces, renamed the "Virginia" and sunk in a fight with the Union ship "Monitor". Thirty nine ships were constructed at Charlestown during the Civil War, and forty three ships equipped. World War II was the period of peak Navy Yard productivity. With an average production time of only six months, 165 ships over 100 feet long were built, in addition to many more smaller vessels.

##### Ropemaking

Ropemaking was in the early days of the new world done on a flat field containing rows of pegged posts on which the strands of rope were laid after they had been walked or spun. In New England, the unpredictable weather led to the enclosure of these "walks" in long, wooden square-window sheds. As early as 1722, there were three ropewalks in the Boston area. By 1794, there were fourteen ropewalks in Boston, and, by 1810, there were one hundred seventy three ropewalks in the United States. In Charlestown, there were several ropewalks, one of which was on the Salem Turnpike, now Chelsea Street. Fire was a constant threat to these wooden buildings due to the combustibility of the tar used as a rope preservative. In 1819, there were three ropewalk fires in Boston alone. Rebuilding was done outside of the city, in less populous areas.

Despite the prevalence of private ropewalks, officials at the Navy Yard were determined to produce their own cordage. Reference was first made to a proposed Ropewalk in the 1828 site plan of the Navy Yard property, prepared by engineer Loammi Baldwin. Also in 1828, Alexander Parris was asked to prepare plans and estimates for four alternative ropewalk complexes, to be constructed in brick or stone. However, Congress could not be persuaded to appropriate the money at that time.

In 1833, Jesse D. Elliott was appointed to be the new Commandant of the Navy Yard. He wrote to Levi Woodbury, Secretary of the Navy, "the contemplated ropewalk...would save to the government enormous sums yearly, besides it would turn out cordage known to be good and at the same time supply it at, or perhaps less, than the current price paid to the constructors." (1) President Andrew Jackson approved the plans on March 28, 1834. Construction was completed in 1837, and machinery began spinning yarns in December of that year.

Much of the success of the ropewalk was due to its machinery, invented by Daniel Treadwell of Boston in the years 1828-1834, and to the integrated design of the ropewalk complex, including the hemp house and the tarring house. Alexander Parris consulted with Treadwell to design a building that would accommodate the machinery most efficiently as well as to provide human comfort for the workers.

Two steam engines in the head house powered the machinery. Manila fiber, imported from the Philippines and Central America was once the principal raw material. In the first step of the ropemaking process, the raw material which was stored in the hemp house, was moved by a metal bridge to the tarring house, where it was preserved with a tar coating. It was taken by another bridge to the ropewalk, where three steps were performed on separate parallel machines. First, fibers were combed into straight yarn called "sliver". The yarns were twisted into strands by whirling spinners mounted on an open railroad car, which moved backwards on rails running the entire length of the building. In a similar operation, the yarns were then twisted together in the opposite direction and "laid" to form rope. These reversing twists would grab tightly against each other, preventing the rope from unravelling and creating the strength of the rope.

Prior to the invention of Treadwell's machinery, these twisting operations were performed manually, with the "slivers" wrapped around the waist of a worker as he turned and backed down the ropewalk. The length of the walk determined the maximum length of rope possible. The Navy used a 210 fathom cable, therefore, the ropewalk was required to be 1300'.

World War I production employed 750 workers in three eight hour shifts. 900,000 pounds of rope were produced monthly, enough to supply the entire Navy. The navy began testing synthetic materials during World War II due to a scarcity of hemp. Despite this scarcity, peak production was reached in 1942 when 2,135,656 pounds per month were produced. 1942 was also the first year that women were employed at the ropewalk. By 1944, 192 women (forty percent of the workforce) were working at the ropewalk.

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1 Helen W. Davis, Edward M. Hatch, David G. Wright, "Alexander Parris: Innovator in Naval Facility Architecture," Journal of the Society for Industrial Archaeology, Volume 2, Number 1 (1976), p.11.



In the 1950's, the transition to synthetic rope production was completed. However, after World War II, the ropewalk was used primarily as a research and development facility. Nevertheless, the ropewalk continued to produce about 20% of the Navy's rope and allied products at a cost benefit until the 1960's, when the government reconsidered the cost efficiency of producing its own cordage. Economic competition from private ropemakers led to the termination of rope production at Charlestown in 1971.

The Charlestown Navy Yard has also had an important place in the history of its surrounding neighborhood. During the periods of high Navy Yard productivity, the population of the area increased rapidly to meet the demand for workers. Housing was built for the waves of immigrants who settled in the area. The local economy flourished whenever the Navy Yard was operating to capacity. Conversely, during the postwar periods, when Navy Yard activity diminished, the local economy became sluggish, construction slackened, and the effects of unemployment were pervasive. Charlestown is presently undergoing a period of revitalization in a parallel time frame as the rehabilitation of the Navy Yard property.

### 3.2 Summary of Architectural Significance:

The ropewalk at Charlestown Navy Yard is the only remaining granite ropewalk in the United States, and possibly the world.(2) It was designed by Alexander Parris with as much concern for engineering as for architecture. The ropewalk is included in the Charlestown Navy Yard which is a National Historic Landmark District.

Alexander Parris (1780-1852) was a well-known architect who had been practicing for almost 20 years when he designed the ropewalk. Largely self-trained, Parris had been apprenticed to a carpenter in Pembroke, Massachusetts. In his early career, he designed houses and churches for the mercantile elite in Boston, Portland, Maine and in Richmond, Virginia. Unlike Charles Bulfinch who did his drawing at home, Parris established Boston's first professional architectural office. He supervised the construction of his projects and employed and trained young architects such as Richard Upjohn and Gridley J. F. Bryant.

Parris' work may be divided chronologically and stylistically into two periods, pre-1827 and post-1827. In Boston, he received acclaim for the David Sears House (1816) on Beacon Street, now the Somerset Club; St Paul's Cathedral (1819-1820) on Tremont Street; and the Quincy Markets (1824-1826). Parris acted as construction superintendent for Charles Bulfinch at the Massachusetts General Hospital after Bulfinch left Boston to become Architect of the Capitol in Washington, D.C. in 1817. Parris became one of the major Boston architects, perhaps even the foremost, in the decade following Bulfinch's departure. Edward Zimmer suggested, in his doctoral dissertation, "there is no indication that Bulfinch intentionally transferred to Parris any clients or projects, but the latter did more or less inherit the former's practice." (3)

Parris was not only an architect, but also an engineer, and his work after 1827 confirms this. He was listed as "architect and engineer" in the 1818 Boston directory. During the War of 1812, he had been the Captain of a company of engineers. He first worked at the Navy Yard in 1824, with the design of the granite wall along Chelsea Street. From 1827-1833, he worked with master engineer Loammi Baldwin on dry dock I at Charlestown Navy Yard. After 1827, the Federal government was Parris' principal client, with much of his work done for the Navy.

Parris adapted his Greek Revival vocabulary "to fit the requirements of these extremely functional, utilitarian buildings, never losing the power, the clarity, or the simplicity that always characterize his works." (4) Parris designed and supervised the construction of seven

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2 A 250 foot section of a wooden ropewalk & some late nineteenth century ropemaking machinery from Plymouth Cordage Company, Plymouth, MA was moved to Mystic Seaport in the 1950's for use as an inactive exhibit. Investigation of international naval facilities, i.e. in Great Britain, reveal no complexes extant of this size or material. Further research is hampered by the classified nature of military facilities in all countries.

3 Edward Francis Zimmer, "The Architectural Career of Alexander Parris (1780 - 1852)," (Ph. D. dissertation, Boston University, 1984), p. 253.

4 Davis et al., "Alexander Parris: Innovator," p.4.

substantial granite structures at Charlestown Navy Yard: three storage houses, a Navy hospital, and the three buildings of the ropewalk complex.

The ropewalk buildings exhibit the proportions, logic, and simplicity which is characteristic of Parris' later works and of the Boston Granite Style which was a dominant style among many of the commercial and industrial areas of Boston from 1820-1840. Early nineteenth century taste demanded refined dignified appearance for many of the most utilitarian warehouses and lofts. The details on these buildings were characteristically restrained and austere. The opening of the Quincy quarry in 1826 by Gridley Bryant and Solomon Willard made granite more readily available, and the development of a mechanical hoist and rail transportation in the quarry facilitated its delivery.

Parris was also innovative in the design of the ropewalk. He was mindful of fire safety and human comfort. He experimented in the use of wrought and cast iron, steam and steam-operated machinery, and fireproof construction techniques. He enclosed the most fire hazardous processes in separate structures. The head house was supported by cast iron I beams and brick vaults for fire protection. Tar was heated by steam pipes, rather than by wood fires. The walls were two feet thick and backed with brick. Wrought iron doors and window shutters and slate roofs provided additional fire protection. Early central heating was provided by steam piping along the baseboards. Underground tunnels transferred power and steam piping between the ropewalk and the tarring house.

### 3.3 Relationship to Criteria for Landmark Designation:

The ropewalk building clearly meets the criteria for Landmark designation, as defined in Chapter 772 of the Acts of 1975 as follows:

- (1) As a structure identified prominently with an important aspect of the economic and social history of the city, the Commonwealth and the New England region, and the nation, that is, the manufacture of rope for the entire U.S. Navy from its early history until the most modern period.
- (2) As a structure representative of elements of architectural design embodying distinctive characteristics of a type inherently valuable for study of Greek Revival, Boston Granite Style architecture and ropewalk construction, together comprising a unique resource in the United States.
- (3) As a notable work of Alexander Parris, an architect whose work influenced the development of the city and its environs.

#### 4.0 ECONOMIC STATUS

##### 4.1 Current Assessed Value and Property Tax:

There is no separate assessment available for the ropewalk. It is included in an assessment parcel that includes the entire Historic Monument Area of the Navy Yard. This total assessment for parcel 3510 is \$2,575,000. There is 500,469 square feet of land area. The property is exempt from property tax, due to its ownership by the BRA.

##### 4.2 Current Ownership and Occupancy:

The ropewalk is currently owned by the Boston Redevelopment Authority. The Charlestown Navy Yard closed in 1973, at which time the General Services Administration obtained control of the property. The Surplus Property Act of 1944 and the Historic Monument Act of 1977 authorized the transfer of the property to the BRA, with the stipulation that the exteriors of the buildings be preserved according to the guidelines in a Memorandum of Agreement among the BRA, the National Advisory Council of Historic Preservation, and the General Services Administration. In 1974, twenty seven acres of the Yard had been turned over to the National Park Service to become part of the Boston National Historical Park. The ropewalk was added to the NPS boundary through an Act of Congress in 1978. However, the title was never transferred, because Congress did not appropriate the necessary money for the purchase.

The ropewalk is unoccupied, as it has been since 1971. The BRA uses a small section of the ground floor for storage.

## 5.0 PLANNING CONTEX

### 5.1 Background:

The ropewalk is located in the Charlestown Navy Yard which is currently undergoing the largest and most extensive rehabilitation program in the United States. The Navy Yard has had alternating periods of productivity and decline in activity throughout its history, as a result of the requirements of the US Navy for the production and maintenance of its ships.

When the Navy decided to deactivate the Charlestown Navy Yard in 1973, the General Services Administration obtained control of the property. As mentioned previously, the Boston Redevelopment Authority and the National Park Service acquired the rights to use and develop this real estate from GSA.

### 5.2 Current Planning Issues:

The Navy Yard has been divided into four parcels: the National Historic Site, a public park, a New Development Area, and the Historic Monument Area. The National Historic Site includes in its thirty acres the Boston National Historical Park at Charlestown Navy Yard. The National Park, home of the USS Constitution, is one of Boston's most popular tourist attractions.

The Navy, in conjunction with the Park Service, offers tours of the Constitution and of the destroyer, USS Cassin Young. The Constitution Museum, a private museum which exhibits maritime artifacts, has a cooperative arrangement with the Park Service and is also located on NPS property, as are the National Park Service administrative offices.

Shipyards Park, the second parcel, has been developed by the BRA. The sixteen acre site includes Dry Dock #2; Pier 4, on which is being built a public dock with fifty slips for short term rental and space for tour boats, commuter boats, and water taxis; a children's play area; grassy meadows, shrubs, flower beds, and a large granite fountain. This land was transferred to the BRA at no cost, conditional upon its future use for public recreation.

The third parcel, the New Development Area, includes eight original buildings on fifty-seven acres. The designated developer of this parcel is Immobiliare New England, owned by Boston developer Neil St. John Raymond. New construction and rehabilitation on this parcel will produce 1200 housing units, both rental and condominium, one half of which will be located in recycled buildings. Ten percent of the total housing will be reserved for the elderly in a project known as Shipyards Quarters. Twenty-five per cent of all housing will be affordable.

The Historic Monument Area, where the ropewalk is located, is the fourth development parcel. The thirty acres in this parcel were transferred by the GSA, through the Bureau of Outdoor Recreation, to the BRA at no cost in 1977 under the authority of the Surplus Property Act of 1944. The cost-free transfer of the property was conditional upon

adherence to guidelines for preservation of the exteriors of the buildings. These guidelines are contained in an Memorandum of Agreement between The BRA and the National Advisory Council on Historic Preservation. Progressive Architecture awarded these guidelines an Urban Design Citation in 1980. Design guidelines were not proposed for buildings 58 and 105, the ropewalk and the Chain Forge, at the same time because both structures were expected to be transferred to and be put to exclusive "museum" use by the National Park Service.

The ropewalk and the Chain Forge were added to the National Park Service boundary by an Act of Congress in 1978. However, Congress did not appropriate the money to rehabilitate and operate these buildings as museums, and the title was never transferred to the Park Service.

Four years ago, the BRA decided to release the Chain Forge for development. Stipulations were included in the development guidelines that a chain-making exhibit be included in the rehabilitation. The ropewalk is now the only remaining building in the Navy Yard which has not been slated for reuse and redevelopment.

Past conversations with both Arsen Charles of the National Park Service and James English, Project Director, BRA have indicated that there is still much uncertainty about the future of the ropewalk. All parties agree upon the building's major historic importance, yet it appears that both the BRA and the NPS would like to oversee its rehabilitation and development.

James English of the BRA considered that the Chain Forge building might serve as a development model for the rehabilitation of the ropewalk building. The developer will set aside a 30,000 square foot gallery where much of the building's original equipment will be displayed. However, English expresses concern that developers will be discouraged by some of the problems connected with the Ropewalk's unique building configuration: lack of air, light, and exterior openings. The BRA had hoped to return the Ropewalk to the National Park Service, but lack of a plan to seek congressional funding has not occurred.

The National Park Service hopes to cooperate with the city to find a developer who will leave "enough" intact, according to Arsen Charles. If the NPS attains title to the building, it may be rehabilitated with NPS restrictions on its restoration and use, through the Park Service's Historic Leasing Program.

Developers of other properties at the Charlestown Navy Yard are anxious to have the Ropewalk rehabilitated. At present, the building is a target for vandals. The BRA would like to complete the rehabilitation of the entire Navy Yard parcel and is willing to consider economically feasible and politically possible development plans for the building. Both the BRA and the NPS indicated that adaptive reuse of the building is the only feasible alternative. Museum use is considered by the NPS as an adaptive use. Both organizations appear to be considering the options available.

The National Park Service has applied for a grant from the Eastern National Park and Monument Association for a feasibility study for a ropemaking exhibit which would occupy part of the building. The other part of the Ropewalk would be adaptively reused. The exhibit would include the Park's collection of six ropemaking machines of the type used in the Ropewalk, although not all are original to the site. In addition, the Park would hope to acquire two additional machines which would complete the exhibit of the ropemaking process. Although funds for rehabilitation and museum development are not available under the current administration, it is possible that the situation may change in the future. Development pressure on this building may present other options which would be economically viable. For example, sensitive adaptive reuse of the head house and the second floor of the Walk might subsidize the preservation of the one of a kind historic walk.

### 5.3 Relationship to Current Zoning:

The Ropewalk is within a B-1-U zone, an Urban Renewal district which is regulated by an amendment to the Charlestown Urban Renewal Plan. The BRA has the authority to decide permitted uses. B-1-U is a business district, however: the BRA has the latitude to change the designation to R (residential) or C (commercial). The allowable physical density, measured by the Floor Area Ratio, or FAR, is one times the total site area. One parking space would be required for every 450 square feet of business use.



## 6.0 ALTERNATIVE APPROACHES

### 6.1 Alternatives:

Both the significance of the structure and the language of the Commission's enabling statute indicate designation as a landmark (both exterior and portions of the interior).

The Commission also retains the option of not designating the building as a landmark or designating only the exterior or only the interior.

The other buildings in the Historic Monument Area of the Navy Yard have had exterior protection in the design guidelines which were created by the BRA in an Memorandum of Agreement with the National Advisory Council of Historic Preservation.

### 6.2 Impact of Alternatives:

Landmark designation under Chapter 772 would require the review of physical changes to the building exterior and portions of the interior in accordance with standards and criteria adopted as part of the designation. It would not, however, affect the use of the building interior or treatment of interior areas not part of the designation.

Inclusion on the National Register of Historic Places provides protection from federal, federally-licensed or federally assisted actions undertaken by the Section 106 Review process. National Register listing also provides various federal income tax incentives for rehabilitation of income-producing property under the provisions of the Tax Reform Act of 1986. Such properties are eligible to take advantage of these provisions once it is determined that the rehabilitation can be certified according to the Tax Act.

Similar protection from state-sponsored activities is achieved by the concurrent listings of all National Register or local landmark properties in the State Register of Historic Places under Chapter 152, Massachusetts General Laws.

Failure to designate the structure's exterior and/or interior as a Landmark would mean the City would not confer its highest form of recognition of architectural and cultural significance: it would offer no protection to the interior of the structure or guidance to future owners.

Preparation of design guidelines such as those for the Historic Monument Transfer Area buildings would only provide protection for the building exterior and not for any interior or significant intact ropemaking equipment. Such guidelines are not subject to public hearing review either in the formulation of or in the granting applications for change. In either case of development by the BRA or the NPS, preparation of design guidelines for such development would be undertaken by either agency. While other outside agency review logically would be necessary (likely to be Section 106 review), both the NPS or BRA, as guideline preparers, are not disinterested parties but are vested interests as potential recipients of rental revenues.

## 7.0 RECOMMENDATIONS

The staff of the Boston Landmarks Commission recommends that the ropewalk be designated as a Boston Landmark, interior and exterior. The following portions of the interior are recommended: the entire ground floor of the walk, and the first and second floors of the head house.

The standards and criteria for administering the regulatory functions provided for in Chapter 772 are attached in Section 9.0.

## 8.0 BOSTON LANDMARKS COMMISSION - STANDARDS AND CRITERIA

### 8.1 Introductory Statement on Standards and Criteria to be used in Evaluating Applications for Certificates

Per sections 4, 5, 6, 7, and 8 of the enabling statute (Chapter 772 of the Acts of the 1975 of the Commonwealth of Massachusetts) Standards and Criteria must be adopted for each Landmark Designation which shall be applied by the Commission in evaluating proposed changes to the property. Before a Certificate of Design Approval or Certificate of Exemption can be issued for such changes, the changes must be reviewed by the Commission with regard to their conformance to the purposes of the statute.

The Standards and Criteria established thus note those features which must be conserved and/or enhanced to maintain the viability of the Landmark Designation.

The intent of these guidelines is to help local officials, designers, and individual property owners to identify the characteristics that have led to designation, and thus to identify the limitation to the changes that can be made to them. It should be emphasized that conformance to the Standards and Criteria alone does not necessarily insure approval, nor are they absolute, but any request for variance from them must demonstrate the reasons for, and advantages gained by, such variance. The Commission's Certificate of Design Approval is only granted after careful review of each application and public hearing, in accordance with the statute.

As intended by the statute a wide variety of buildings and features are included within the area open to Landmark Designation, and an equally wide range exists in the latitude allowed for change. Some properties of truly exceptional architectural and/or historical value will permit only the most minor modifications, while for some others the Commission encourages changes and additions with a contemporary approach, consistent with the properties' existing features and changed uses.

In general, the intent of the Standards and Criteria is to preserve existing qualities that cause designation of a property; however, in some cases they have been so structured as to encourage the removal of additions that have lessened the integrity of the property.

It is recognized that changes will be required in designated properties for a wide variety of reasons, not all of which are under the complete control of the Commission or the owners. Primary examples are:

- (a) Building code conformance and safety requirements.
- (b) Changes necessitated by the introduction of modern mechanical and electrical systems.
- (c) Changes due to proposed new uses of a property.

The response to these requirements may, in some cases, present conflicts with the Standards and Criteria for a particular property. The Commission's evaluation of an application will be based upon the degree to which such changes are in harmony with the character of the property.

In some cases, priorities have been assigned within the Standards and Criteria as an aid to property owners in identifying the most critical design features.

The Standards and Criteria have been divided into two levels: (1) those general ones that are common to almost all landmark designations (subdivided into categories for buildings and landscape features); and (2) those specific ones that apply to each particular property that is designated. In every case the Specific Standard and Criteria for a particular property shall take precedence over the General ones if there is a conflict.

## 8.2 GENERAL STANDARDS AND CRITERIA

### A. APPROACH -

1. The design approach to the property should begin with the premise that the features of historical and architectural significance described within the Study Report must be preserved. In general this will minimize the exterior alterations that will be allowed.
2. Changes to the property and its environment which have taken place in the course of time are evidence of the history of the property and the neighborhood. These changes to the property may have developed significance in their own right, and this significance should be recognized and respected. ("Later integral features" shall be the term used to convey this concept.)
3. Deteriorated material or architectural features, whenever possible, should be repaired rather than replaced or removed.
4. When replacement of architectural features is necessary it should be based on physical or documentary evidence of original or later integral features.
5. New materials should, whenever possible, match the material being replaced in physical properties, design, color texture and other visual qualities. The use of imitation replacement materials is generally discouraged.
6. New additions or alterations should not disrupt the essential form and integrity of the property and should be compatible with the size, scale, color, material and character of the property and its environment.
7. Contemporary design is encouraged for new additions; thus, they must not necessarily be imitative of an earlier style or period.
8. New additions or alterations should be done in such a way that if they were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.
9. Priority shall be given to those portions of the property which are visible from public ways or which it can be reasonably inferred may be in the future.
10. Color will be considered as part of specific standards and criteria that apply to a particular property.

### B. EXTERIOR WALLS

#### I. MASONRY

1. Retain whenever possible, original masonry and mortar.
2. Duplicate original mortar in composition, color, texture, joint size, joint profile and method of application.

3. Repair and replace deteriorated masonry with material which matches as closely as possible.
4. When necessary to clean masonry, use gentlest method possible. Do not sandblast. Doing so changes the visual quality of the material and accelerates deterioration. Test patches should always be carried out well in advance of cleaning (including exposure to all seasons if possible).
5. Avoid applying waterproofing or water repellent coating to masonry, unless required to solve a specific problem. Such coatings can accelerate deterioration.
6. In general, do not paint masonry surfaces. Painting masonry surfaces will be considered only when there is documentary evidence that this treatment was used at some point in the history of the property.

## II. NON-MASONRY

1. Retain and repair original or later integral material whenever possible.
2. Retain and repair, when necessary, deteriorated material with material that matches.

### C. ROOFS

1. Preserve the integrity of the original or later integral roof shape.
2. Retain original roof covering whenever possible.
3. Whenever possible, replace deteriorated roof covering with material which matches the old in composition, size, shape, color, texture, and installation detail.
4. Preserve architectural features which give the roof its character, such as cornices, gutters, iron filligree, cupolas, domers, brackets.

### D. WINDOWS AND DOORS

1. Retain original and later integral door and window openings where they exist. Do not enlarge or reduce door and window openings for the purpose of fitting stock window sash or doors, or air conditioners.
2. Whenever possible, repair and retain original or later integral window elements such as sash, lintels, sills, architraves, glass, shutters and other decorations and hardware. When replacement of materials or elements is necessary, it should be based on physical or documentary evidence.

3. On some properties consideration will be given to changing from the original window details to other expressions such as to a minimal anonymous treatment by the use of a single light, when consideration of cost, energy conservation or appropriateness override the desire for historical accuracy. In such cases, consideration must be given to the resulting effect on the interior as well as the exterior of the building.

E. PORCHES, STEPS AND EXTERIOR ARCHITECTURAL ELEMENTS

1. Retain and repair porches and steps that are original or later integral features including such items as railings, balusters, columns, posts, brackets, roofs, ironwork, benches, fountains, statues and decorative items.

F. SIGNS, MARQUEES AND AWNINGS

1. Signs, marquees and awnings integral to the building ornamentation or architectural detailing shall be retained where necessary.
2. New signs, marquees and awnings shall not detract from the essential form of the building nor obscure its architectural features.
3. New signs, marquees, awnings shall be of a size and material compatible with the building and its current use,
4. Signs, marquees and awnings applied to the building shall be applied in such a way that they could be removed without damaging the building.
5. All signs added to the building shall be part of one system of design, or reflect a design concept appropriate to the communication intent.
6. Lettering forms or typeface will be evaluated for the specific use intended, but generally shall either be contemporary or relate to the period of the building or its later integral features.
7. Lighting of signs will be evaluated for the specific use intended, but generally illumination of a sign shall not dominate illumination of the building.
8. The foregoing notwithstanding, signs are viewed as the most appropriate vehicle for imaginative and creative expression, especially in structures being reused for purpose different from the original, and it is not the Commission's intent to stifle a creative approach to signage.

G. PENTHOUSES

1. The objective of preserving the integrity of the original or later integral roof shape shall provide the basic criteria in judging whether a penthouse can be added to a roof. Height of a building, prominence of roof form, and visibility shall govern whether a penthouse will be approved.

2. - Minimizing or eliminating the visual impact of the penthouse is the general objective and the following guidelines shall be followed:

- (a) Location shall be selected where the penthouse is not visible from the street or adjacent buildings; setbacks shall be utilized.
- (b) Overall height or other dimensions shall be kept to a point where the penthouse is not seen from the street or adjacent buildings.
- (c) Exterior treatment shall relate to the materials, color and texture of the building or to other materials integral to the period and character of the building, typically used for appendages.
- (d) Openings in a penthouse shall relate to the building in proportion, type and size of opening, wherever visually apparent.

#### H. LANDSCAPE FEATURES

- 1. The general intent is to preserve the existing or later integral landscape features that enhance the landmark property.
- 2. It is recognized that often the environment surrounding the property has character, scale and street pattern quite different from that existing when the building was constructed. Thus, changes must frequently be made to accommodate the new condition, and the landscape treatment can be seen as a transition feature between the landmark and its new surroundings.
- 3. The existing landforms of the site shall not be altered unless shown to be necessary for maintenance of the landmark or site. Additional landforms shall only be considered if they will not obscure the exterior of the landmark.
- 4. Original layout and materials of the walks, steps, and paved areas should be maintained. Consideration will be given to alterations if it can be shown that better site circulation is necessary and that the alterations will improve this without altering the integrity of the landmark.
- 5. Existing healthy plant materials should be maintained as long as possible. New plant materials should be added on a schedule that will assure a continuity in the original landscape design and its later adaptations.
- 6. Maintenance of, removal of, and additions to plant materials should consider maintaining existing vistas of the landmark.



## I. EXTERIOR LIGHTING

1. There are three aspects of lighting related to the exterior of the building:
  - (a) Lighting fixtures as appurtenances to the building or elements or architectural ornamentation.
  - (b) Quality of illumination on building exterior.
  - (c) Interior lighting as seen from the exterior.
2. Wherever integral to the building, original lighting fixtures shall be retained. Supplementary illumination may be added where appropriate to the current use of the building.
3. New lighting shall conform to any of the following approaches as appropriate to the building and to the current or projected use:
  - (a) Accurate representation of the original period, based on physical or documentary evidence.
  - (b) Retention or restoration of fixtures which date from an interim installation and which are considered to be appropriate to the building and use.
  - (c) New lighting fixtures which are contemporary in design and which illuminate the exterior of the building in a way which renders it visible at night and compatible with its environment.
4. If a fixture is to be replaced, the new exterior lighting shall be located where intended in the original design. If supplementary lighting is added, the new location shall fulfill the functional intent of the current use without obscuring the building form or architectural detailing.
5. Interior lighting shall only be reviewed when its character has a significant effect on the exterior of the building; that is, when the view of the illuminated fixtures themselves, or the quality and color of the light they produce, is clearly visible through the exterior fenestration.

## J. REMOVAL OF LATER ADDITIONS AND ALTERATIONS

1. Each property will be separately studied to determine if later additions and alterations can, or should, be removed. It is not possible to provide one general guideline.
2. Factors that will be considered include:
  - (a) Compatibility with the original property's integrity in scale, materials and character.
  - (b) Historic association with the property.
  - (c) Quality in the design and execution of the addition.
  - (d) Functional usefulness.

## 9.0 SPECIFIC STANDARDS AND CRITERIA

Ropewalk Building (exterior and interior)  
155 Chelsea Street, Charlestown

### A. GENERAL

The intent of these standards is to preserve the stylistic integrity and the historic character of this unique building. Because of its rarity & its consistent use & minimal alterations throughout its history, the general approach is to allow no change to those elements which are essential to the style & historic character, & to encourage or control change to other elements to enhance the appearance of the building. If Historic American Building Survey documentation (or similar level) is completed and the findings suggest other historic treatments, approvals could be based on those findings.

### B. EXTERIOR WALLS

1. Additions will be not permitted to the volume of the building.
2. Alterations of existing openings may be allowed after review by the Commission.
3. New openings may be allowed in the granite elevations after review by the Commission.
4. Original openings which have been bricked in or otherwise closed may be reopened.
5. Painting of the granite will not be allowed. Coatings for waterproofing and material consolidants are strongly discouraged.
6. The granite and brick may be cleaned using the gentlest method possible; the method of cleaning must be approved by the staff architect. Sandblasting is not allowed.
7. Repairs to cracked granite elements (especially to the architrave surrounding the doorway on the south side of the Head House) are encouraged. Materials used for repair or replacement must match the original and be approved by the staff architect following on-site review.
8. Removal of the loading bay from the east end of the Head House is encouraged.
9. The later, non-original brick additions to the north side of the building may be removed.
10. Galvanized siding on the western ends of the second and third sections of the building may be removed, preferably if the original granite remains behind the siding.
11. The bridge to the Tarring House should be retained if possible and restored.
12. Exposed conduits will not be permitted on the exterior granite walls. All utility connections should be installed below grade (or as minimally visible as possible). (1)

#### C. ROOF

1. Replacement of all missing or broken slates is strongly encouraged. Any replacement materials must match the original. All flashing and gutter systems should be of copper or of lead-coated copper.
2. The limited introduction of flat roof skylights is permissible, but must match the size and placement of the existing in the roofplane. Only skylights with a flat profile and copper framing may be considered. Recesses for decks for other purposes may be permitted.
3. Original skylights and cupolas should be retained and restored.
4. Changes to the roof plane will not be permitted.

#### D. WINDOWS & DOORS

1. Boarded up and bricked up window openings should be reopened.
2. Replace or restore windows and doors to match the original in size, placement within the plane, and configuration.
3. New replacement windows must be single glazed wood-constructed, double hung windows with true divided lights in a 12/12 and 8/8 pattern. In section the muntin should match those many examples in situ.
4. Metal or clad windows will not be allowed.
5. Use of interior storm windows are encouraged, although exterior storm windows may be considered on the elevations fronting Chelsea Street.
6. Restoration of the existing doors of the head house main entry are encouraged: if necessary, they may be duplicated in materials, design, and profile.
7. Missing doors should be replaced, where appropriate with wooden doors of Greek Revival character: recessed wooden mill panels and muntin glass panels in a six light pattern. The head house entry doors shall have a tripart configuration.
8. Metal doors will not be approved.
9. The blocked up doorway to the bridge which connects the Ropewalk building with the Hemp House should be replaced only if the bridge is replaced. Alternatively, window sash of compatible size may be installed in the opening.

10. All surviving shutter hardware should be retained. Metal shutters to match the original (based upon historic photographic and engraved views) may be installed. Restoration of the metal shutters over the three portals on the facade of the headhouse is encouraged.
11. Repainting of window frames and doors will be carried out with historically appropriate colors based on a paint seriation study.
12. Canopies or awnings, since they are not original to the building and disturb its ordered composition, are not allowed.
13. Restoration of any existing areaway openings may be allowed.
14. Installation of security grills in the northern elevations may be considered.

#### E. INTERIOR

1. These interior standards & criteria apply only to the ground floor of the Ropewalk. See E.7 for standard & criteria for head house rooms.
2. Permanently attached railway material will not be removed or permanently obstructed.
3. Replacement materials, if necessary, should match the original in size, composition, scale, and shape. Repainting should be based on paint seriation studies.
4. New finishes or materials (such as drywall, tile, dropped ceilings, etc.) applied to the walls, exposed structural members, ceilings, and floors may be allowed.
5. The large open interior space of the ground floor of the walk must not be permanently partitioned. Temporary removable partitions may be allowed, although retention of the walk or a majority portion of it, is strongly encouraged.
6. The ropemaking equipment that remains must remain in situ; later examples of equipment similar to that which was removed may be reinstalled. An interpretive plan, such as that envisioned by the National Park Service, for ropemaking, should guide such installation.
7. Changes to the volumes and arrangements of the head house rooms may be approved and changes in finishes to these rooms may be approved after review by the Commission.

## F. MECHANICAL SYSTEMS

1. Flues and ventilating stacks which penetrate the roof are discouraged. Any HVAC installations should be located within the building or, if necessary, in a freestanding site, properly screened, and inconspicuously located. Large openings in the roof for louvered grilles are not allowed. Changing ground floor windows to louvres on the northern elevation (along Chelsea St.) may be considered.

## G. SITE & LANDSCAPING

1. All treatments to the immediate periphery of the building, including curbing, lighting, paving, landscaping, and ironwork, shall be reviewed.
2. Freestanding lighting fixtures and signs are preferred to ones mounted into the masonry of the building. Bracketed lanterns (based upon historic views) may be installed.
3. The BRA Design Guidelines for the Flirtation Walk shall govern the precinct adjacent to the walk.
4. In keeping with its original manufacturing use, landscaping at the Headhouse portions shall be minimal. Attempts to soften the robust elevations will not be permitted.
5. Signage, other than extant which reflects the industrial character of the building, shall be minimal.

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