

PIER 70

PREFERRED MASTER PLAN



PORT OF SAN FRANCISCO
APRIL 2010

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TABLE OF CONTENTS

Introduction	1
Chapter 1: Site History	9
Chapter 2: Ship Repair, a Continuing Legacy	21
Chapter 3: Context for Change	27
Chapter 4: Past, Present, and Future	33
Chapter 5: Historic Preservation	37
Chapter 6: Land Use and Adaptive Reuse	45
Chapter 7: Open Space and Public Access	51
Chapter 8: Form and Character of Infill Development	57
Chapter 9: Transit, Circulation and Parking	71
Chapter 10: Implementation Strategy	75
Acknowledgements	101
Appendix A: Infill Development Density & Form Study	105
Appendix B: Financial Analysis	113
Appendix C: Pier 70 Central Waterfront Advisory Group 2006 Master Planning Goals	119
Appendix D: List of Pier 70 Master Plan Community Outreach/Commission Meetings	123
Appendix E: 2008 Proposition D-Charter Amendment Regarding Pier 70	127
Appendix F: BAE Pier 70 Ship Repair Facility Plan	131



LIST OF EXHIBITS & TABLES

Exhibit 1: Pier 70 Site Setting and Location	iv
Exhibit 2: Pier 70 Concept Plan	2
Exhibit 3: 1945 Pier 70 Master Plan	12
Exhibit 4: BAE Ship Repair Facility Plan	22
Exhibit 5: Historic Resource Ratings	42
Exhibit 6: Land Use Plan	46
Exhibit 7: 20th Street Historic Core Land Use Concept	48
Exhibit 8: Pier 70 Open Space Concept	52
Exhibit 9: Pier 70 Infill Development Zones	60
Exhibit 10: Visual and Pedestrian Linkages	66
Exhibit 11: Pier 70 Transit Access	72
Exhibit 12: Public Trust Preliminary Title History	80
Exhibit 13: Preliminary Public Trust Exchange Concept	81
Exhibit 14: Cost and Revenue Comparison	92
Exhibit 15: Historic Building Feasibility Gap	93
Table 1: Historic Resource Profiles	43
Table B1: Pier 70 Project Development Costs	114
Table B2: Pier 70 Project Revenues	116



EXHIBIT 1: PIER 70 SITE SETTING AND LOCATION



INTRODUCTION

Wandering along the Pier 70 shoreline, one is confronted by striking contrasts: shipyard cranes reaching over massive cruise vessels in drydock; fenced-off industrial buildings unmatched in their beauty, simplicity and scale; the scars of 150 years of industrial use; Mission Bay rising in the background, and the great expanse of San Francisco Bay. Sitting at the foot of Potrero Hill, Pier 70 is a place of work and industry, eclipsed over time – a district waiting to be rediscovered and reintegrated into the city.

In 2007, the Port of San Francisco commenced a public process to develop a master plan for Pier 70, a 67-acre historic shipyard property situated along San Francisco's Central Waterfront, just south of Mission Bay. It is bounded by Mariposa Street to the north, Illinois Street to the west, 22nd Street to the south, and San Francisco Bay to the east shown in Exhibit 1, *Pier 70 Site Setting and Location*.

Pier 70 is an important part of the maritime history of the Bay Area and is the most intact 19th century industrial complex west of the Mississippi River. The site was significant in the industrialization of the United States, where supplies were manufactured for the California Gold Rush, Nevada's mining operations, and the Trans-continental Railway. Ships built at Pier 70 supported United States military engagements from the Spanish American War in the late 1800's through the two World Wars and into the 1970's.

Pier 70's shipyard contains impressive historic buildings that are not only valuable architecturally, but also capture the public's imagination and interest by recalling past shipbuilding, steel manufacturing, and maritime activities that dominated this part of San

Francisco's shoreline. This sense of history is alive because ship repair continues at Pier 70 to this day. The Pier 70 shipyard has the largest floating drydock on the West Coast of the Americas, enabling it to accommodate the largest ships in the industry. This shipyard has survived the ups and downs of economic boom and bust, periods of war and peace, and global and technological change by continual retooling and updating.

The City, through the Port, seeks to preserve ship repair and historic resources as the defining features for the public's long-term appreciation and benefit in this Pier 70 Preferred Master Plan (Plan) and to embrace new economic opportunities to help Pier 70 become as important to San Francisco's future as it has been to the city's past.

Planning Goals and Vision for the Future

In 1997, the San Francisco Port Commission identified the preservation of Pier 70's ship repair industry and extraordinary history as key priorities in the Waterfront Land Use Plan. Since then, the Port has led many public efforts to achieve those objectives. The community planning process leading to this Plan reconfirmed many of the goals and concepts of those earlier efforts. Mindful of its historic and maritime values, while addressing 21st century needs, the Port's vision for Pier 70 is to:

Create a vibrant and authentic historic district that re-establishes the historic activity level, activates new waterfront open spaces, creates a center for innovative industries, and integrates ongoing ship repair operations.

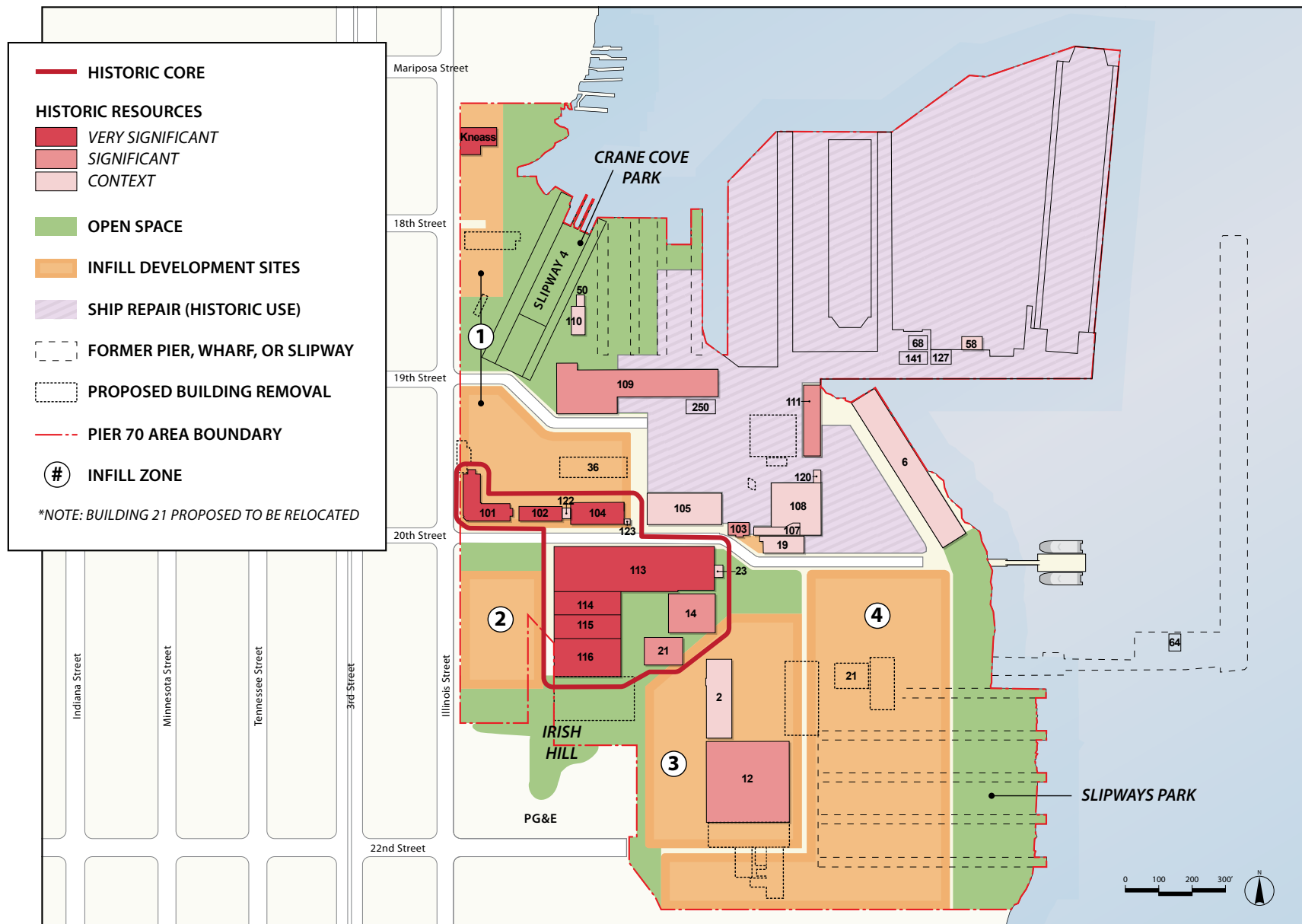


EXHIBIT 2: PIER 70 CONCEPT PLAN

This vision combines the legacy of the past and the vitality of the existing shipyard with sustainable and economically viable infill development that will reconnect Pier 70 with the Central Waterfront, while rehabilitating Pier 70's historic buildings. It calls for the creation of major waterfront open spaces and shoreline access areas, and a fabric of buildings, streets, courtyards, and pedestrian ways that reflect Pier 70's distinctive historic character, creating an interesting and attractive public realm.

The Plan articulates the following goals to provide a policy framework to guide Pier 70's transformation:

1. Create a Pier 70 National Register Historic District and rehabilitate its extraordinary historic resources.
2. Preserve the long-term viability of the ship repair industry.
3. Create a major new shoreline open space system that extends the San Francisco Bay Trail and the Blue Greenway to and through Pier 70.
4. Promote sustainable mixed-use infill development and economic vitality that includes climate adaptation strategies appropriate to this waterfront location.
5. Provide sites for office, research, emerging technologies, light industry, commercial, cultural, and recreational uses to expand San Francisco's economic base and generate revenues to fund public benefits.
6. Promote development that is pedestrian-oriented and fosters use of alternative, sustainable transportation modes and practices.
7. Extend the city street grid to enhance public access and integrate new development with the Central Waterfront.
8. Remediate environmental contamination to enable public use and enjoyment of Pier 70 and its waterfront and improve environmental quality.

Approach to the Plan

The Plan is an important guide for Pier 70's transformation. The vision, goals, and policies presented in the Plan establish a strong policy framework, created through a community planning process that has built the public consensus for Pier 70's future. This policy framework will be used to evaluate future specific development proposals and implementation strategies.

The Plan defines goals and objectives to support significant development and new public waterfront open space, while respecting the Pier 70 Historic District and continued ship repair operations. It takes a "form-based" approach that provides flexibility yet sets clear historic preservation objectives and locations for new public open spaces with connections to surrounding areas within the Central Waterfront. Past experience shows that evolving market opportunities and fluctuating development cycles may require varying approaches and design solutions to achieve these Plan goals. Thus, the Plan is not "hard-wired" or overly prescriptive in specifying a development program or physical siting of new development. The implementation strategy anticipates the need for an open,

collaborative relationship with private development partner(s) and the community to determine how best to balance and achieve the Plan goals and objectives.

To support the Pier 70 planning effort, the Port retained a team of consultants with technical expertise in the fields of historic preservation, land use economics, urban planning and design, environmental analysis, engineering, and cost estimation. In addition, the Port worked through a collaborative process with federal, state, and regional government agencies, other departments within the City family, and the public. Strong government partnerships have enabled the Port to produce a Plan that is informed by key regulatory considerations and that enjoys strong public consensus.

Special attention has been given to ship repair industry needs. The Port has worked closely with BAE San Francisco Ship Repair (BAE), a subsidiary of BAE Systems, the Port's ship repair operator, as it develops its own complementary facility plan. This will ensure adequate space and operational latitude for compatible co-existence of ongoing ship repair operations, historic preservation, and new development at Pier 70.



Ship repair at Pier 70

Guiding Pier 70's Transformation

This Plan envisions a transformation of Pier 70 that combines elements of the past, present, and future. It calls for maintaining approximately 17 acres of the site for ship repair and identifies a development site plan for the remaining 50 acres, as illustrated in Exhibit 2, *Pier 70 Concept Plan*, that consists of:

- Approximately 700,000 square feet of new uses within historic buildings
- Approximately 11 acres of open space along the shoreline and up to 9 additional acres of open space integrated within the development
- Approximately 3 million square feet of compatible infill development
- Infrastructure construction and environmental remediation to support the program

To support existing and new uses, the development of new roadways and parking facilities will be required. The Plan's conceptual development program estimates that development will generate 6,000 to 8,000 new jobs and become a major economic stimulus to San Francisco's local economy.

Beyond its historic buildings and continued maritime function, Pier 70's attributes are a function of its location, size, historic context, and waterfront setting. It is a part of a growth corridor where

sustainable infill development has occurred over the past 30 years south of the downtown, from South Beach and Rincon Point to China Basin and Mission Bay.

Pier 70's proximity to the University of California at San Francisco's (UCSF) Mission Bay campus, a premier research institution, along with UCSF's new hospitals and the emerging Mission Bay biosciences cluster, makes the site a very attractive location for development. Market analysis conducted for the Plan identifies strong opportunities for key economic uses to locate at Pier 70, including: biotechnology; medical/office support; corporate campus and general office; general retail and service commercial; exhibition and museum space; production, distribution, and repair (industrial); and commercial uses specific to the waterfront.

Examining Pier 70 against the backdrop of Mission Bay, the 2008 Eastern Neighborhoods Plan and Rezoning (Eastern Neighborhood Plan), the Blue Greenway, and recent planned public transit improvements along Third Street, clearly Pier 70 will play a defining role along the Central Waterfront. Adaptive reuse and infill development at Pier 70 will promote the Port's public trust mission, respond to the City's economic needs, and preserve a locally and nationally significant part of San Francisco's history. In rejuvenating this area, Pier 70 will become a vital new district that reflects San Francisco's tradition of diverse and colorful neighborhoods.

The unique opportunities Pier 70 presents are accompanied by substantial challenges to development, including historic building rehabilitation costs, obsolete infrastructure replacement, environmental remediation costs, and the construction of open space.

Port and City policymakers have approached Pier 70 from the viewpoint that federal, state, and local law can be modified strategically to support the public interest in adaptive reuse of the site. Port staff stands ready to work with policymakers toward that end.

Further public participation and collaboration with the Port's policymakers, regulatory and administrative partners, and the public are the keys to realizing the Plan's vision. The Mayor, San Francisco Board of Supervisors, San Francisco Planning Department, San Francisco Municipal Transportation Agency, San Francisco Public Utilities Commission, State Office of Historic Preservation and State Historical Resources Commission, State Lands Commission, San Francisco Bay Regional Water Quality Control Board, and San Francisco Bay Conservation and Development Commission will



Community Workshop

each play a critical role in shaping Pier 70. The Port values their input and direction and is grateful for the remarkable consensus in support of Pier 70 planning and legislative efforts to date.

Beyond legal and regulatory strategies, realizing the Plan will require a comprehensive financing strategy including a full array of public and private financing mechanisms. Environmental remediation, preservation and adaptive reuse of historic buildings, and construction of new infrastructure and public open spaces are too costly to be supported by private development alone. To address this, the Port intends to take advantage of a number of public financing tools, including federal historic and new market tax credits, Mello-Roos community facilities district financing, property tax increment financing, park and open space funding mechanisms, grants from various sources, and other sources of low-cost debt.

In 2010, given the unprecedented environment of weak development markets and constrained capital resources, the funding identified by the Port currently is not sufficient to cover fully the financial requirements of the Plan. Nevertheless, Pier 70 is a long-term project, and the Port can progress through the Plan's preliminary entitlement process in response to specific end user opportunities to position the property for major development activity when market and financial conditions improve. Philanthropic financing may become available for adaptive reuse of some of the very significant historic structures that in turn will help leverage the market for other activities on the site. The Port will seek one or more private development partners to pursue these and other opportunities and formulate creative strategies that will lead eventually to the full realization of the Plan.

In November 2008, San Francisco voters approved Proposition D, which streamlines the City's entitlement process and creates a variety of financing mechanisms specific to Pier 70. Approved by 68% of the electorate, Proposition D not only provides unique tools and procedures previously unavailable to the Port to facilitate implementation, it exemplifies San Franciscan's commitment to the preservation and revitalization of the Pier 70 area. Invigorated by the support of the larger community, the Port of San Francisco, working in concert with the City and other policymakers and stakeholders, is excited to begin the process of transforming Pier 70 into a place where 21st century industries excel, alongside industrial ship repair, as part of a grand historic district of rehabilitated 19th century buildings.

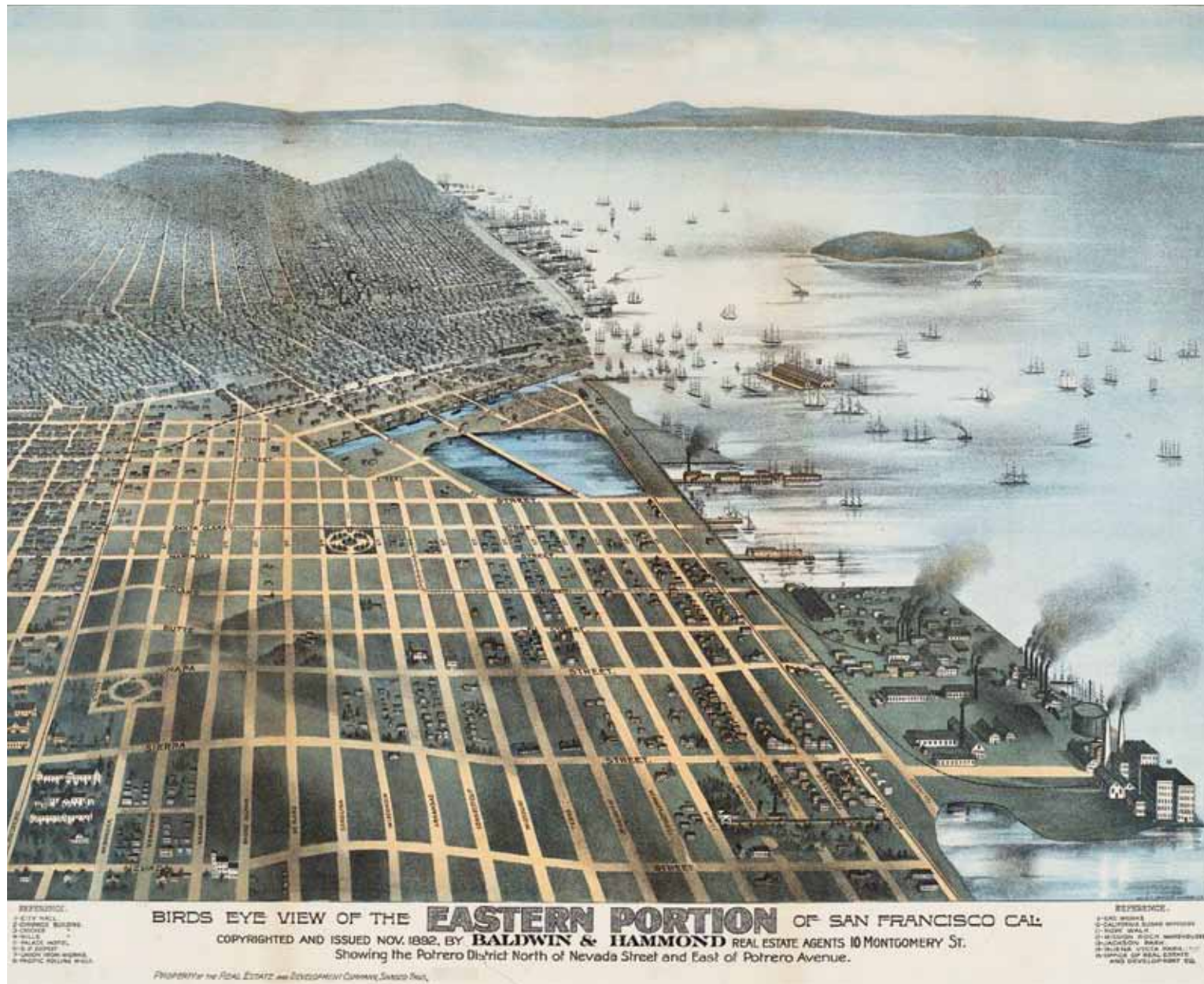
This Plan embodies the ideals and ideas received from the public, informed by careful interdisciplinary planning and economic analysis, which has been under public review for over two years. The Port looks forward to continuing the civic conversation regarding how to harness the best of the public and private sectors to revitalize Pier 70.

For more information on the Port's Pier 70 planning process, including background information, please go to:

www.sfport.com/pier70



Overview of the Site with Oakland in Background, 2007



CHAPTER 1: SITE HISTORY

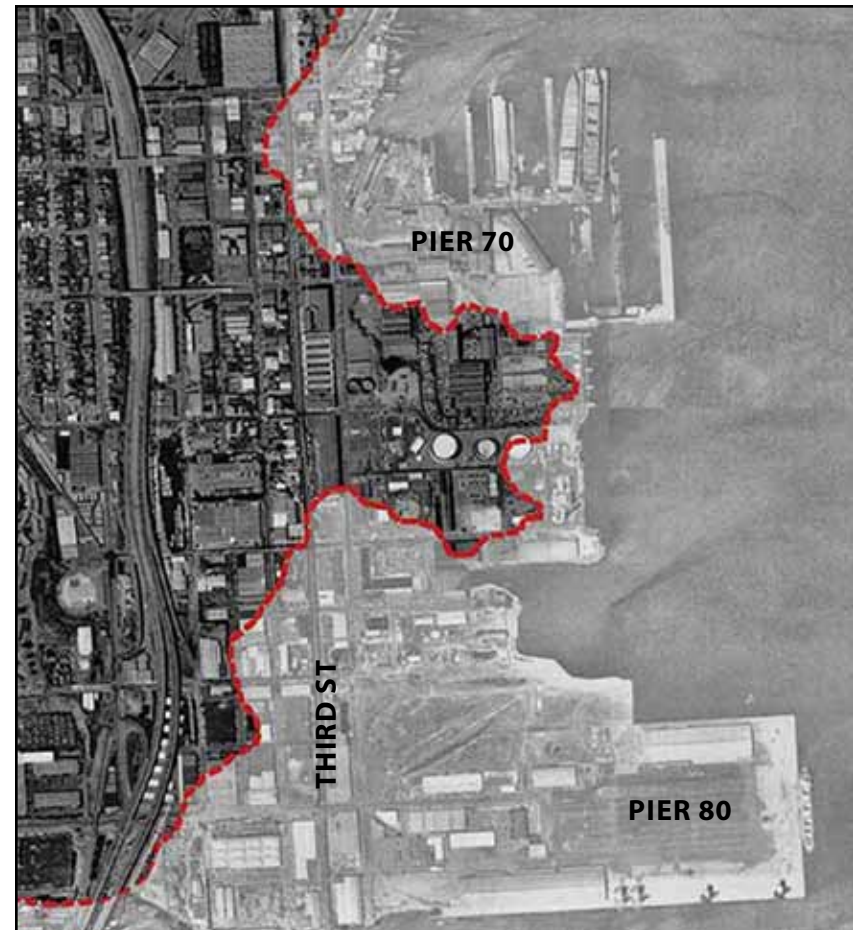
Industrialization of Potrero Point

The site currently known as Pier 70 was first recognized as San Quentin Point and later renamed Potrero Point. Its natural shoreline site condition was originally steep bluffs of serpentine rock, overlooking shallow mud-flats that extended into the central Bay. Under Spanish and subsequent Mexican rule during the late 1700's through the mid-1800's, much of this area was used for cattle grazing.

In the city's early days, the Pier 70 area became the location of activities that required isolated sites on the outskirts of the downtown area, such as gunpowder manufacturing. As the area became established as a center for industrial operations and shipping in the 1850's, the serpentine hillsides were blasted away to create street corridors for landside movement along the Bay, and piers were extended over the water. This area offered excellent accessibility by ship to relatively deep offshore waters in the Bay and commercial routes in the Pacific Ocean.

These conditions cast the future for Pier 70 to become one of the most significant historic industrial complexes in the United States. It contributed to the industrial development of the West Coast and the growth and defense of the nation. By the 1860's, the city's early wood ship builders abandoned the crowded shoreline along Steamboat Point in the South of Market area for the deep waters and vacant lands around Pier 70. Long Bridge, a wooden bridge structure completed in the 1860's in the same general location

as present-day Third Street, linked portions of the Central and Southern waterfront with more urbanized areas to the north, and reached across Mission Bay. The bridge made the area more



Approximate original shoreline of Potrero Point

accessible to the rest of the city. Mission Bay became the home of rail yards that connected San Francisco to intercontinental rail transportation that was vital to the city's once bustling break bulk cargo port.

By 1870, as the distinctive topographic features were graded and used to fill the Bay, the area was developed for both industrial and residential uses. With the fill, Pier 70 eventually grew to about 67 acres. The Irish Hill and Dogpatch residential neighborhoods emerged during this period as workers moved to the area for the growing commercial sectors of manufacturing and industry.

By the 1880's, Union Iron Works had established the first West Coast steel shipyard and launched the *Charleston*, one of the first



Potrero Point, ca. 1870



Irish Hill with Union Iron Works in the background, 1890's

steel hull ships constructed in the country. Union Iron Works and its successor company, Bethlehem Steel Corporation, stood at the center of the American shipbuilding industry from the Spanish American War through World War II, producing and repairing warships that were essential to the military success of the United States.

Union Iron Works and Bethlehem Steel

The historic Union Iron Works/Bethlehem Steel facility at Pier 70 is the oldest American civilian shipyard with a continuous record of ship production and repair, dating from the late 19th century through the present day. The Union Iron Works shipyard operated at Pier 70 with a machine shop (Building 113), plate shop, pattern shop, foundry (Building 114), smith shops, and slipways. At the turn of the 19th century, a new era of building began with Bethlehem Steel's purchase of the Union Iron Works shipyard. This spawned a second phase of building and facility development that

allowed the yard to help build some of the Great White Fleet, the popular nickname for the U.S. Navy battle fleet that completed a circumnavigation of the globe in 1909, as President Roosevelt sought to demonstrate growing American military power and naval capability.

The shipyard expanded and modernized during the 1910's, including expansion of the yard's infrastructure, a new plate shop (Building 109) and new foundries (Buildings 115 and 116). The Union Iron Works destroyer plant used the then new prefabrication methods of the period and produced three destroyers a month. The Navy prioritized submarine destroyers as the primary fleet defense against torpedo attacks from submarines. The 66 destroyers Bethlehem Steel produced were a substantial contribution to the World War I naval effort. During the World War I period, Bethlehem Steel retained two renowned San Francisco architects, Frederick H. Meyer and Charles Peter Weeks, to design the new Main Office/ Administration Building (Building 101) and Powerhouse (Building 102), creating a grand formal entrance to the yard at the corner of 20th and Illinois Streets. These two buildings along with Buildings 104 and 113/114 along 20th Street form the core of the Pier 70 Historic District.

A second era of modernization and development at the shipyard began when Bethlehem Steel secured contracts with the United States Maritime Commission in 1936. Upgrades included a new boiler house (Building 103) and a yard-wide transformation from riveting to welding, which helped the shipyard adapt to standardized, mass production that typified World War II ship production. The yard's major contribution to the World War II effort was the repair of 2,500 ships. During World War II, the Pier 70 shipyard



Bethlehem workers pouring bronze for propeller, 1950's



Bethlehem Engineers, 1950's



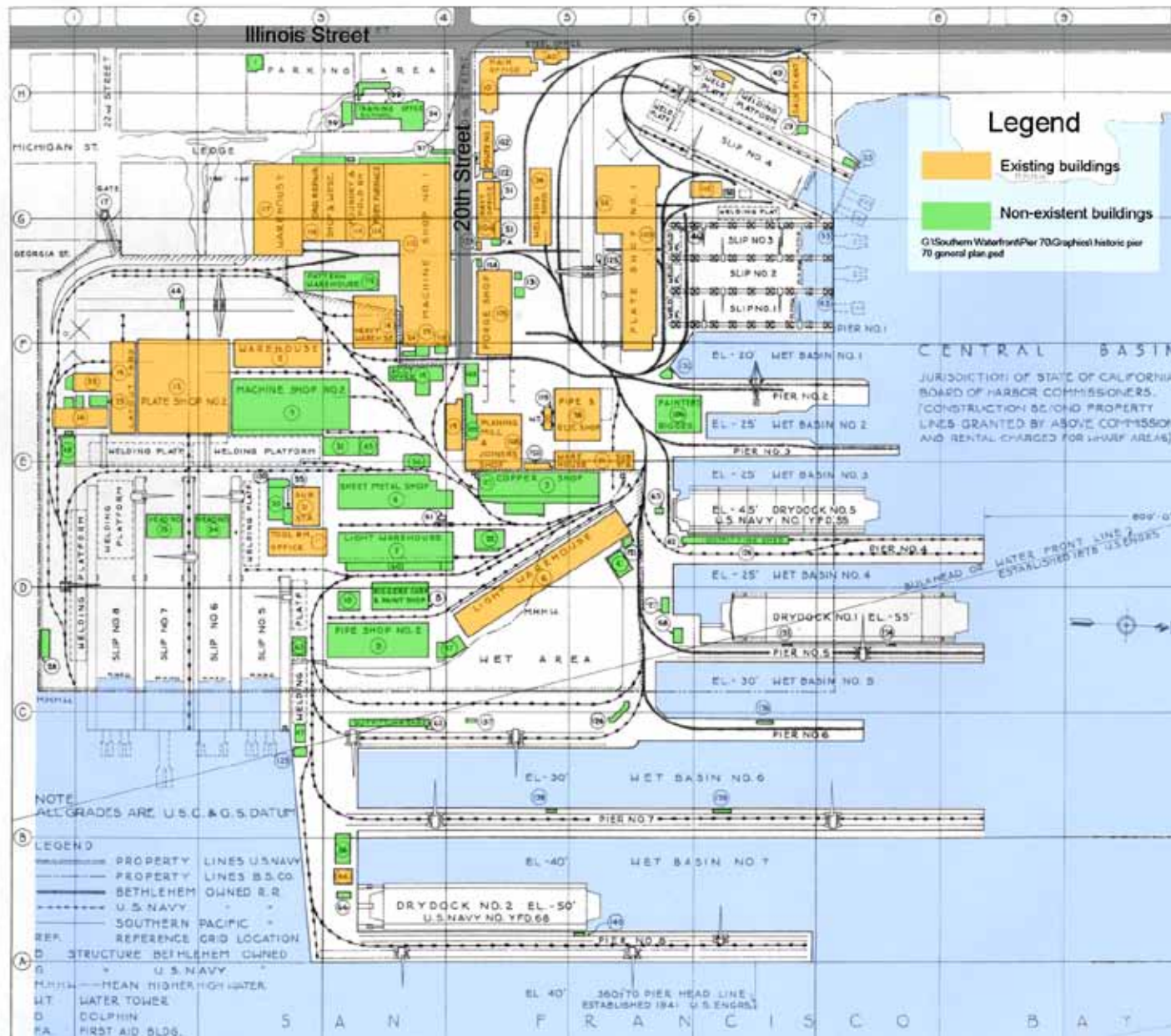
Bethlehem workers building a cargo ship, 1950's

reached its maximum size and build-out with numerous slips, piers and wharves as illustrated in Exhibit 3, *1945 Pier 70 Shipyard Master Plan*, and Bethlehem Steel's Bay Area work force peaked at 25,000.

EXHIBIT 3:

1945 PIER 70
SHIPYARD MASTER PLAN

This exhibit illustrates the full build out of the Pier 70 shipyard as documented in the Pier 70 Shipyard 1945 Master Plan. The orange buildings currently exist; the green buildings no longer exist.



An important aspect of this long and distinguished record is the story of the generations of shipyard workers who struggled to maintain their livelihoods and craft traditions in spite of many challenges. These challenges included: the hostility of employers to organized labor; a volatile maritime economy that undermined job security and stable union organizations; changes in production technology and shipbuilding methods; and industrial reforms such as scientific management and wartime production speed-ups. Strong traditions of craftsmanship survived at the shipyard even during World War II, when the yard's program of complex naval construction and de-skilling in shipbuilding and other defense industries occurred. Women and African-Americans entered the story of the shipyard during World War II, as they waged a brave struggle against prejudice to establish their rights to be hired and trained for skilled work.

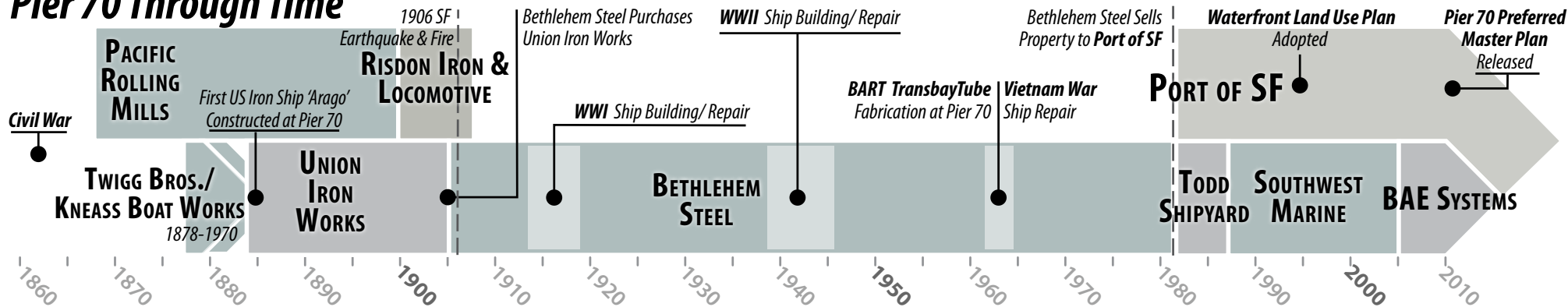
Bethlehem Steel continued to build government and commercial ships at Pier 70 into the 1970's. In the early 1980's, Bethlehem went bankrupt and sold the shipyard to the Port of San Francisco. Todd Shipyard then purchased much of the machinery and leased a significant portion of the site to operate a ship repair yard.

After Todd Shipyard closed in 1987, the facility was operated by Southwest Marine and San Francisco Drydock. In 2002, Southwest Marine was acquired by BAE Systems, parent of the Port's current ship repair operator.

At its peak in 1945, shipyard activities occupied the entire 67-acre site. Over the years, as the facility has evolved into a ship repair yard, the need for space has reduced. Today the shipyard, as described more fully in Chapter 2, operates on approximately 17 acres of land, plus the piers and wharves.

The surviving historic buildings, circulation networks, and waterfront structures at Pier 70 uniquely convey the processes of steel shipbuilding and ship repair and how they evolved over time. The layout of the shipyard was defined by the relationship of the Bay with the slipways, piers, floating drydocks, and gantry cranes necessary to support the industry. Pier 70's distinctive historic setting and iconic historic buildings and features have been the subject of many paintings, films, and photography that have extended beyond the physical realm to become a part of the city's cultural heritage.

Pier 70 Through Time





Workers leaving the shipyard, World War II, circa 1943

Union Iron Works Machine Shop

The Union Iron Works Machine Shop (Building 113/114) stands on the south side of 20th Street just east of Illinois Street, and is one of the most valuable and most vulnerable historic resources on the site. With its rich history and grand volume of space, it can become the civic soul of Pier 70. The two-block long building consists of two unreinforced brick structures (built in 1885 and 1886) that were joined in 1914 by a reinforced concrete connector building. The building contains about 90,000 square feet of floor space, 492 feet long by 175 feet wide, and stands about 62 feet tall.

The Union Iron Works Machine Shop changed functions and floor plans several times between the 1880s and WWII. The western portion of Building 113 originally housed the machine shop, while the eastern portion contained the blacksmith and boiler shops. The scale and volume of this complex is a cathedral-like space, an inviting venue for major cultural, market hall, or institutional use, which is promoted in the Plan. The preservation, restoration, and appropriate adaptive reuse of this landmark structure is a primary concern of the Plan. The Port will work closely with the Mayor, the Board of Supervisors, its regulatory partners and the community, as well as potential development partners, to outreach to potential institutions, cultural, public assembly, and other entities to find an appropriate reuse, and secure commitments for the stabilization and rehabilitation of this very special building.



Building 113/114, 2005



West Façade of Building 113, 2004 (Photo: Ralph Wilson)



Building 113 - Union Iron Works Machine Shop



Building 104 - Union Iron Works Administration Building



Building 101 - Bethlehem Steel Administration Building



Building 21 - Risdon Iron Works Building

Land Use Changes

As land needs for the shipbuilding and ship repair industry diminished, Pier 70 entered a period of general industrial use. The utilitarian design of Pier 70's structures allowed the Port to lease the facilities for a broad range of businesses and industrial operations. In the larger city context from the 1980's through the present, industrial uses that had been located in the South of Market and Mission Bay areas were priced out. Many of those businesses that stayed in San Francisco relocated to the Central Waterfront and southeast San Francisco. Thus, Pier 70 has seen a *mélange* of heavy commercial and light industrial uses that, while not necessarily maritime-related, were compatible with continuing ship repair operations. The San Francisco Planning Department uses the term "Production Distribution and Repair" (PDR) to define this land use category.

PDR uses include many types of artist activities, including studios. Over the last 30 years, Pier 70 has become a very attractive location for the artist community, which has concentrated in a modest structure known as the Noonan Building. This structure is the former Navy Office Building (Building 11), which dates from World War II, located in the southeast corner of Pier 70. This 33,000 square-foot four-story wood frame structure has provided studio space for approximately 30 artists, including a women's painting group that has been in the building for 31 years. The Noonan Building artists have participated in San Francisco's annual fall open studios for 25 years, and many have been involved in the promotion of community arts. (see page 19 for more details on the Noonan Building).

Outside the area used for ship repair, the Port also leases Pier 70 land and building space for a variety of light industrial and other businesses, including warehousing, contractor and construction storage, metal recycling operations, and the City's towed car impound facility. These activities have provided the Port with an interim revenue stream.

Many of the historic buildings have very limited remaining useful lives, and some are no longer leasable due to their deteriorated condition. Major capital investment in the historic buildings and infrastructure is urgently needed to preserve the Port's vision and implementation strategies as presented in this Plan

Pier 70 Historic District

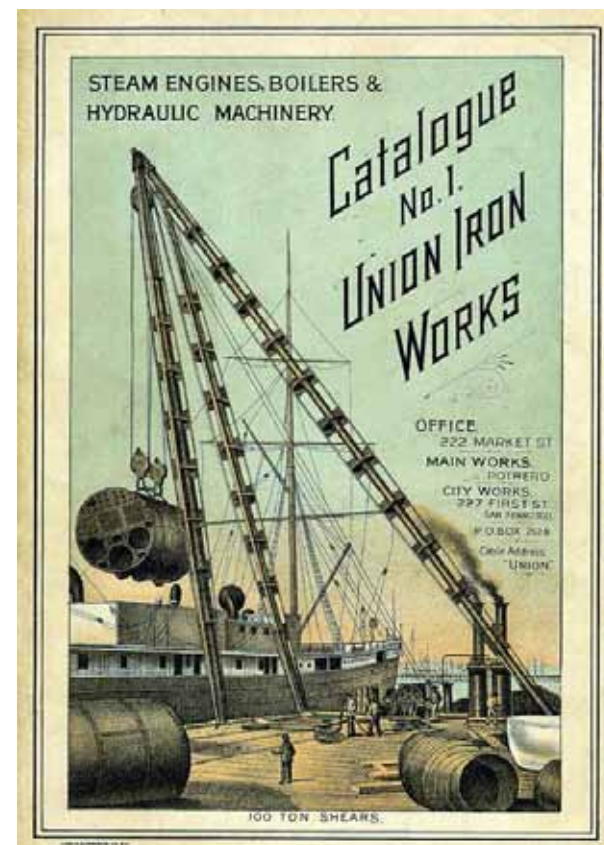
The Pier 70 site is eligible for listing in the National Register as a Historic District for its national significance in the area of maritime industry for the period 1884 to 1945, beginning with the initial construction of the Union Iron Works Machine Shop and closing at the end of World War II. Pier 70 is significant for its association with pioneering technological developments in shipbuilding, labor relations, and government and private industry relationships, as well as for the production of significant wartime vessels. It is also significant for architectural design and engineering because it includes important works of master architects. Pier 70 is a largely intact historic district containing a rich collection of resources, and provides a physical record expressing continuity with past trends in industrial architecture and design.

Within Pier 70, 44 historic resources have been identified as eligible for listing in the National Register. About half of these structures have been condemned for structural or environmental reasons, and all are rapidly deteriorating, which threatens their historic integrity. The most valuable and historically significant structures along 20th Street are closed for public safety, including the Bethlehem Administration Building (Building 101), the Power House (Building 102), the unreinforced masonry Union Iron Works Administrative Office (Building 104), and the Union Iron Works Machine Shop (Building 113/114). The extensive water damage and seismic vulnerability of these structures reinforce the need to act quickly.

Historic preservation offers a variety of advantages and benefits to assist Plan implementation. Adaptive reuse of historic resources is critical to “place-making” at Pier 70, providing the foundation for an authentic, interesting, and attractive development that also preserves historic neighborhood character in the Central Waterfront. Furthermore, the creation of a National Register Historic District and compliance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties (“Secretary Standards”) would provide direct and indirect benefits to support the Plan, including:

- Federal historic rehabilitation tax credits and other preservation-based financial programs that can significantly reduce Pier 70 historic rehabilitation costs as a result of National Register listing.

- Historic preservation can provide the Port and its development partners greater flexibility under local, state, and federal regulations, including public trust consistency findings, building code requirements, and streamlined environmental review.
- Historic preservation continues to be a significant component of the public consensus and community support for redevelopment and future build-out of the property.



Catalog cover from Union Iron Works, circa 1900

Building 11 “Noonan Building”

Building 11, the Noonan Building was built in 1941 by the federal government to aid and support shipbuilding and ship repair at Pier 70 during World War II effort. This three-story rectangular wood structure was originally used as a tool room, cafeteria and offices for the Navy to support operations that centered around the Building 12 complex to the west.

In 1967, the Building 11 site was transferred to the Port of San Francisco. The Port leased the facility to Bethlehem Steel for continued support of ship repair activities until 1982, when Bethlehem vacated the premises. The Port then leased Building 11 to the Fred J. Noonan Company to support an automobile import operation. In the late 1980's the business began to decline and did not require the entire building, Mr. Noonan rented space to sub tenants for a variety of uses, including studios for artists. As it turned out, artist use was compatible with the automobile import company and ongoing ship repair and other industrial uses, subsequently attracting more artists.

In 1993, the lease with Fred Noonan was terminated. The Port recognized the compatibility of artist studio use with the surrounding maritime and industrial operations and continued to lease building space primarily to artists. Many Noonan



Painting by Suzy Barnnard

Building artists cite Pier 70's unique maritime industrial setting as a source of inspiration or important influence in their art. Today, Building 11 is leased to about 30 artists for studio space. The work of many Noonan Building artists are represented in museums locally (San Francisco Museum of Modern Art, Oakland and San Jose art museums) and throughout the United States. In addition, the artists are active in a variety of local community organizations that promote and encourage art in educational and cultural institutions.

The Pier 70 Plan identifies the Noonan Building as a “Context” resource building that contributes to understanding Pier 70's historic significance but at a lower degree than “Very Significant” or “Significant” designated resources. Building 11 may need to be demolished if future Pier 70 implementation requires a different use for the site. However, the land use program envisioned for Pier 70 includes the continuation of arts and artist studio use, whether in rehabilitated historic structures, facilities that may remain in light industrial use, or new infill development. The Port will work with future development partners and the artist community to support the continued presence of artists and the arts at Pier 70.



Drydock repair of the Star Princess, 2009

CHAPTER 2: SHIP REPAIR, A CONTINUING LEGACY

Shipbuilding and ship repair have been an integral part of the San Francisco waterfront since the Port was established, concurrent with the founding of the City. Over time, the shipbuilding and ship repair industry has continually reinvented and retooled its operations. From shipbuilding, to steel manufacturing, to mass production operations and ship repair, this industry has survived the ups and downs of economic boom and bust, periods of war and of peace, technological innovations, and volatile global maritime market changes for 150 years.

The Port of San Francisco continues its commitment to the long-term viability of the ship repair industry, as part of its core mission to support and build maritime businesses. As a ship repair facility, Pier 70 is somewhat unique – the Port owns the primary equipment (the drydocks and cranes) required for ship repair operations and leases them to BAE, an operator. BAE currently leases 19 acres of land, with a 2-acre reversion area that reduces the leasehold in 2012 to approximately 17 acres of land plus the wharves, piers, and water area. BAE's current lease extends to December 16, 2017. Together with BAE, the Port enjoys a business partnership that optimizes the resources of government and private industry. The Port's relationships with the maritime community have led to new and innovative ship repair business opportunities.

The Pier 70 Plan is premised on continuing ship repair at the site consistent with the Port's mission. In coordination with the Port, BAE prepared a long-term plan for the Pier 70 ship repair operations to integrate strategic needs of the shipyard with this Plan, as

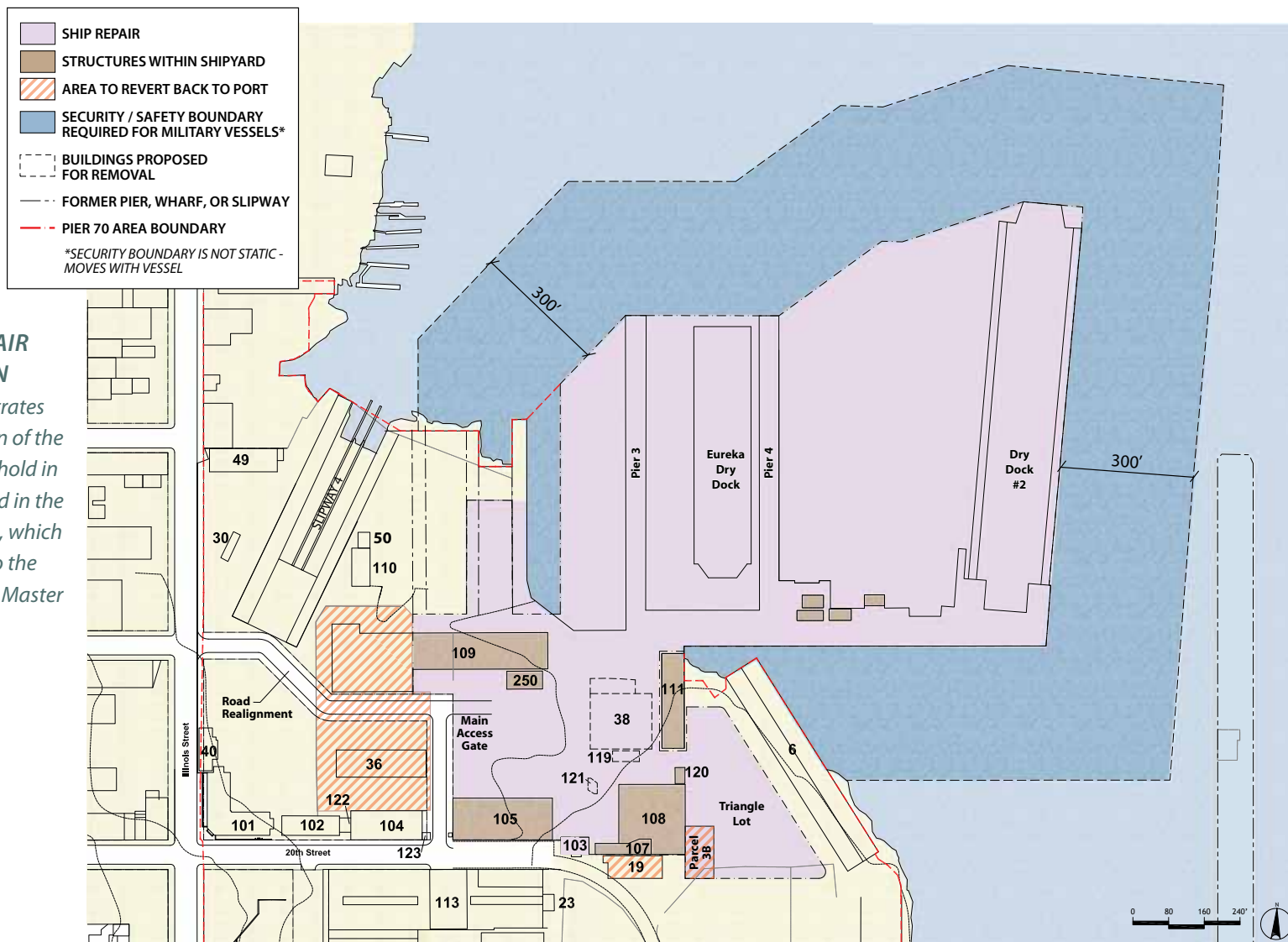
illustrated in Exhibit 4, *BAE Ship Repair Facility Plan*. Ship repair provides the historical context and texture that defines Pier 70. Continuing this historic industry is itself recognized as part of Pier 70's historic preservation strategy. By maintaining the original business that created Pier 70, the Port preserves the authentic maritime heritage that is the foundation of Pier 70 Historic District.

Ship Repair Operations

The Port of San Francisco's most marketable features in the ship repair business are its large, floating drydocks and its central-coast geographic location, which make Pier 70 an effective location for both the northbound and southbound migratory cruise and tanker fleets. The drydocks are the focus of ship repair work, supported by building and construction-related crafts that are housed or take place in shops and lay-down areas on land within BAE's leasehold. Drydocks are floating facilities that are lowered into the water to receive vessels, then raised by pumping the water out to expose the full hull of the vessel, enabling repair. The dominant ship repair activity in the drydocks includes underside repairs of ship hulls, structural steel modifications, and engine machinery repair. The vast majority of repair activities, such as sandblasting, welding, and painting, occur on or in the vessel while it is drydocked. Some repairs, though not the majority, require parts and equipment to be disassembled, repaired, and painted in the shops on site. Other outfitting may include repairs or new installation of electrical, piping, and ventilation systems, as well as insulation of heating, cooling, and fluid systems and ship's cargo or living spaces. All of these activities are supported by a continuous flow of material

EXHIBIT 4: BAE SHIP REPAIR FACILITY PLAN

This exhibit illustrates the configuration of the ship repair leasehold in 2010 as identified in the BAE Facility Plan, which is integrated into the Pier 70 Preferred Master Plan.



moving on and off the site. Typically, while ships are in drydock for mechanical or hull repair or maintenance, ship owners will utilize the “down time” to conduct internal upgrades or modifications to ship, cargo, or living cabins. These types of internal upgrades are particularly common in cruise ship repairs.

Job-specific materials are ordered and delivered to the site. If protection from the elements is required, materials will be warehoused; otherwise they are staged in lay-down areas in the yard. Typical materials received in support of shipyard operations include paint (as many as 20 pallets at a time for a large job) and sandblasting abrasive (as much as 1,000 tons in a day). Other materials include large timbers for construction of drydock blocks, unprepared steel plate, pipe and sheet metal. Small boat storage may also be provided for ships where life boats are being maintained, repaired, and tested. Most of the new materials are typically shipped a few days prior to being used or installed. Lastly, large quantities of waste and debris are removed from ships and stored for truck pick-up. For large cruise ship repair/retrofit projects, as many as 50 20-yard bins a day may be hauled out of the shipyard during the initial phase of repair activity.

Ship repair operations employ a highly skilled and well-compensated workforce. BAE currently employs an average of 250 skilled craftsmen in ten trades year-round. During peak periods of repair activity, the yard provides jobs for an additional 1,000 – 1,500 people. Often, cruise vessel crews ranging between 1,500 – 2,000 people live on board during repairs and join other tourists in the city during their off hours. BAE is working with local unions and San Francisco’s “City Build” program, which provides skilled training



Massive scale of ship repair operations at Pier 70, 2005

and apprentice programs for people from under-employed neighborhoods in the city, to recruit and retain a skilled workforce.

Over the past 15 years, the Pier 70 ship repair facility has made a successful transition from being highly dependent on defense work to being highly competitive in the commercial ship repair market. When the Bay Area military base closures occurred in the early 1990's, this facility lost nearly 80 percent of its business. Revenue at the site dropped to \$21.9 million in 2001, a dramatic drop from the 1996 high of \$40.8 million. Today ship repair revenues are approximately \$33.8 million, with incremental growth expected. Since 1995, the core business of the ship repair operation at Pier 70 has shifted to a mix of tanker, cruise, tug and barge, and emergency cargo ship repairs. A steady resurgence of defense and government vessel repair work has occurred over the past four years. Defense work in 2006 accounted for nearly 57% of gross revenues, up from a low of 35% in 1996.



Ship repair activities today.

The San Francisco ship repair market niche includes commercial container barges, U.S. Coast Guard, U.S. Army and ships controlled by the Maritime Administration and the Military Sealift Command. In addition, Pier 70 services the relatively new business line of cruise ship overhauls. The majority of vessels calling on the shipyard have few docking options, given the cost of moving the vessel out of their market base. Competing options include Victoria (British Columbia) and Portland (Oregon), which have drydocking capacity similar to Pier 70's. BAE believes an ideal customer base would be 25% cruise ships, 30% merchant ships, 30% government and military vessels, and 15% barge and bay traffic. This mix ensures year-round work by diversifying clientele and ship repair services.

The Port's Drydock #2 is the largest repair drydock on the West Coast of the Americas and is able to serve "post Panamax" vessels that are too large to transit through the Panama Canal. Through a unique partnership with Princess Cruises and BAE, Drydock #2 was upgraded in 2008 to enable BAE to open a new business line, repairing the newest generation of very large cruise vessels. This improvement also opens new business opportunities for ultra-large tanker vessels that cannot be serviced elsewhere along the West Coast of the Americas. This type of innovation and retooling of the facilities and operations within the shipyard has been essential for the survival of the industry, preserving jobs and economic benefits for the city and region. The Port maintains a strong partnership with its operator to ensure ship repair continues as an important part of the Port's maritime program.

BAE is responsible for operating and maintaining the facilities and pays the Port rent based on its gross revenues. In addition to its

importance as a major employer of blue collar jobs, other shipyard benefits to San Francisco in 2010 include \$18.2 million in material purchases, \$3.2 million in local taxes, and approximately \$35 million in indirect regional economic activity.

Integrating Ship Repair with the Plan

Over time, Pier 70 land area leased for ship repair has been reduced through a series of lease amendments due to changes in business, technological changes and deterioration of facilities. BAE now leases approximately 19 acres, including 17 structures and two floating drydocks. Nearly all of the facilities in the shipyard today were constructed in the late 1800's and early 1900's, with the exception of the drydocks. The industry has continuously refined and enhanced its approach, equipment, yard, facilities, and operational requirements to meet ship repair business needs. To the maximum extent, BAE's plan focuses on using the existing facilities to accommodate change. Where alterations are proposed to historic resources, they are reviewed for consistency with the Secretary Standards.

Under BAE's long-term plan, as illustrated in Exhibit 4, *BAE Ship Repair Facility Plan*, BAE will consolidate operations into a few primary buildings and relocate office uses to the periphery of the yard, increase security and safety by limiting visitor access, and expand open site area to support the business. In addition, a new 19th Street access route will provide shipyard operations with direct truck access. BAE proposes demolition of three buildings due to their advanced deterioration and to optimize site utilization. Although all three, Buildings 38, 121, and 19, have been identified as contributing resources to the Pier 70 Historic District, they have

reached the end of their useful lives to support ship repair industry needs.

The Port took BAE's proposed changes into account in the development of the Pier 70 Plan. While recognizing the historic resource impact, the scope of these changes is not unprecedented; it reflects the types of tradeoffs and adjustments that have allowed the ship repair industry to stay alive over the last 150 years. In this context, when the needs of ship repair operations cannot be accommodated with the existing facilities (even if altered), continuation of the ship repair industry will receive first consideration over the retention of the physical facilities. Retaining this historic maritime industry is an act of historic preservation, as well as support for this important Port maritime function.

Two historic resources within and adjacent to the BAE leasehold have been identified as Contributing Resources in this Plan: Building 111 and Building 6. Building 111 is within the shipyard lease area, an unreinforced masonry structure that was red-tagged after the 1989 Loma Prieta earthquake. Building 6, a 500 foot long pile-supported metal warehouse, is located at the northeastern end of Pier 70, next to the shipyard. While both could provide functional space to support shipyard operations, they are in advanced states of deterioration. Buildings 111 and 6 are not proposed for demolition in this Plan. Their rehabilitation cost exceeds the ship repair industry's resources to preserve them, but these costs have been included in the financial feasibility analysis conducted for the Plan, as presented in Chapter 10.



Pier 70 (lower right) with Downton San Francisco in the Background, 2007

CHAPTER 3: CONTEXT FOR CHANGE

The prospect of adaptive reuse and infill development of Pier 70 comes at an opportune time, following 30 years of positive change along San Francisco's waterfront. Over this period, the City has established its position at the forefront of innovative land use and transportation planning. Along the waterfront, sustainable transit and pedestrian-oriented infill development have knit together the fabric of the city and reconnected it to the Bay. Today, South Beach and other areas of the Embarcadero waterfront are examples of the type of public/private partnerships that have created new growth opportunities in a city that values its traditional neighborhoods, historic resources, and visual and aesthetic qualities.

Pier 70 represents a new type of waterfront opportunity. Few other places on the West Coast could integrate Pier 70's continuing water-dependent maritime industry, the scale and mix of historic architecture, new shoreline open space, and transit-oriented infill development reflecting the best of urbanism and sustainable land use practices.

Planning Context

Historic rehabilitation of Pier 70's historic resources and protection of the ship repair industry are long-standing policies in the Port's Waterfront Land Use Plan. The Port's first efforts to improve Pier 70 (since acquiring it in 1989) started in 2000. At that time, development of the 300-acre Mission Bay project was beginning on former Southern Pacific rail properties, just north of Pier 70, following many years of community planning. Mission Bay is a significant infill development, approved for 6,000 units of new housing, 4.4

million square feet of office, laboratory, multimedia and manufacturing space, a 43-acre medical research campus for UCSF, and 41 acres of public open spaces. At its northern edge, King Street, once the site of the elevated I-280 Freeway, has been transformed into a high-density mixed-use transit corridor extending south from the Embarcadero in the South Beach neighborhood. Standing at the junction of the Embarcadero and King Street, AT&T Ballpark opened its doors in 2000 as the new home of the San Francisco Giants.

With the hope that these developments signaled a connection between Pier 70 and San Francisco's growing downtown hub, in 2001 the Port Commission issued two Requests for Proposals for two distinct areas within 14 acres of Pier 70. The Commission accepted proposals from the San Francisco Arts Future Consortium (Arts Consortium) for a major center for visual and performing arts, and from AMB Development Corporation (AMB) for a warehouse distribution complex that included historic rehabilitation of Buildings 101, 102, and 104. Unfortunately, the Arts Consortium was forced to terminate negotiations when its major financial partner withdrew from the negotiations. After significant study, AMB determined that the lack of a comprehensive Pier 70 site-wide plan, the cost of clean-up, historic rehabilitation, and open space requirements rendered its project infeasible. In 2002, the Port considered other proposals, including the relocation of The Exploratorium to Pier 70. That organization abandoned the proposal due to

uncertainty about evolving land use policies, highlighting the need for a comprehensive approach to feasibility issues, including a master plan.

In the summer of 2005, the Port and Mayor Gavin Newsom partnered with San Francisco Planning and Urban Research (SPUR) and EDAW, a local land use planning firm, to prepare a “Concept Vision Plan” for Pier 70. The Concept Vision Plan was developed through many community forums and workshops and reflected significant community interest in the future of the area. It set forth principles of historic preservation, sustainability, and integration with the surrounding neighborhoods, and called for continued ship repair, a marina, office space, a public market, arts, and a series of open spaces. Many of the ideas and possibilities revealed in that Concept Vision Plan received enthusiastic responses from government and community stakeholders alike and have influenced the development of this Plan.

The experiences, lessons, and inspirations from each of these public planning efforts led to the development of goals for Pier 70 by the Port’s Central Waterfront Advisory Group (CWAG) in 2006. Having participated in each of the prior efforts, the CWAG understood both the public’s desires for improvements at Pier 70 and the requirements to realize them. The CWAG goals became the basis for the public planning process that led to this Plan for Pier 70.

In the meantime, great change was underway in the rest of the Central Waterfront adjacent to Pier 70, in large part responding to accelerated development in Mission Bay. UCSF broke ground on the Mission Bay campus in 1999, which triggered robust development throughout Mission Bay. In 2001, UCSF acquired 14.5 acres

of additional land on the south end of Mission Bay for a new 1.6 million square foot hospital with the initial phase expected to open in 2013. Five buildings have been constructed on the UCSF campus, including three research buildings, a campus community center, and a university housing development.

Build-out of the Mission Bay area is underway. As of September 2009, 3,126 housing units, including 674 affordable units, are in place with an additional 319 units under construction. Over 11 acres of new parks and open space have been completed. More than 1.5 million of commercial office and biotechnology lab space has been built, with another 187,000 square feet under construction. As of 2010, about 2.7 million square feet of entitled office/research and development space remains for build-out in Mission Bay.

These rapid changes brought new development pressures to Potrero Hill, Dogpatch, and industrial areas within the Central Waterfront between Mission Bay and Islais Creek, and public demand for the City to revisit its land use and zoning controls. The San Francisco Planning Department responded by undertaking a detailed planning study for the Central Waterfront, which ultimately was incorporated into the Eastern Neighborhoods Plan and approved by the Board of Supervisors in 2008. The Eastern Neighborhoods Plan updated policies and rezoned several neighborhoods and districts in southeast San Francisco, balancing protections for industrial activities while also identifying areas for new infill transit-oriented development, public open space, and other community benefits. The Planning Department process coordinated land use changes with major public transit improvements then underway, including concepts emerging for the Pier 70 Plan. The Municipal Transportation Agency (SFMTA

MUNI) completed the Third Street light rail line (T-Line) from the Embarcadero waterfront south to the Bayview neighborhood in 2007, supporting sustainable infill development that responds to pressing climate change and environmental issues.

Economic Context

To understand the economic context for Pier 70, the City's overall Economic Strategy must also be considered. In 2007, San Francisco prepared its first Economic Strategy, identifying industries that have the potential to create jobs that align with the skills and education of San Francisco's residents. The two key sectors that drive the San Francisco economy are the knowledge sector and the experience sector. The knowledge sector is generated by companies that create economic value because of the knowledge and know-how they develop for their customers. The experience sector encompasses the visitor industry in the broadest sense and includes companies that create economic value based on the quality of the visitor experiences they provide, whether in hospitality, arts and culture, museums, or other sources of recreation and entertainment.

Pier 70 can accommodate knowledge sector industries, including biotech, environmental products and technologies, fashion, financial and professional services, digital media, information technologies, publishing, film, and television. Within the knowledge sector, San Francisco has come to specialize in smaller firms in emerging industries, which tend to create jobs mainly for workers with a university education. The City's Economic Strategy establishes two priorities for the knowledge sector: continue to grow a more diverse set of knowledge-based and high-tech start-ups, and encourage these companies to stay in San Francisco as they grow.

Within the context of the City's Economic Strategy, Pier 70 offers both a unique opportunity for new office and research and development uses as well as the potential to expand experience sector uses. These uses fit well with adaptive reuse of historic buildings and can help to activate new public open space areas on the waterfront. Pier 70 can host cultural and recreational uses similar to those currently found in Fort Mason and the Marina Green on the northern shoreline of San Francisco.

This Plan acknowledges that, despite Pier 70's unique characteristics and opportunities, real estate development is driven by economic cycles. Over the past 25 years, San Francisco real estate development may be categorized by three business cycles: (1) the 1980's speculation-based growth followed by the recession of the early 1990's; (2) the dot-com boom of 1995 to 2000 followed by the bust of 2001 to 2003; and (3) the current cycle starting in 2004, during which real estate values rose at unprecedented rates followed by a dramatic downturn that continues today. These cycles are important to recognize, as development efforts at Pier 70 will likely span more than one future business cycle.

Real Estate Market Context

The Plan was informed by a real estate market analysis prepared by Economic Planning Systems, Inc. to understand where Pier 70 fits in the San Francisco and regional economy as a site for new development. Although the market analysis was undertaken in 2007 before the recent significant shifts in the real estate and capital markets, it provides an overall context for Pier 70's development over the long term. A brief summary evaluating potential land uses to be considered for the Pier 70 area follows.

Biotechnology

Building on the Mission Bay cluster, San Francisco could increase its share of bioscience jobs from about 3%, to 7-10% of new Bay Area bioscience jobs. Anticipated bioscience growth in San Francisco will require between 2.5 million and 4 million square feet of space through 2030. Over the next 5 to 10 years, Mission Bay is likely to capture the majority of demand for bioscience space in San Francisco. Pier 70 is well-positioned to capture a significant portion of the balance of demand as sites in Mission Bay are developed.

Medical Office/Support

A significant amount of ancillary development is typically associated with hospital locations. Many doctors staffing a hospital require off-hospital medical office space to house private practices. Also, services for which a hospital typically contracts, such as laundry and



UCSF Biotech Campus

food preparation, may locate close to the hospital site. The market assessment estimates demand for medical office and support space in the area will range from 61,000 square feet for the first phase of the Mission Bay's hospital development to 137,000 square feet at full hospital build-out.

General Office and Corporate Campus

Pier 70's location and site amenities will attract interest from general office tenants. Office spaces with waterfront views and amenities are in high demand in the city. Annual office absorption in 2007 in San Francisco for the subarea around Pier 70 was about 40,000 square feet. Assuming new or rehabilitated historic buildings at Pier 70 would capture a large portion of future absorption over a 10-year period, 300,000 to 500,000 square feet of office may be expected for development at Pier 70. Pier 70's size and unique character make it an attractive location for a potential campus-style development suitable for a single user or multi-tenanted buildings.

Pier 70's historic buildings are well positioned to attract emerging industries such as "cleantech" and digital media. Several historic buildings at Pier 70 could accommodate office tenants, including Buildings 101, 104, 12, and 14. A high proportion of these spaces could be constructed with views to command premium rent.

Retail/Service Commercial

Though site access and visibility are not ideal for a major retail center, there is demand for limited neighborhood or worker-serving retail uses. Suitable tenant types would include small-scale eateries, grocery, and sundry stores. A limited amount of neighborhood-serving retailers such as dry cleaners, salons, and other personal service businesses may be supportable close to Illinois Street,

particularly if residential is built. The amount of market support for retail, restaurants, and commercial space at Pier 70 will depend on the final mix of users. A major cultural user that draws students or visitors to Pier 70 will bring with it more diners and shoppers than strictly office users. Similarly, as the parks and open spaces develop, new populations will come to Pier 70. The demand for retail will follow as buildings are rehabilitated, parks are built, and a new jobs complex is created.

Exhibition or Museum Space

Museum space or other types of exhibition space, such as film or performance art, are uses that could preserve the vast interiors of the Pier 70 industrial structures while providing a valued public amenity. Demand for these types of uses is likely to come from an existing San Francisco institution desiring larger facilities or a new location. The Union Iron Works Machine Shop (Buildings 113/114) and Buildings 6, 102, and 12 may be appropriate buildings for such uses.

Production, Distribution, Repair (PDR)

Land uses generally termed “industrial” are zoned in San Francisco under the designation PDR. Locating new PDR uses at Pier 70 would complement the original design of many buildings and maintain Pier 70’s industrial character. Planning Department analyses indicate that PDR demand in San Francisco is driven by certain businesses that need to be located relatively close to their customers. While the area between Pier 70 and Pier 80 is zoned largely for PDR uses, it is likely that PDR uses would also seek to remain or locate at Pier 70, given the location of the drydock. Also, some buildings may be too costly to convert to non-PDR uses,

making the best adaptive reuse option a continuation of industrial uses. Building 2 and Building 6 may be good examples of structures best suited for PDR uses.

PDR uses also include visual arts, such as painting, sculpture, printing, photography, and graphic design, which have been a use at Pier 70 for approximately 30 years in the Noonan Building (Building 11). The Plan supports the continuation of Arts-related PDR uses in Pier 70 to maintain cultural diversity that enlivenes the area on evenings and weekends, as well as supporting the local arts community.

Waterfront Commercial

Currently, public access to the waterfront at Pier 70 is severely limited. The Plan calls for significant new waterfront open spaces that could facilitate new waterfront commercial uses. An aquatic center or a small-vessel marina and ancillary café or restaurants are examples of waterfront commercial uses that would activate the open spaces by attracting recreational users. Based on occupancy levels and the waiting list for slip leases at the South Beach marina, demand for marina slips in the area is strong, but an outside funding source, such the California Department of Boating and Waterways, would likely be needed. Marina development would need to respect the shipyard’s needs to operate safely and efficiently.



20th Street in the future - a pedestrian and bicycle oriented place

CHAPTER 4: BRINGING TOGETHER THE PAST, PRESENT, AND FUTURE

The vision for Pier 70 is to revitalize former shipyard lands with a modern mix of activities that rehabilitate its many historic structures alongside new infill development, crafted to respect and co-exist with the ship repair industry and to support the creation of a Pier 70 National Register Historic District. Pier 70 will include major new open spaces along a part of the shoreline previously closed to the public, integrated with a fabric of buildings, streets, courtyards, and pedestrian ways that create an interesting public realm for the many new workers, visitors, and recreational and cultural enthusiasts who will be attracted to the area.

Pier 70 will provide space for the expansion of San Francisco's economy created by knowledge-based and experience sector uses developed in new and rehabilitated historic structures. Landmark quality buildings such as the Union Works Machine Shop (building 113/114) offer unique opportunities for cultural, institutional, and other public-oriented uses that are appropriate to its grand, cathedral-like space. These kinds of uses can provide new meaning, identity, and activity that both respect the integrity of the historic structure and create a significant focus for Pier 70 and the city.

New development on the site should be organized to provide for the functional requirements of new and existing uses and to complement the character of the Pier 70 Historic District. The Plan should create building/open space relationships that enhance the historic qualities of place and promote public access, open

space, and recreational activities that benefit from the unique waterfront setting. The character and quality of the buildings, open spaces, and infrastructure development at Pier 70 should reinforce the visual and aesthetic qualities that make San Francisco a great place to live, work, and visit.

Through more than 60 public meetings and workshops during the Pier 70 public planning process, not only did the community find consensus in a vision and goals for the future of the site, the public discussions also helped define the direction for historic preservation, land use, urban design, and open space, and the transportation objectives and policies set forth in the Plan. Public input reflected a broad diversity of perspectives, informed by the planning, urban design, preservation, and economic analyses undertaken by the Port and its consultants. The goals in the Plan target the key areas that together build the foundation for more detailed objectives and criteria that follow in the Plan.

Goals

The vision of this Plan as defined through the community outreach and participation effort is:

Create a vibrant and authentic historic district that re-establishes the historic activity level, activates new waterfront open spaces, creates a center for innovative industries, and integrates ongoing ship repair operations.

The goals that have been articulated to support this vision for the future of Pier 70 are as follow:

1. Create a Pier 70 National Register Historic District and rehabilitate its extraordinary historic resources.

The creation of a National Register Historic District formally recognizes Pier 70's historic resources and actively promotes their preservation and rehabilitation. Historic preservation provides access to additional funding sources and streamlines governmental review and entitlements.

2. Preserve the long-term viability of the maritime ship repair industry.

To maintain and embrace ship repair as an integral part of Pier 70, the Plan sets aside land necessary for this industry and establishes design parameters to ensure new development is compatible with the operational requirements to support viable ship repair operations. Preservation of the ongoing ship repair industry is a key element of the Plan's historic preservation strategy.

3. Create a major new shoreline open space that extends the San Francisco Bay Trail and Blue Greenway to and through Pier 70.

Two new waterfront parks are defined and connected to a network of internal pedestrian-scaled courtyards and passages,

and the remnant of Irish Hill. They allow for the Bay Trail and the Blue Greenway system to extend through the site, which complements the character of Pier 70's industrial historic setting.

4. Promote sustainable mixed-use infill development and economic vitality that includes climate adaptation strategies appropriate to this waterfront location.

Pier 70's goals for maritime industry, historic preservation, environmental remediation, and open space and public access establish a strong framework for sustainability. Coupled with the opportunity for significant transit-oriented infill development near major job centers and supporting residential neighborhoods, Pier 70 offers a model for sustainable development that reduces the carbon footprint of regional growth.

5. Provide sites for office, research, emerging technologies, light industry, commercial, cultural, and recreational uses to expand San Francisco's economic base and generate revenues to fund public benefits.

The Plan identifies sites for a significant amount of new infill development that is compatible with the scale and character of the historic district, and meets the functional requirements for a range of new uses. The Plan includes public funding resources that will rely on creating a strong economic base to meet the historic preservation, open space, and environmental commitments defined in this Plan.

6. Promote development that is pedestrian-oriented and fosters use of alternative, sustainable transportation modes and practices.

Implementation of the Plan will require active planning that incorporates alternative transportation modes and practices into the designs of private development and public improvements.

7. Extend the city street grid to enhance access and integrate Pier 70 with the Central Waterfront.

The street system is an important part of the organizational framework for existing and new uses. It provides orientation and structure to the urban experience, access and visibility to the Bay and proposed shoreline open space, and corridors for utility services and sustainable infrastructure.

8. Remediate environmental contamination to enable use and public enjoyment of Pier 70 and its waterfront, and improve environmental quality.

As is typical of many industrial areas, a considerable amount of clean-up may be required to meet environmental quality standards that are appropriate to the new uses and public-oriented activities desired for the area.

The goals established in the Plan are based on a diverse set of public interests. Therefore, they will provide the metric used to evaluate specific development proposals, implementation strategies, and further Plan refinements. They are the foundation on which the Plan elements are built as described in the chapters that follow:

Historic Preservation (Chapter 5); Land Use and Adaptive Reuse (Chapter 6); Open Space and Public Access (Chapter 7); Form and Character of Infill Development (Chapter 8); and Transit, Circulation, and Parking (Chapter 9). Each of these elements presents objectives and criteria that will be used to evaluate the value and quality of development proposals.

The Implementation Strategy (Chapter 10) describes the regulatory and public policy requirements and processes, and public and private financial support that will be required to realize the Plan. Development proposals will need to respond to economic cycles and the costs of environmental remediation, historic preservation, and public improvements that are a part of the Plan. To be successful, a significant level of infill development is required in order to generate the revenues necessary to provide public benefits. At the same time, it is urgent to move the Plan forward because the historic buildings and artifacts that are integral to the history and identity of Pier 70 are rapidly deteriorating.





Shipyard aerial, 1945

CHAPTER 5: HISTORIC PRESERVATION

The Pier 70 Historic District showcases a wide range of architectural styles from the late 19th to the mid-20th centuries and includes a combination of master architect, “Cathedral of Industry” style complexes, landmark quality buildings, and more modest utilitarian industrial structures. It is the oldest, largest and most intact historic industrial complex in San Francisco.

As a district, Pier 70 contains a rich collection of resources and provides a physical record expressing continuity with past trends in industrial architecture and design. It is significant for its association with pioneering technological developments in shipbuilding, labor relations, government, and private industry relationships, as well as for the production of significant wartime vessels. The district is also significant because it includes important works of master architects.

Objectives

1. Recognize continuation of viable ship repair and drydock operations as an act of preserving Pier 70’s history, and give priority to physical shipyard changes necessary to support the contemporary needs of the industry while maintaining the overall integrity of the Historic District.
2. Protect the integrity of the Pier 70 Historic District by directing major new construction to open and vacant areas or locations containing Non-Contributing Resources, reflective of the history of the built environment at Pier 70.

3. Encourage adaptive reuse of the historic resources that add new life to Pier 70, consistent with Secretary Standards.
4. Apply design criteria for new infill development to ensure new construction meets Plan objectives and is sensitively designed, consistent with Secretary Standards.
5. Prioritize the stabilization and rehabilitation of Very Significant resources along 20th Street for public and private investment as early as possible.
6. Promote an understanding of the site’s history, significance, and function through a program of coordinated interpretive exhibits in public areas and open spaces and as part of new development and historic rehabilitation improvements.

Historic Resources

Pier 70 hosts a number of individual historic resources of varying significance. In National Register historic districts, resources are classified as “contributing” or “non-contributing” to the district depending on their historic significance, degree of integrity, and whether they reflect the historic period for which the district is significant. For contributing resources, the Port and its consultants used a finer grain of analysis to further refine historic building’s relative significance and to develop the preservation strategy and priorities for Pier 70.

Contributing resources were classified into three categories below, and shown in Exhibit 5, *Historic Resource Rating* and Table 1, *Historic Resource Profiles*:

Very Significant Resources are the most historically and architecturally significant resources. In general, this highest rating has been assigned to the historic resources fronting on 20th Street, referred to as the Pier 70 historic core. These resources are generally the oldest and rarest, or are the work of master architects and are individually eligible for National Register listing. The Plan calls for rehabilitation of all Very Significant Resources.

Significant Resources are historically or architecturally significant individually, but may not be individually eligible for listing in the National Register. Significant Resources together with the Very Significant Resources are essential to maintain the National Register eligibility of Pier 70. This category includes significant structures for both World War efforts. The Plan calls for rehabilitation of all of these resources. The Plan highly discourages major modifications, and removal would be considered only under extraordinary circumstances.

Context Resources date from the period of significance, and are important cumulatively to the historic district. These resources represent the largest number of historic features at the site and include structures that supported the World War II efforts and build-out of the shipyard in accordance with the 1945 Pier 70 Ship Yard General Plan. Under this Plan, a significant concentration of

Context Resources would be rehabilitated so that the overall character and integrity of the district is preserved. Removal of some Context Resources is allowed to achieve Plan goals.

The implementation strategy further places a priority on the rehabilitation of the most significant and fragile resources, and accepts that rehabilitation of less significant resources may take longer as a result. Within this strategy, the Port is struggling to address a critical immediate need to secure funding or other resources to help stabilize very fragile Very Significant Resources, most notably



View looking down 20th Street from Illinois Street, 1941

the Union Iron Works Machine Shop (Building 113/114), that are threatened by advanced deterioration. The Port's FY10/11 annual capital budget includes funds for a first phase of stabilization for this structure.

Non-Contributing Resources comprise a fourth category of historic resources that are not essential to the eligibility of the historic district because they post-date the period of significance or have lost most, or all, of their integrity. Non-Contributing Resources include most of the site's waterside features such as slips, wharves, piers, and vessels. Although they are not recognized as

Contributing Resources, they are important to the context and therefore are considered Non-Contributing resources within the Pier 70 Historic District. The Plan anticipates that Non-Contributing Resources would be affected in order to provide for the operational needs of the shipyard and to support the overriding goals of the Plan.

Infill Development

New infill development within Pier 70 is key to the preservation of the historic district because it provides a source of funding and purpose for the rehabilitation of the site's historic resources.



Illustrative Rendering of Building 101

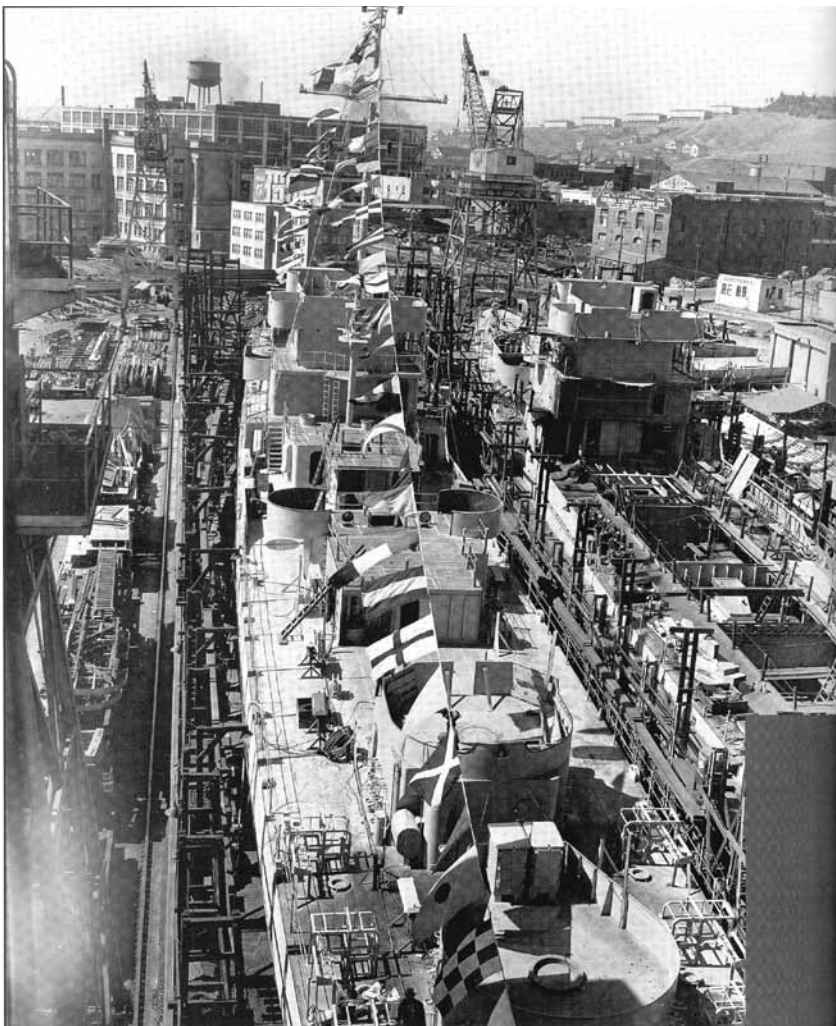
However, new development must respect the unique character and setting of the historic district as a maritime industrial complex. The pattern of the rail spurs and slipways, the scale of buildings, open space relationships, and visibility of the Bay are all factors that have historically guided development in the past, as they should in the future. At Pier 70's height of operations during World War II, development density was substantially higher than today, as reflected in the 1945 Pier 70 Ship Yard General Plan. To realize this Plan, development density must increase and will be subject to Infill Development Design Criteria described in Chapter 9. These criteria support the historic district by determining appropriate scale, design, and siting of new structures so that they help express Pier 70's historic physical urban form, industrial history, and waterfront location, consistent with the Secretary's Standards.

Oversight of Historic Preservation

The Port has worked closely with the San Francisco Planning Department, State Historical Resources Commission (SHRC), and Office of Historic Preservation (OHP) to review and document Pier 70 resources. Chapter 10 presents the Port's implementation strategy for work with these important regulatory partners in the area of historic preservation. This Plan provides the policy priorities and guidance to help ensure that the future of the historic resources of Pier 70 meets the Plan's historic preservation objectives.



Building 12 Complex, looking northeast, 2009



Top: Ship in Slipway 4 circa 1940, looking southwest

Upper Right: Slipway 4 today, looking northeast

Right: Detail of historic furnace



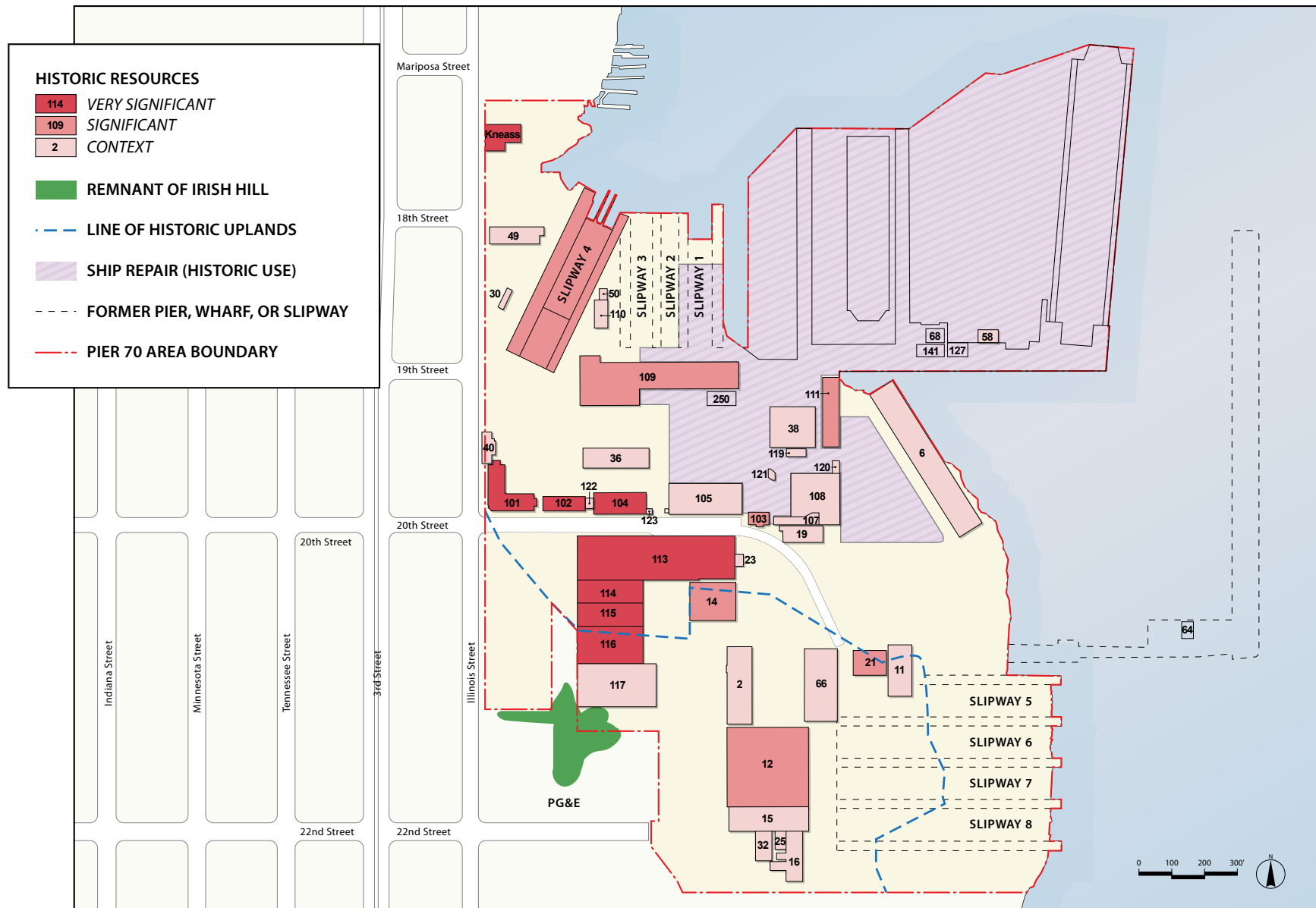


EXHIBIT 5: HISTORIC RESOURCE RATING

Building No.	Building Name and Function	Square Feet	Construction Type	Date Built	District Rating	Historic Significance
2	Warehouse	98,804	concrete	1941/44	Contributing	Context
6	Light Warehouse	37,128	steel frame	1941	Contributing	Context
11	The Noonan Building (Tool Room and Office)	32,664	wood frame	1941	Contributing	Context
12	Plate Shop No. 2	118,890	steel frame/wood floor	1941	Contributing	Significant
14	Heavy Warehouse	15,969	steel frame	1941	Contributing	Significant
15	Layout Yard	17,134	steel frame	1941/44	Contributing	Context
16	Stress Relieving Building	7,588	steel frame	1941	Contributing	Context
19	Garage No. 1	6,152	steel/concrete	1941	Contributing	Context
21	Electric Shop/Substation No. 5 (Risdon Iron Works)	10,172	steel	1900	Contributing	Significant
23	Washroom and Locker Room	519	concrete	1914/36/41	Contributing	Context
25	Washroom and Locker Room	1,407	steel frame	1941	Contributing	Context
30	Template Warehouse	991	steel/wood frame	1941	Contributing	Context
32	Template Warehouse	4,900	steel frame	1941/44	Contributing	Context
36	Welding Shop	12,050	steel frame	1941	Contributing	Context
38	Pipe and Electric Shop	30,519	concrete	1915/41	Contributing	Context
40	Bethlehem Steel Employment Office	8,259	wood frame	1941	Contributing	Context
41	Fire Station (Underwater)		steel	1941	Non-contributing	Non-contributing
49	Galvanizing Shop	8,039	steel frame	c. 1940	Contributing	Context
50	Substation #2	678	steel frame	1941	Contributing	Context
58	Pier 68 Substation #4	939	steel/concrete	1943	Contributing	Context
64	Substation #6 on Pier 70	2070	steel frame	1945	Contributing	Context
66	Bethlehem Welding Platform	23,100	steel frame	c. 1945	Contributing	Context
68	Pier 68 Substation #7/Dry Dock office		brick	Post 1945	Non-contributing	Non-contributing
101	Bethlehem Steel Administration Building	56,268	concrete	1917	Contributing	Very significant
102	Powerhouse No. 1	8,428	concrete	1912	Contributing	Very significant
103	Steam Powerhouse No. 2	2,258	brick/steel	1937	Contributing	Significant
104	Union Iron Works Administration Building	37,641	brick masonry	1896	Contributing	Very significant
105	Forge Shop	20,111	brick/steel frame	c. 1890/1937	Contributing	Context
107	Union Iron Works West Lumber Shed	3,461	steel frame	1937	Contributing	Context
108	Planing Mill and Joinery Shop	40,846	steel/wood	1911/13	Contributing	Context
109	Plate Shop No. 1	82,099	steel/wood	1912/36	Contributing	Significant
110	Yard Washroom/Locker Room	1,356	brick/steel	1936	Contributing	Context
111	Main Office, Warehouse and Substation No. 3	46,272	brick/concrete	1917	Contributing	Significant
113	Machine Shop No. 1/Blacksmith Shop	81,964	brick masonry	1885/86/1914	Contributing	Very significant
114	Machine Shop Storage/Foundry	8,800	brick masonry	1886	Contributing	Very significant
115	Concrete Warehouse	12,078	concrete	1916/17	Contributing	Very significant
116	Concrete Warehouse	21,780	concrete	1916/17	Contributing	Very significant
117	Warehouse No. 9 (Shipyard Train Center)	30,940	steel frame	1937/41	Contributing	Context
119	Yard Washroom	3,925	brick/steel	1936	Contributing	Context
120	Pipe Rack	1,392	steel frame	1936/1942	Contributing	Context
121	Dry Dock Office	584	wood frame	1941	Contributing	Context
122	Union Iron Works moved Gatehouse	714	concrete	1916/1941	Contributing	Context
123	Checkhouse No. 2	384	concrete	1916	Contributing	Context
127	Pier 68 Production Offices	1,978	wood frame	1944	Non-contributing	Non-contributing
141	Pier 68 Breakroom/Washroom/Restroom		steel frame	Post 1945	Non-contributing	Non-contributing
	Whirley Crane No. 27			1940s	Contributing	Context
	Iron Fence on 20th and Illinois Streets			c. 1917	Contributing	Non-contributing
	Irish Hill Remnant			landscape feature	Contributing	Context
	Slip #4 including Cranes 14 & 30			1941	Contributing	Significant
	Pier 68 - 'Wharf 1			1886/1915	Non-contributing/Setting	Non-contributing
	Pier 68 - 'Wharf 3			1886/1918/1967	Non-contributing/Setting	Non-contributing
	Pier 68 - 'Wharf 4			1918/1957	Non-contributing/Setting	Non-contributing
	Drydock No. 2			1970	Non-contributing	Non-contributing
	Drydock Eureka			c.1940s, moved c.1993	Non-contributing/Setting	Non-contributing
	Slip 1			1886/1915/1946	Non-contributing/Setting	Non-contributing
	Slip 2			1900/1915	Non-contributing/Setting	Non-contributing
	Slip 3			1900/1915	Non-contributing/Setting	Non-contributing
	Slips 5-8			1941	Non-contributing/Setting	Non-contributing
	Pier 70 -'Wharf 6			1941	Non-contributing/Setting	Non-contributing
	Pier 70 -'Wharf 7			1942	Non-contributing/Setting	Non-contributing
	Pier 70 - 'Wharf 8			1945/1980	Non-contributing	Non-contributing
	20th Street Paving			1890s	Non-contributing/Setting	Non-contributing
	Rail lines			Various	Non-contributing/Setting	Non-contributing
	Twigg Brothers/Kneass Boat Building Shop	13,523	wood frame	c. period 1878	Contributing	Very significant

TABLE 1: HISTORIC RESOURCE PROFILES



Aerial Photo of Pier 70 looking northwest, with Dogpatch neighborhood in foreground, 2006

CHAPTER 6: LAND USE AND ADAPTIVE REUSE

The Plan establishes a land use framework to develop a mixed-use district that can bring renewed life and activity to Pier 70. The land use program emphasizes job generation, economic development, and recreational amenities that contribute to the quality of life in the city and surrounding neighborhoods. In planning for the future, the Plan places a priority on maintaining existing ship repair operations, with 24-hour around-the-clock heavy industrial activities, and compatible future uses and activities. The Plan expects new uses within rehabilitated historic buildings and new buildings on infill development sites to respect and accommodate shipyard operations as reflected in the objectives below.

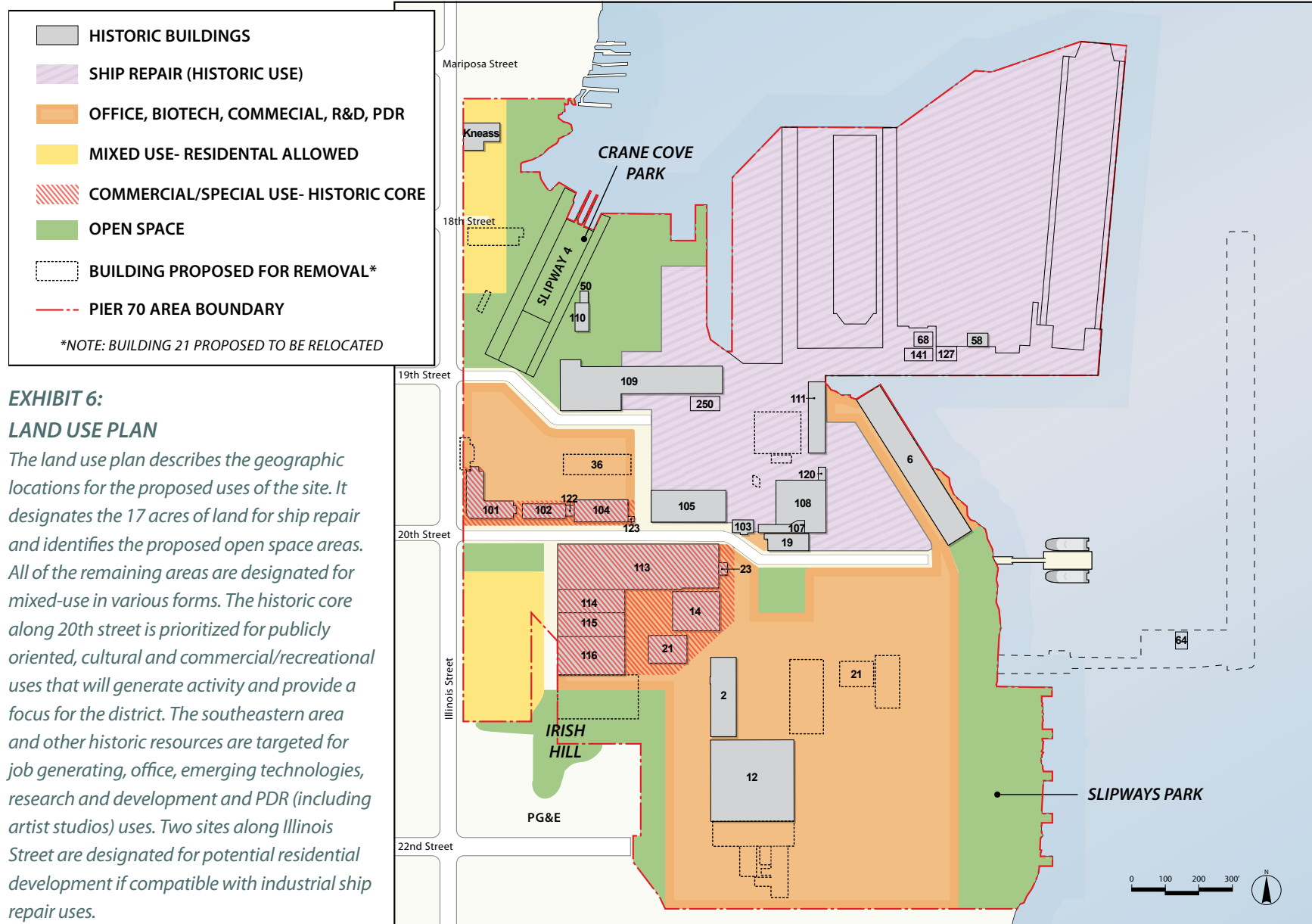
Objectives

1. Recognize that the continuation of ship repair industry is consistent with the historic preservation objectives of the Plan and the Port's public trust mission. Ensure that new development and land uses are designed and managed to respect and be compatible with the operational needs of ship repair.
2. Invite a wide range of activities that promote public use and appreciation of the waterfront and of the rehabilitation of Pier 70's historic resources.
3. Promote a mix of uses oriented toward commercial, office, educational, retail, cultural, and entertainment uses along 20th Street, to provide an active entrance to Pier 70.

4. Target publicly-oriented uses for the Union Iron Works Machine Shop (building 113/114) as an anchor facility to activate Pier 70's historic core along 20th Street, to attract broad public appreciation of this very significant grouping of historic resources.
5. Allow office, biotech, research and development, light industrial, and institutional uses in new construction and rehabilitated historic resources.
6. Consistent with the open space policies of this Plan, encourage imaginative architectural design of new development to contribute to the experience, activities, and enjoyment of shoreline parks and public spaces.
7. Allow limited residential development opportunities, if conflicts with ship repair operations and other adjacent uses are appropriately addressed.

Historic Buildings

Uses for rehabilitated historic buildings tend to be more limited than those for new buildings. Exhibit 6, *Land Use Plan*, identifies the location of Historic Resources proposed for historic rehabilitation and areas targeted for new infill development within the historic district. Historic buildings often pose challenges for reuse because of the need to generate sufficient market value to support the expense of their physical rehabilitation. To maximize



diversity and efforts to revitalize Pier 70 as a historic district, the Plan promotes a broad range of uses for rehabilitated historic buildings. The Plan also recognizes the opportunity for including light industrial uses, as options that avoid the need for costly alterations to historic resources. For the Very Significant Union Iron Works Machine Shop (building 113/114), the Port will conduct special outreach to identify potential arts/cultural groups or public assembly uses whose functions may be well-suited to the scale of the space and its prominent location within the site.

The following sections identify the planned uses to revitalize Pier 70.

Ship Repair

Preservation and enhancement of ship repair uses are central to the Port's maritime mission and essential goals of the Plan. Maintaining the ship repair industry is key to the historic preservation strategy in the Plan and also is a key industry that supports the City's economic base. The Plan reserves approximately 17 acres at the northeast quadrant of the site adjacent to the Bay for ship repair. Currently this area, which includes drydocks, wharves, and 14 existing structures, is under lease to BAE. BAE has recently completed a facility plan for its ship repair operations to ensure it is well-positioned to maintain business growth and stay competitive in today's market. This Plan incorporates BAE's plan for Pier 70 operations.

Office, Biotech, Research and Development, Commercial

Research and development and commercial uses that promote job creation and economic investment will be necessary at Pier 70. The Plan assumes that Mission Bay and its new UCSF campus will create demand for a range of biotech, medical, and large floor-plate back-office uses, as well as research and development and light manufacturing activities. These uses are permitted throughout Pier 70. Development should incorporate these uses in historic buildings and in new buildings that are compatible in scale and design with the historic district.

Retail, Restaurant, Cultural, Entertainment

A range of retail, restaurant, entertainment, and cultural uses that enhance the public nature of the site are of particular interest in the rehabilitated historic buildings at Pier 70. Restaurants, visitor-



20th Street looking east

serving retail, hotel, and some types of entertainment and cultural uses are also consistent with the public trust. These activities should be concentrated on 20th Street and the adjoining warehouses and foundries, which form the historic core of Pier 70 (see Exhibit 7 *Land Use Concept for the 20th Street Historic Core*). For the Union Iron Works Machine Shop (buildings 113/114), the Plan emphasizes a major public cultural presence to take advantage of its large-scale cathedral like space.

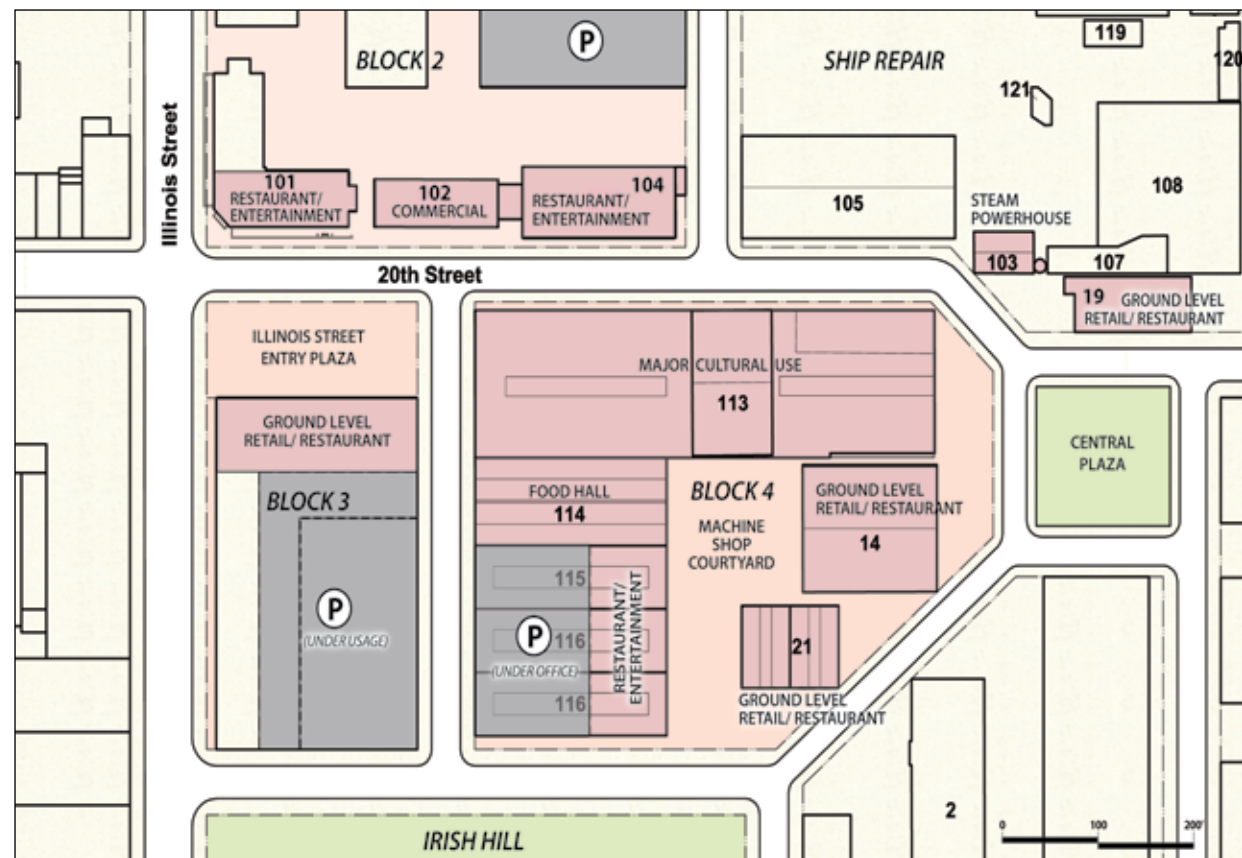
This intricate complex of buildings and planned open space will create a strong activity center at Pier 70, creating a destination and showcasing the historic significance of the site. Ancillary retail may also be appropriate outside the historic core to help activate open spaces and to provide ground level amenities to Pier 70 workers.

EXHIBIT 7: LAND USE CONCEPT FOR THE 20TH STREET HISTORIC CORE

The intricate complex of buildings and planned open spaces within the Pier 70 Historic Core along 20th Street will create an iconic activity center at Pier 70, showcasing the historic significance of the site. This exhibit suggests a mix of uses that will activate the core.

Production, Distribution, Repair (PDR)

Industrial activities will continue at Pier 70. Pier 70's historic resources were built for industrial use, and have continued to support a variety of warehouse, storage, and industrial processes as ship repair land requirements decreased. Artist-related uses such as studios and exhibit spaces are included in this category, which also could play an important part in the revitalization of Pier 70.



Redevelopment within Pier 70 is expected to occur over an extended period of time. PDR uses are well-suited to support interim lease revenues until land and facilities are ready for long-term development.

Open Space and Water Recreation

Waterfront parks and open space are prominently featured in the Plan. The Plan supports the creation of a variety of open spaces for public enjoyment and pedestrian circulation through the site. Large open spaces are proposed along the shoreline in Crane Cove Park and Slipways Park. These areas are large enough to support active water-oriented recreational activities and areas for passive enjoyment, public viewing, interpretation, and environmental restoration where appropriate.

Public and pedestrian spaces internal to Pier 70 also provide open space amenities in the forms of courtyards, small plazas, pedestrian-oriented alleys and passages, and Irish Hill.

Residential

Pier 70 is not planned as a residential district. The continuation of heavy industrial operations for ship repair, which can involve loud, around-the-clock activities, generally conflicts with living standards and conditions conducive to significant new residential development. While the land use program primarily calls for non-residential activities, the Plan provides some opportunity for a limited amount of residential development along Illinois Street. One site is north of 20th Street near Crane Cove Park, across from existing housing developments. The other is the parcel just south of 20th

Street along Illinois Street. These locations have been identified because they are close to public transit, can support new construction, are located upland away from the shipyard, and are near other residences. Proposals for housing would require thorough review of the design and program to demonstrate compatibility with the ship repair industry.

Public Trust Considerations

The successful development of Pier 70 will require a mix of land uses that will meet public trust use restrictions applicable to the site. As discussed further in Chapter 10, the Port has been working with State Lands to resolve a number of public trust issues that will define locations for trust and non-trust uses.



Building 101, looking north on Illinois Street, 2005



Illustrative rendering of potential recreational activities at Crane Cove Park

CHAPTER 7: OPEN SPACE AND PUBLIC ACCESS

Environmental remediation, adaptive reuse, and infill development within Pier 70 will provide the opportunity to open up new access to the waterfront for public enjoyment. The Plan's open space system ties in with existing regional open space plans, including the Association of Bay Area Governments' Bay Trail, and the San Francisco Bay Conservation Development Commission, Bay Water Trail plan. These regional efforts are furthered by the City's Blue Greenway open space efforts. For the purpose of clarity, the Plan refers to all of these efforts as the Blue Greenway. The community identified new public waterfront access as a high priority in the numerous workshops during the Pier 70 planning process, which provides the foundation for the following objectives.

Objectives

1. Create public open spaces that attract a diverse spectrum of users and establish a sense of identity and focus for new development at Pier 70 that is sensitive to ship repair operations.
2. Develop a diverse network and program of parks, paths, roads, and public spaces that recognize historic passages and connect upland areas and adjacent neighborhoods to waterfront open spaces, enjoyment of the Bay, and celebrate and reveal the rich history of Pier 70
3. Integrate the Bay Trail, the Bay Water Trail, and the Blue Greenway into the design of the Pier 70 open space network, which creates an inter-connected path that links public open

spaces along the shoreline, includes areas that support natural habitat for wildlife, and provides access into or on the Bay.

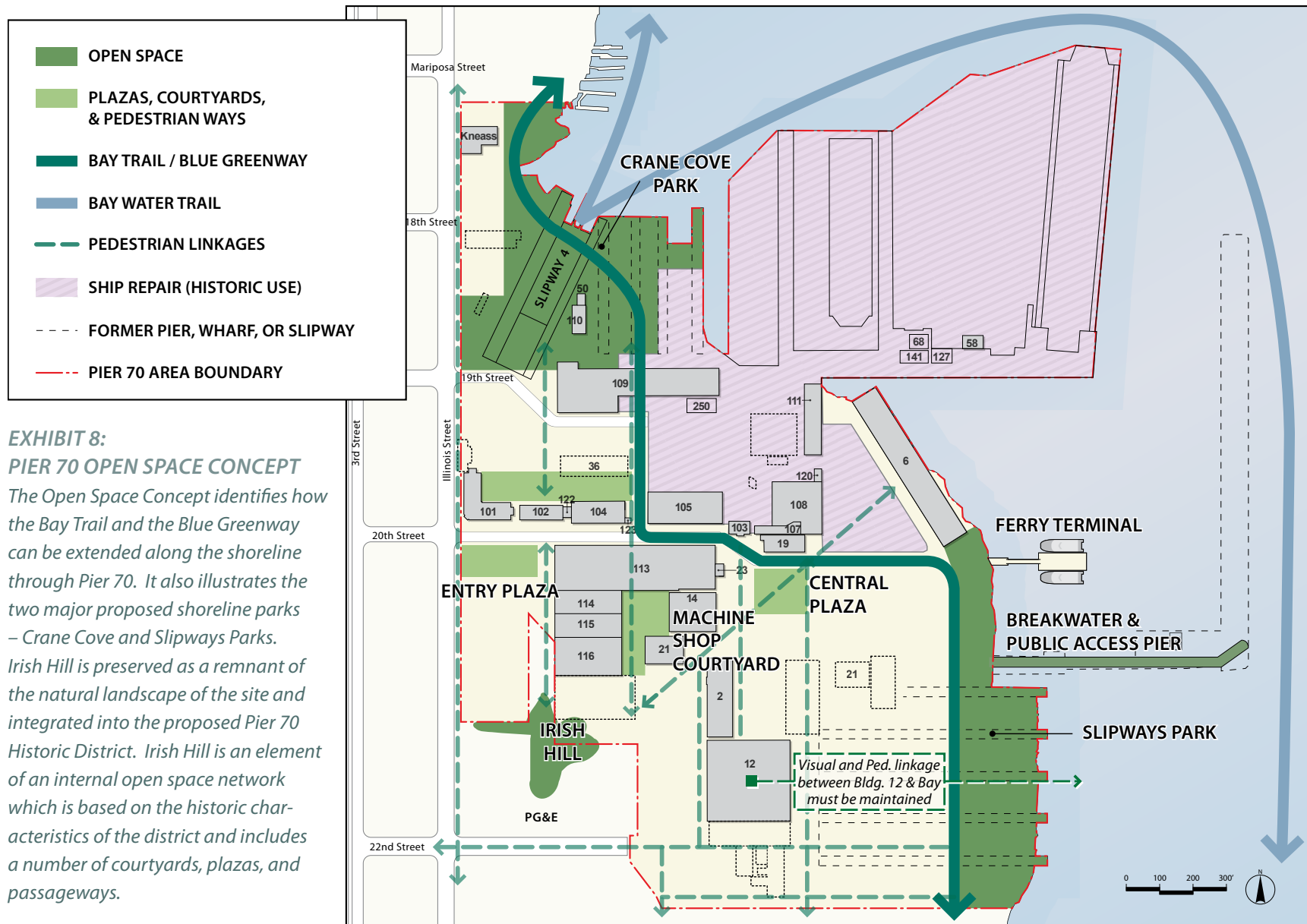
4. Require sensitive design and site placement of new development adjacent to the shoreline open spaces that provide comfortable sunlight access and microclimate conditions that support a high level of public enjoyment of those open spaces.
5. Use hardscape paving and materials to improve streets, pedestrian ways, and other public spaces that interface with historic resources to respect the industrial character of Pier 70, and create shoreline access wherever possible.
6. Allow ancillary structures in major open spaces to support water-oriented recreational activities and users, such as aquatic center, boat rental and supplies, and refreshments.

In response to these objectives, the Plan proposes shoreline open space and internal plazas and pathways within the Pier 70 area. Each major element of this open space network is described below and shown in Exhibit 8, Pier 70 Open Space Concept.

Shoreline Parks and Open Spaces

Two new parks are envisioned along the waterfront at Pier 70: Crane Cove Park to the north and west of the shipyard, and Slipways Park to the south of the shipyard.

Crane Cove Park: The Plan envisions an open space, located at the northern edge of Pier 70, as a park that will serve existing nearby neighborhoods as well as the new activities introduced at Pier



70. The park area includes historic Slip 4 and its cranes, creating a strong relationship with the water and the active shipbuilding history of the site. It provides expansive views of the Bay and a safe public viewing area of ship repair operations.

Crane Cove Park is a feature in the Blue Greenway open space network along San Francisco's southeast shoreline. In concert with the Pier 70 planning process, the Port and the City support a community effort to develop the Blue Greenway open space system, which will include design improvements for Crane Cove Park. In previous Pier 70 planning efforts, the Crane Cove Park site has been identified as a desirable location for launching or landing of human-powered watercraft. Designs for providing water access for small vessels should be incorporated into the design of the park. Recreational activities or concessions to support the open space could reuse two historic buildings, Buildings 50 and 110, that are located within the future open space.

In addition to Slip 4 and the cranes, which are the most visually prominent historic artifacts in this park area, other industrial and shipbuilding artifacts and structures are present. This rich maritime history and identity should guide park design and encourage creative use of these features. Park design should also take advantage of opportunities to highlight the visibility and importance of the slipway, including the introduction of the bay water within it.

The large size of Crane Cove Park provides an opportunity for environmental restoration. Landscape and vegetative treatments that support native birds and wildlife should be analyzed in any design study for Crane Cove Park improvements.

Slipways Park: This open space is located on eastern portion of four former slipways that once occupied the southeastern portion of the site. These slipways provided the stage for the construction and launching of many of the ships built at Pier 70. While these slipways have been filled, the park design should incorporate treatments that express this historic use, and incorporate remnants that project into the bay, which may include piers or jetties for pedestrian access and viewing. The public should be able to access this open space from the extension of 20th and 22nd Streets, and from a new north-south street along the western edge of the park.

Upland Parks and Open Spaces

The upland open spaces include a variety of spaces that are closely integrated with adjacent buildings and activities. They help to



The Machine Shop courtyard area south of Building 113 is envisioned to become a vibrant public place.

provide scale, amenities, pedestrian-orientation, and identity for adjacent buildings as well as the district as a whole. They include:

Irish Hill: Irish Hill, at the southwestern corner of the site, provides a clear remnant of the site's original shoreline and topography. The Plan calls for the retention of the 1.5-acre sloping site as a visual open space.

Central Plaza: The Plan calls for the creation of a central plaza at the "crossroads" of the shipbuilding and rail operations that occurred on the site, adjoining the activities of Union Iron Works/Bethlehem Steel to the north, and the World War II complex of structures to the south. The design of the space should provide a symbolic and visual center to the complex, including interpretive displays highlighting the history of the site and its maritime activities. Design should also consider selective planting and vegetation as a counterpoint to the industrial hardscape that will predominate.

Machine Shop Courtyard: The Plan calls for an intimately-scaled courtyard, surrounded by the massive brick Union Iron Works Machine Shop (Building 113/114), the reinforced concrete warehouse structures, and the corrugated steel heavy warehouses to the south. Relocation of the steel-framed Risdon Ironworks building (Building 21) to this site from its current location approximately 700 feet to the east would further define this space. The diverse materials, shapes, and forms of these structures will give the open space a unique quality. The Plan envisions the courtyard as a central hub of activity, including outdoor dining, musical performances, and artist exhibits, spilling out from the adjacent interior spaces. A public passage from 20th Street through the Union Iron Works Machine Shop could provide access to this space.



Illustrative rendering of boardwalk and pier extensions at Crane Cove Park.

20th Street Promenade: 20th Street was the principal entry to Pier 70, where thousands of shipyard employees arrived for work and congregated. Befitting its more public face, the street is lined by the stately Union Iron Works Machine Shop (Building 113/114), Bethlehem Steel Administration Building (Building 101), Powerhouse (Building 102), and the original 1896 Union Iron Works Administration office building (Building 104), visually terminating at the distinctive steam powerhouse (Building 103) with its high smokestack. The Plan provides for the extension of 19th Street into the ship repair facility to provide an alternate route for trucks, which currently travel down 20th Street. With the removal of truck traffic, the Plan calls for 20th Street to be restored as the principal entry and ceremonial spine to Pier 70's historic core - a managed street that could be closed to traffic for special events. Develop-

ment of this street should consider the use of cobbled pavers within the vehicle lanes of the street and be designed to accommodate the multiple functions it may serve.

Illinois Street Entry Plaza: At the junction of 20th Street and Illinois Street, a 0.6-acre entry plaza will preserve the public views to the Union Iron Works Machine Shop (Building 113/114) from Illinois Street, creating a suitable setting for the Pier 70 Historic District and an enhanced gateway to Pier 70. The plaza design should be coordinated with that of 20th Street and provide opportunities for commercial activities to spill out from adjacent development.

Illustrative rendering of public improvements at Crane Cove Park will open up views to downtown skyline and Bay Bridge.

Network of Pedestrian Promenades: The Plan promotes connecting these diverse open spaces through an integrated network of pedestrian ways, promenades, and walkways to provide a diversity of routes among the various activities and destinations. This network also will enhance the Blue Greenway to provide continuous pedestrian and bicycle circulation from Crane Cove Park to Slipways Park, traversing through the heart of Pier 70's historic district. Trail users would enjoy diverse experiences, including ship repair activities visible from Crane Cove Park, the cultural and commercial activities envisioned in the core, and expansive bayfront views from Slipways Park. Ultimately, the Bay Trail and the Blue Greenway would continue south once the adjacent Mirant Potrero power plant site is redeveloped.





The Machine Shop courtyard area south of Building 113 is envisioned to become a vibrant public place.

CHAPTER 8: FORM AND CHARACTER OF INFILL DEVELOPMENT

From an urban design standpoint, Pier 70's identity is, to a great extent, determined by its past and the character, quality, and feel of the historic resources. These qualities include the landscape and Bay shoreline, the urban and industrial pattern of streets, rail lines, slipways, and docks, as well as the enduring presence of its numerous historic resources. At the same time, the Plan recognizes the unique waterfront setting and its potential to be a part of the city in a new and different way than in the past. Pier 70 is exceptional because it will have both a working waterfront and a more accessible shoreline with two major waterfront parks that contribute to livability, sociability, and quality of life in the area as well as the city as a whole.

The Plan recognizes that the richness of an urban environment is enhanced by the layering of history while it looks toward what this area can become. The form and character of infill development must respond to the functional requirements of new uses, to current technology and methods of construction, and to the shared responsibility for building sustainable environments of lasting value for future generations.

This chapter of the Plan is organized into four topics related to the form and character of infill development, following the objectives described below. The first addresses the form of new development on vacant sites. The second presents general design criteria for

the entire Plan area. The third sets forth design criteria for specific zones within Pier 70. The fourth discusses sustainable development practices.

The Infill Design Criteria define planning and design parameters for substantial new development that will be required to meet the goals of the Plan. The rehabilitation of historic buildings and new infill development will be guided by the Secretary Standards. The Infill Design Criteria are intended to interpret how the Secretary Standards are applied to achieve new development that is sensitively designed to be compatible with the historic district's overall character.

Objectives

1. Respect the district as a historic landscape that reflects the industrial shipbuilding processes, including the evolution of the Union Iron Works/Bethlehem Steel operations and ongoing ship repair activity.
2. Showcase the historic district's resources, industrial heritage, landscape features, and waterfront location.



20th Street looking west



Existing Bay view from Building 2

3. Develop a pattern that reflects the unique building and open space relationships that are characteristic of the historic district.
4. Allow for architectural diversity that is compatible with the historic character of the district. Add new architecture that complements the surrounding resources and promotes activity in the area.
5. Encourage the design of buildings and open spaces that not only responds to Pier 70's historic qualities but also strengthens connections to Dogpatch and Potrero Hill neighborhoods.
6. Encourage public access and views to the waterfront and connect shoreline parks and promenades with proposed open spaces that are integrated with development.



West elevation of Buildings 117 (1940's), 115/116 (1917), and 113/114 (1886). Photo shows structures from three different periods of development: WWII, WWI and 1880's.

The objectives and criteria presented in this chapter flow from detailed site and planning studies that analyzed different approaches to allow for a significant increase in development density at Pier 70, which is necessary to support the public benefits promoted in the Plan. Discussion and exhibits associated with site planning studies are provided in Appendix A.

In summary, these studies provide the foundation for defining four zones for infill development at Pier 70, integrated with the site open space system and the Infill Development Design Criteria presented. In large part, the zones follow the historical phases of development of Pier 70, from the early shipbuilding days of the 1860's through the World War II complex in the 1940's, when Pier 70 had become densely built-out. Three zones identify development areas around clusters of related historic resources, and one zone is largely vacant and can support the most new development.

This framework would support approximately 3.7 million gross square feet of development, reflecting an overall Floor Area Ratio (FAR) of 3:1, excluding the ship repair area. Various building pad layouts were studied to arrive at this estimate of total development, but they are not prescriptive. Other building configurations and variations in building heights and massing are possible for Pier 70, which are allowable under the Plan. The Port anticipates that flexibility will be needed to support specific development programs.

Building Form and Intensity

Exhibit 9, *Pier 70 Infill Development Zones* identifies the Plan's framework for describing the type and intensity of development in different areas of Pier 70. The development zones are based largely

on geographic groupings and relationships set by historic buildings and elements of the open space network proposed in the Plan. This framework calls out locations for street and pedestrian improvements and places for infill development.

A majority of the new infill development depicted in these diagrams is directed to Zone 4 in the southeast portion of the Pier 70 area. This is the location of the former ship slipways, which were subsequently filled and have been identified as Non-Contributing Resources. This area is largely vacant today and is physically separated from the majority of Pier 70's Contributing Resources. As such, it offers the best opportunity to accommodate major new infill development. The following principles set forth the approach for new structures within the Pier 70 area.

- Retain strong visual and pedestrian linkages to waterfront parks and public spaces within and adjacent to Pier 70.
- Respect existing and former railroad transportation corridors as part of the public space network to recall the historic circulation pattern.
- Recognize the historic connection between the Building 12 complex, the filled slipways to the east, and the Bay.
- Allow flexibility for building heights to accommodate new construction in Zone 4, located away from Pier 70's historic core, to support the density of economic development included in the Plan.

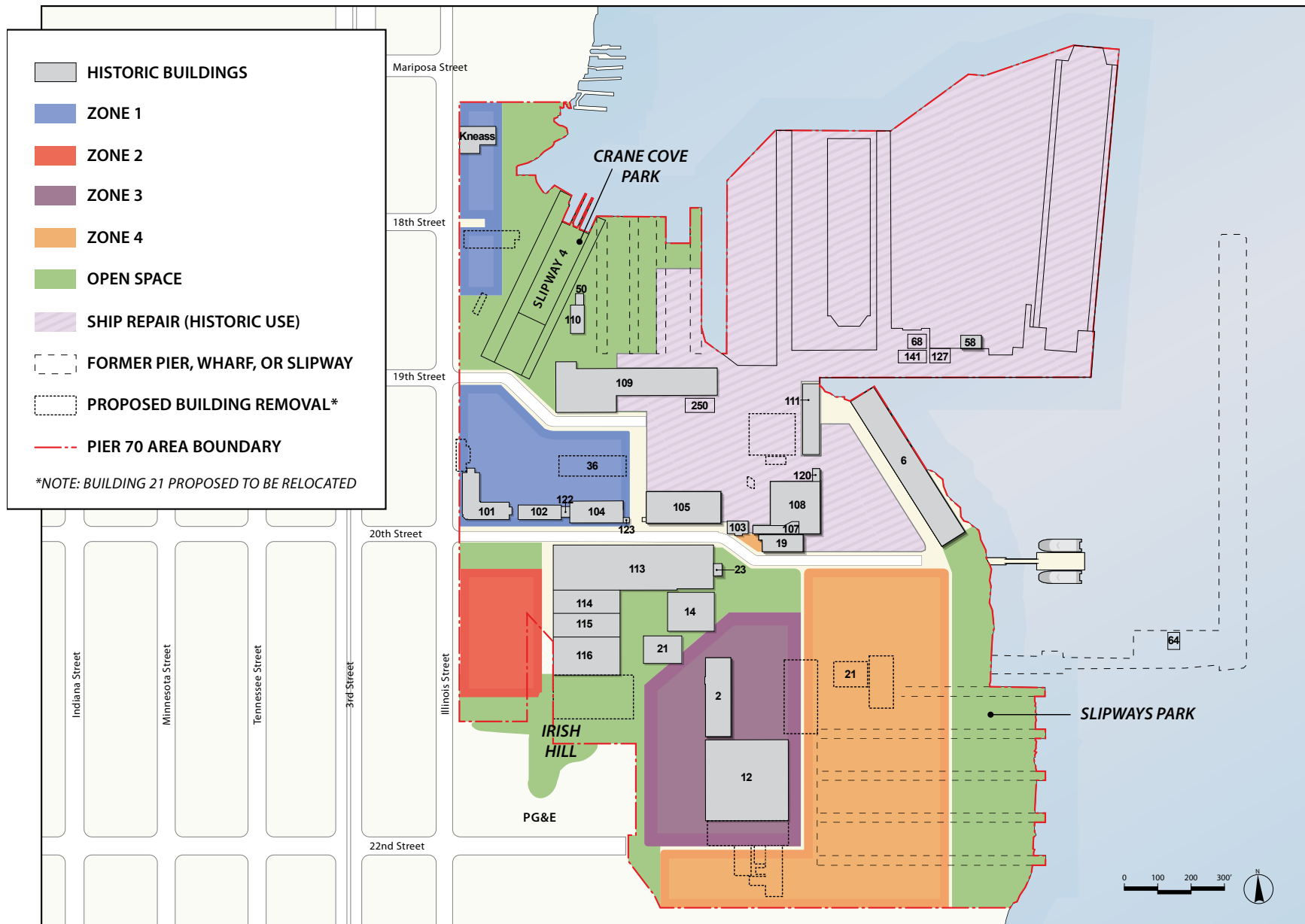


EXHIBIT 9: PIER 70 INFILL DEVELOPMENT ZONES

Taken together, streets, pathways, and open space connections tie together development in each of the zones. Exhibit 10, *Visual and Pedestrian Linkages*, illustrates the views and circulation patterns between development zones, which organize a system of streets, open spaces, and infill development areas identified in the Plan. Some of the linkages, such as the diagonal street from Irish Hill and Building 6 and the north/south connector between Irish Hill and Crane Cove Park through Buildings 113 and 109, are derived from historic rail tracks that once traversed the site. The diagram illustrates how streets can be extended when the Mirant Potrero power plant property to the south is reused.



Maintain Pier 70's distinctive skyline including cranes, drydocks, and ships.

Infill Development Design Criteria – District Wide

The Pier 70 Historic District contains a wide variety of industrial buildings. Buildings vary by function, period, and construction type, reflecting the historical development of the shipyard. These typologies provide an approach for new construction that references the architectural and historical characteristics district-wide as well as the unique character of each zone. In addition, the district's various edge conditions (specifically at the waterfront) should also influence the approach to new construction. This criteria has been organized to present general criteria to inform infill development design district-wide, followed by more detailed criteria specific to each of the four zones.

- Design new buildings to reflect their time, place, context, and purpose.
- Differentiate new buildings from the old; avoid false historicism.
- Design new buildings to be compatible with the historic buildings in terms of materials, features, size, scale, proportions, and massing. Recognize that the contrast between new and old can also serve to focus attention on historic resources.
- Utilize high levels of craftsmanship. Design new buildings as permanent additions to the district using materials that will weather well and continue to complement their historic counterparts.



Top: Note red bricks with contemporary bond pattern.

Bottom: A contemporary reinterpretation of a saw-tooth roof.

- Maintain significant relationships of the historic buildings and features to each other, to their setting, and to the historic context in which they are located.
- Determine the proximity of new buildings to old, and to each other, by the density of surrounding historic buildings. Maintain spacing between new buildings that is equal to or greater than the distance between historic buildings in the given zone.

Design

- Incorporate design elements that are common to or compatible with the area's design vocabulary; employ these treatments in new and creative ways while maintaining compatibility with the historic district.
- Respect the skyline and visual identity of the Pier 70 Historic District, particularly the interplay of visually prominent site features such as the shipyard cranes, floating dry docks, berthed vessels, and buildings along 20th Street.
- Locate parking garage entries and exits to avoid pedestrian alleys and passages to the extent feasible.

Scale, Massing, Form, and Materials

- Vary the scale, massing, form, and materials to maintain the complexity of the district, while respecting the historic context.
- Consider massing that steps upward and away from historic buildings to emphasize these features and to sculpt new construction while also allowing for greater building height and variation.

- Use brick masonry, concrete, corrugated metal, and wood construction materials as is found in existing buildings. Alternatively, use compatible new materials that are industrial in character.
- Reference the character-defining roof forms found throughout the Pier 70 Historic District, including double gables, saw-tooth, monitors, and Aiken roofs. Consider reinterpreting these historic roof forms in new ways.
- Use of multi-light windows is preferred. Glass curtain walls may be used judiciously, where they are needed to provide transparency.
- Use punched openings, arched openings, and larger openings at ground level to echo loading doors and reference historic industrial functions.
- Retain existing and create new streetscapes that reflect the industrial character of the site.
- Consider unit pavers such as cobblestones instead of monolithic asphalt or concrete paving where appropriate. Consider exposing historic cobblestones along 20th Street.
- Retain and expose rail lines, infrastructure corridors, and historic material movement features where feasible.
- Limit plantings and grass areas and consider utilizing industrial-type canopies extending from buildings to enhance the pedestrian orientation of the street.

Plazas

- Utilize materials that reflect the shipyard's industrial character, but also support new uses by creating multi-functional hard-scape areas that can serve a range of passive and active functions.
- Consider unit pavers instead of monolithic asphalt or concrete paving where appropriate.
- Integrate historic industrial objects as sculptural and interpre-



Multi-light windows



20th Street in the future - a pedestrian and bicycle oriented place



The courtyard area south of Building 113 is envisioned to become a vibrant public place.

tative elements. Reuse of salvage materials from the historic district is highly encouraged.

- Incorporate interpretative displays into plazas and streetscape as appropriate.
- Use plant materials judiciously. Consider using free-standing, above-grade planters that highlight the additive nature of plantings.

Buildings

- New buildings along 20th and Illinois Streets should have a substantial character, using Buildings 101, 102, and 104 as models.
- Buildings internal to the site should create a foil against which the district's Contributing Resources can be clearly identified. Buildings at the water's edge should be designed to address their visibility from greater distances over open water. Buildings located in areas with remnants of historic features, such as slipways, should reflect the historical relationship of these features with the water and upland portions of the property.
- The design of buildings located adjacent to the shoreline must balance environmental considerations and complement historic district character. Avoid excessive use of glass in buildings that directly interface with the Bay or waterfront parks to reduce hazards to birds that may fly into the windows.



Rear elevations of Buildings 101, 102, and 104

Infill Development Design Criteria - Zones

Infill Development Design Criteria provide additional direction on scale, massing, streetscapes, and plazas, as well as criteria for the four zones.

Zone 1: Illinois Street, North of 20th Street, and the area behind Buildings 101, 102, and 104.

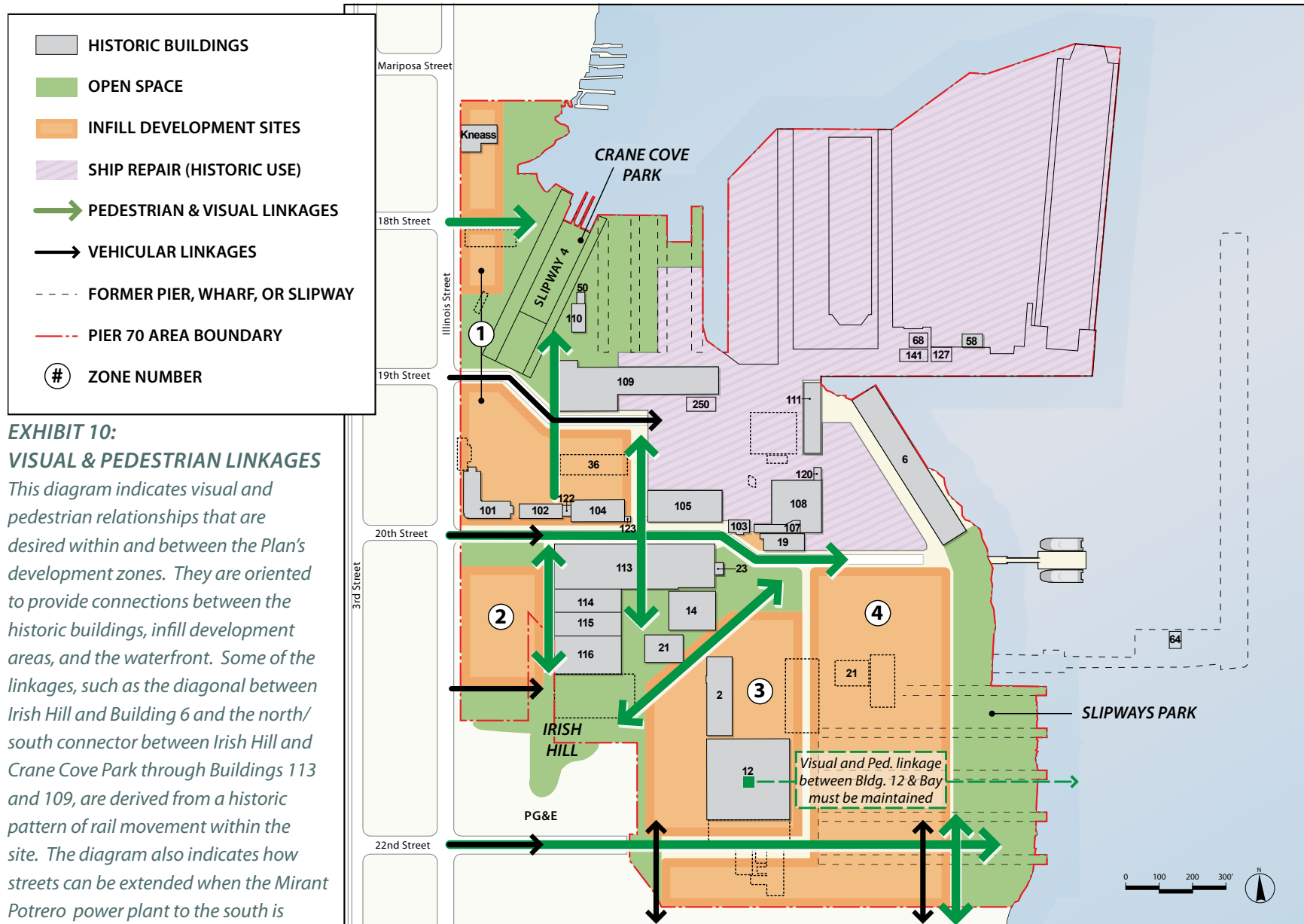
- New buildings along Illinois Street will need to establish a strong interface between the adjacent neighborhoods and the Pier 70 Historic District and should have a substantial character, using Buildings 101, 102, and 104 as models.
- Design new buildings along Illinois Street to provide cohesion between Building 101 and Crane Cove Park and to create a connection with the surrounding neighborhood.

- Align new buildings along Illinois Street to maintain the existing set-back established by Building 101.
- Design new buildings north of Buildings 101, 102, and 104 and visible from 20th Street to provide a pleasing backdrop for these historic buildings.
- Situate new buildings located north of Buildings 101, 102, and 104 to maintain access and visibility to their existing rear elevations and, to the extent possible, maintain views from these historic buildings to the Bay.
- Echo roof forms found on existing buildings adjacent to this zone, including flat, hipped, or gable with monitors.

Zone 2: Illinois Street, South of 20th Street

The existing buildings along 20th Street are primarily architect-designed. New adjacent construction must reflect a conscious approach to achieving compatibility with the high-quality design and workmanship of the surrounding buildings.

- Create and enhance the gateway to Pier 70 at 20th and Illinois Streets with high-quality architecture worthy of its juxtaposition with Building 101 on the northeast corner of 20th and Illinois Streets, while recognizing the American Can Co. Building on the west side of Illinois Street.
- Consistent with these significant existing historic structures, use high-quality materials, details, and textures to achieve compatibility with the neighboring historic structures.





- Maintain visual access to the iconic smokestack, Building 103, at the end of 20th Street.
- Provide a plaza on the southeast corner of 20th and Illinois Streets that will maintain the view of the west elevation of the Union Iron Works Machine Shop (Building 113/114) and provide a sense of arrival that complements the gateway role of Building 101 to 20th Street.
- New buildings along Illinois Street south of the plaza should be designed to echo the massing, solidity, and form of Building 101 and complement the historic corridor along 20th Street.

Zone 3: Building 12 Complex

Buildings in this zone form a secondary gateway, as they are the first buildings seen at the proposed extensions of 21st and 22nd Streets. Their design should acknowledge this function.



- Highlight Building 12 and its prominence as the centerpiece of the industrial complex in this zone.
- Allow building heights no higher than the existing Building 2 (approximately 80 feet).
- Feature materials and roof configurations that relate to the historic Building 12 complex, such as corrugated metal, steel windows, and Aiken roof forms.

Top: Building 113- 115 west facades, looking northeast. Bottom: Building 101

Zone 4: Former Slipways and Waterfront

Buildings in Zone 4 form an edge along the water. This edge should be porous, so that visual and physical connections between site and water are maintained. The design of new buildings in this zone forms the southern interface with the Mirant Potrero power plant site.

- Maintain visual and physical connections to the water by allowing views through buildings, as well as pedestrian corridors and pass-throughs
- Design the ground floors of the buildings to complement and interact with pedestrian ways that connect the Bay to the inland portions of the site. Consider locating the most publicly-oriented functions of buildings on the ground floor and incorporating active ground level uses wherever possible.
- Design the new buildings to be visually prominent from the water, yet compatible in design with the surrounding historic fabric. The west facades of these buildings should reference the adjacent Building 12 complex, while the eastern facades should be oriented to the open space and the Bay. The south facades should provide a coherent interface between Pier 70 and future development at the Mirant Potrero power plant site.
- Use the orientation of walkways, entries, and windows to emphasize the historic connection between the Building 12 complex, the slipways, and the waterfront.
- Buildings should be designed and oriented to protect micro-climate conditions to support a high level of public access and enjoyment of Slipways Park.



Aerial view of slipways 5-8

Sustainable Development Practices

New and historic buildings need to meet the pressing environmental challenges of the 21st century related to climate change, sustainability, energy efficiency, water conservation and quality, and conservation of natural resources. Due to the waterfront setting of this project and its fill history, the Port, in consultation with its development and regulatory partners, will conduct further analysis of appropriate climate adaptation strategies to respond to the impacts of projected sea level rise and associated potential flood risks.

The Port will work with its development partners to determine the applicability of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council. LEED Neighborhood Development and New Construction standards or equivalent may provide direction to achieve a sustainable project. This analysis will have a particular focus on how these standards apply to the historic district, and to address Port and City sustainability goals. The Port will prioritize its historic preservation objectives in this analysis in an effort to successfully integrate sustainability improvements into the historic district in a manner that is consistent with the Secretary Standards.

The Port will encourage on-site alternative energy generation and conservation systems, and reduction of vehicle usage, emissions, and vehicle miles traveled to reduce carbon footprint impacts of new development, consistent with the Port's Climate Action Plan. A key site-based sustainability concern is managing stormwater runoff. Due to unique subsurface conditions of the site, the potential presence of contaminated fill, and historic district criteria that limit planted vegetation, building rooftop design may serve as the best means to capture and manage stormwater. Stormwater management measures incorporated into rehabilitated or new facilities will be subject to review and compliance with the Port's Stormwater Design Guidelines.



Top: Green Roof

Bottom: Solar Power and Wind Energy Generation



Pier 70 will be a transit-oriented development, with mixed-mode streets designed for pedestrians, bicyclists, and transit as well as automobiles.

CHAPTER 9: TRANSIT, CIRCULATION, AND PARKING

Pier 70 benefits from regional and city transit systems in close proximity to the site, enabling future development oriented to transit and pedestrian amenities. The site is within a 7-minute walk of existing MUNI bus and light rail, and Caltrain commuter rail services. MUNI's Third Street light rail corridor (the T-Line) is only one block west of Pier 70 and includes a station at 20th Street. A planned turn-around loop for MUNI light rail, between 18th and 19th Streets will provide an additional light rail stop on Illinois Street adjacent to Crane Cove Park. Exhibit 11, *Pier 70 Transit Access* illustrates the accessibility of Pier 70 to current and planned public transit. In addition, the Plan identifies a location for ferry service to serve the new development envisioned for Pier 70.

The preliminary transportation analysis conducted during the planning process suggests that, given the available vehicle capacity of the existing street network, successful development at Pier 70 will require significant use of alternative modes of travel. Thus, the Port and its development partners have a joint interest and responsibility to design and manage new development at Pier 70 that actively promotes high levels of transit, pedestrian, and bicycle access and prioritizes resources and services to increase transit service levels.

The Municipal Transportation Agency is leading a coordinated Eastern Neighborhoods Transportation Implementation Study (ENTRIPS) with the Planning Department and the San Francisco County Transportation Authority to prioritize and develop improvements to bicycle and pedestrian traffic, parking, and goods movement. The ENTRIPS will include travel demand generated by

Pier 70 development as envisioned by the Plan. These transportation improvements will be timed to support growth in the Eastern Neighborhoods over the next 20 years.

Pier 70 transportation needs will require efficient truck and service access to support ship repair and industrial operations. In addition, the Plan supports parking facilities for the substantial development needed to meet the public objectives of the Plan. Market studies indicate that adequate parking is essential to the success and viability of the area as a commercial and employment destination.

Objectives

The following objectives promote transportation services and infrastructure as integral elements of new development and position the area to take advantage of off-site transportation service improvements.

1. *Increase public transit service by providing ferry and shuttle connections between Pier 70 and other public transit hubs.*

Given the size of development contemplated, Pier 70 offers a strategic location to introduce ferry service that could serve Mission Bay, Pier 70, and other Central Waterfront areas. Similarly, local shuttle service may offer a cost-effective option targeted to access Mission Bay and other high demand destinations, as well as connections to public transit systems.

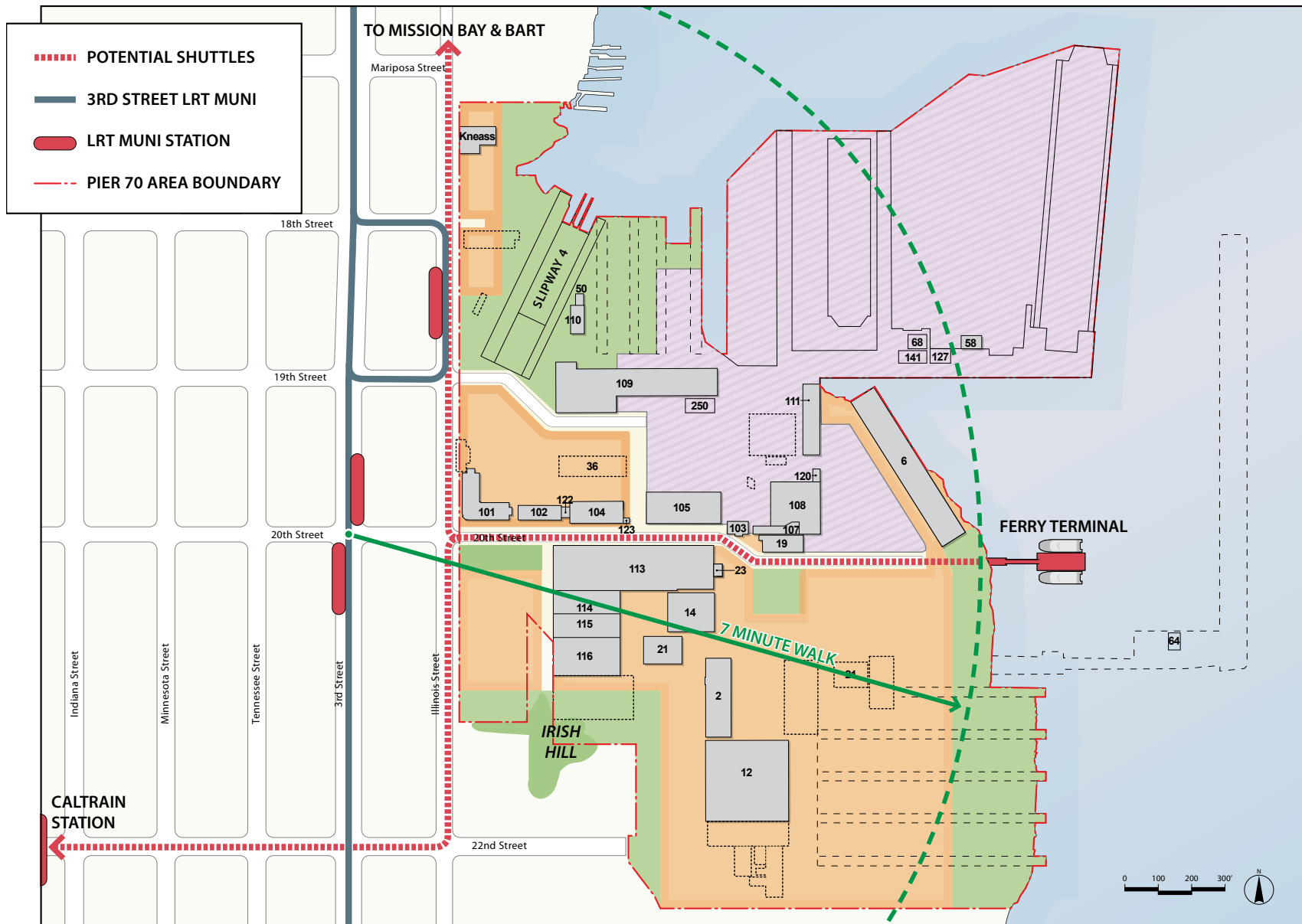


EXHIBIT 11: PIER 70 TRANSIT ACCESS

2. *Extend 19th Street access to ensure continued reliable maritime industrial access to the shipyard.*

The Plan calls for 19th Street to be extended eastward into Pier 70 to provide truck and service access directly to the shipyard. Rerouting truck traffic will enable 20th Street to be improved as a pedestrian-oriented gateway to Pier 70 and as a vibrant hub of cultural, commercial, and entertainment activity.

3. *Establish a street system within Pier 70 that connects with the street grid from the Dogpatch and Potrero Hill neighborhoods.*

The Plan provides for the extension of 19th, 20th, and 22nd Streets from the existing city street grid to integrate Pier 70 and the waterfront with adjacent neighborhood districts. Similarly, the Plan promotes creating north-south streets through the site that interface with the network of Pier 70's historic rail spurs, pathways, and internal access routes. These street improvements will preserve the option of possible future connections into the Mirant Potrero power plant site.

4. *Create walkable and bikeable streets.*

The street rights-of-way within the Plan (including Illinois Street) allow flexibility in programming space for pedestrians, bicycles, and vehicles. Recognizing that public streets are important public spaces, development should include generous sidewalks, bicycle paths, and traffic-calming designs to give priority to pedestrian and bicycle circulation.

5. *Introduce a network of pedestrian ways integrated with new development.*

The historic shipyard operations at Pier 70 relied on a network of passages that reflected the flow of activities necessary to support

shipbuilding, ship repair, and manufacturing operations. The Plan promotes preserving many of the remaining segments as pedestrian pathways within new development.

6. *Locate and manage parking facilities to promote shared use operated on a market-rate pricing basis, consistent with smart growth objectives.*

The improvements for Pier 70 will be pedestrian-oriented but the program will still need to provide for cars and efficient parking, considered essential to the success and economic viability of Pier 70. The Plan anticipates that most parking will be above-grade, within mixed-use buildings, which is preferred over free-standing garages. Opportunities for below-grade parking should be optimized as the topography of the site and cost parameters allow. The Plan presumes that any parking facility will include accommodations for secured bike storage, car pool vehicles, and car-share vehicles. The Plan will permit anticipated surface parking on an interim basis on undeveloped sites.

The infill development density analysis summarized in Appendix A suggests six different locations for parking facilities, which were sited to avoid over-concentration of vehicles and to be sensitive to Pier 70's historic setting. Together they represent a potential for 2,900 parking spaces, representing a maximum of one space for each 1,000 gross square feet of floor area. In addition to off-street parking facilities, the street widths reflected in the Plan can be designed to permit on-street parking. The Plan does not prescribe locations or amounts of on-street parking. Since street rights-of-way are recognized public spaces, they may be flexibly programmed in many configurations to address demand for pedestrian and non-vehicle access and circulation, depending on the proposed development program.



Aerial photo of Pier 70 area looking east, 2007

CHAPTER 10:

The community planning process and technical analyses that culminated in the Plan reaffirmed both the extraordinary opportunity that this site offers and its complexities. The Port believes the Plan appropriately considers and balances Pier 70's many public and development needs and remains open to other ideas that respond to the goals, objectives, and criteria. A sophisticated implementation strategy is required to realize the vision and goals of the Plan.

Implementation Strategy

Pier 70 presents unique development opportunities and challenging financial requirements, including:

- Historic resources need a broad range of improvements to adapt buildings to new uses. Early investment is needed to stabilize structures for later adaptive reuse.
- Infrastructure serving the site is in poor condition, not suited to the new uses contemplated, and must be replaced.
- Site environmental conditions require remediation.
- New parks and open space amenities must accompany development.
- Ongoing ship repair operations will require significant improvements to meet the contemporary needs of this evolving industry, including more land-side staging area immediately adjacent to the piers and wharves.

- Piers, wharves, and shoreline areas require demolition, repair, or reconstruction; and
- New development and the ongoing ship repair operations will require transportation improvements, including parking.

Port staff and City policymakers have approached Pier 70 from the viewpoint that federal, state, and local law can be modified strategically to support the public interest in the adaptive reuse of the site. Underlying the implementation strategy are two principal beliefs:

1. Pier 70 will provide major public benefits by preserving the historic resources at the site, remediating legacy environmental contamination, sustaining the ship repair industry, creating a jobs center, and constructing new parks and public access to San Francisco Bay.
2. The public benefits delivered by Pier 70 must be tailored to the site and its Bay setting.

Voters and lawmakers have recognized this unique opportunity through new laws to help rebuild Pier 70. Further changes to law, including some referenced in this Chapter, will be required to implement the Plan's goals.

Pier 70 Policymakers

Mayor Gavin Newsom, the San Francisco Board of Supervisors (“the Board”), the San Francisco Port Commission, the San Francisco Planning Commission, the San Francisco Historic Preservation Commission, and San Francisco voters have recognized the compelling opportunities offered at Pier 70 by adopting new laws to facilitate the extraordinary public-private partnership required to realize its potential. The Port is honored that such a strong policy consensus has formed to support this initiative and stands ready to work with policymakers to achieve additional legislative changes to aid implementation. Successful implementation will require reducing development uncertainty, preparing for future market demand, and creating sustained public-private partnerships that can secure the necessary approvals and funding to realize the vision for Pier 70.

The Port of San Francisco is self-funded from revenues generated by its waterfront property. Under the 1968 Burton Act and implementing San Francisco Charter provisions, the San Francisco Port Commission manages and develops Port properties on the City’s behalf, as trustee of these public lands. As trustee, the Port is required to promote maritime commerce, navigation, and fisheries, protect natural and cultural resources, and develop recreational areas for public use to benefit California citizens.

In this context, the Port Commission is responsible for policies and plans that govern the use of its properties and for setting the conditions for seeking developers for public-private development opportunities. To do this work, the Port coordinates closely with

other members of the City family, many of which participated in the Pier 70 planning process. They include the Office of Economic and Workforce Development, Planning Department (including the Planning Commission and Historic Preservation Commission), Municipal Transportation Agency, and the Public Utilities Commission.

Regulatory and Administrative Partners

Because implementation of the Plan will occur over an extended period of time, it must respond to evolving ideas and markets, which mandates flexible land use controls that respect the historic district. While the Port Commission will provide direction, Pier 70 is not a project the Port can undertake alone. Ultimately, its success requires collaboration with the Port’s ship repair operator, public stakeholders, the development community, and the full range of public agencies that have oversight over all or part of Pier 70.

The Port has successful relations with federal, state, and local agency regulatory and administrative partners, which have gained an in-depth understanding of Pier 70. By maintaining these relationships and seeking early advice from these partners, the Port seeks to streamline the regulatory compliance process for future development. Approaching the regulatory process in such a collaborative manner provides a more coherent and predictable development entitlement process for Pier 70. Each public partner’s role in successful implementation of the Plan is discussed below.

Office of Historic Preservation (OHP), State Historical Resources Commission (SHRC), National Park Service (NPS), San Francisco Historic Preservation Commission (HPC): National Register Historic District Listing

The significance of Pier 70 as a historic ship fabrication and repair complex and the caliber of the remaining buildings has driven the planning process, including extensive historic resource research and analysis and consultation with preservation stakeholders, regulatory agencies, and community. Establishing a Pier 70 National Register Historic District has been a centerpiece of the Port's planning effort and is a goal of the Plan. The Port has completed a draft historic context statement and architectural descriptions for each Pier 70 resource, which are components of a National Register nomination. The historic context statement is an account of the historical significance that is the basis for listing a resource on the National Register. In this case, the context statement will focus on the site's historical shipbuilding and architectural and engineering significance.

OHP and SHRC reviews and makes a recommendation on the Historic District nomination to the NPS, which administers the National Register of Historic Places. The Port and its historic preservation consultant, Carey & Company Inc consulted with the OHP, which provided early review of the Plan and draft nomination as part of the planning process. The Port will continue to work with OHP, SHRC, and NPS to list the historic district in the National Register. The Port has discussed with OHP conceptual reuse programs and cost estimates prepared for the Plan. OHP staff

understands how the Plan balances competing public objectives to arrive at an adaptive reuse strategy that preserves the character-defining historic features and most significant resources of Pier 70.



20th Street and Facade of Bldg 113/114 c. 1945

In addition, Port staff made an informational presentation on the draft of the Plan to the HPC which recognized the importance of Pier 70 to the City and supported the Plan and historic preservation strategy. The HPC will comment to OHP on the National Register nomination. The Port has and will continue to seek as part of the historic district nomination process, OHP guidance on how to appropriately design and site buildings at Pier 70, with the explicit understanding that new development is essential to preserving the historic district. The Port will explore other possible implementation tools to facilitate historic preservation efforts such as committing to pre-determined processes to manage review of specified types of historic resource improvements and new infill development. This mechanism could provide the Port with delegated authority to address ongoing and recurring compliance issues regarding consistency with the Secretary Standards. Such an approach would provide assurances to the historic preservation community and OHP that the Pier 70 Historic District and its resources are rehabilitated in an appropriate manner and that new infill development is sensitive and appropriate to the character of the Pier 70 area.

Roles of Historic Partners:

- Review and make determinations on the Port's nomination of Pier 70 to the National Register of Historic Places (OHP and NPS)
- Review and approve of applications for rehabilitation tax credits (OHP and NPS)



Interior of Building 113/114, 2005

State Lands Commission (State Lands): Public Trust Realignment

The public trust is a form of public ownership of submerged lands and tidelands that originated in Roman law. In California, the public trust is administered by State Lands and enforced by the California Attorney General. According to the California State Lands Commission, “Uses of trust lands ... are generally limited to those that are water dependent or related, and include commerce, fisheries and navigation, environmental preservation and recreation. Public trust lands may also be kept in their natural state for habitat, wildlife refuges, scientific study, or open space. Ancillary or incidental uses that directly promote trust uses, are directly supportive and necessary for trust uses, or that accommodate the public’s enjoyment of trust lands, are also permitted.”

The public trust continues to encumber publicly-owned tidal and submerged lands even after they have been filled, unless the legislature has expressly terminated the State’s interest. Most Port property was under continuous State ownership from 1850 until the 1969 Burton Act transfer to the City, but the title history of lands within the Pier 70 area is more complex, as depicted in Exhibit 12, *Public Trust Preliminary Title History*. The Port acquired portions of the site from private parties; portions of the Pier 70 site are historic uplands that were never submerged tidelands subject to the public trust, and several parcels have been in and out of private and federal ownership.

This complicated history bears on where public trust use restrictions apply. Market potential and community consensus suggest that cultural, institutional, office, biotech, other commercial, and

perhaps a limited amount of residential uses, most of which are not consistent with the public trust, should be constructed at Pier 70, as reflected in the Plan. Higher land value uses are essential to generating the revenues needed to realize Pier 70’s potential and overarching goals.

To resolve the public trust issues in the Pier 70 area, the Port is working actively with State Lands to reconfigure the State’s trust interests at Pier 70. Based on current knowledge of Pier 70’s trust and title history, Port and State Lands staff anticipate rearranging the public trust designations within the Pier 70 site as depicted in Exhibit 13, *Preliminary Public Trust Exchange Concept*, through legislation authorizing a “trust swap.” The swap will enable the development of non-trust uses in portions of Pier 70, while reserving other areas for trust-consistent uses, consistent with the Plan. The City has obtained legislation permitting trust swaps at Mission Bay, Treasure Island, and the Hunters Point Shipyard.

Roles:

- Review tidelands trust status
- Determine and reconcile locations of public trust restrictions
- Administer and oversee uses in public trust areas
- Collaborate in drafting and obtaining legislation to realign the public trust designations

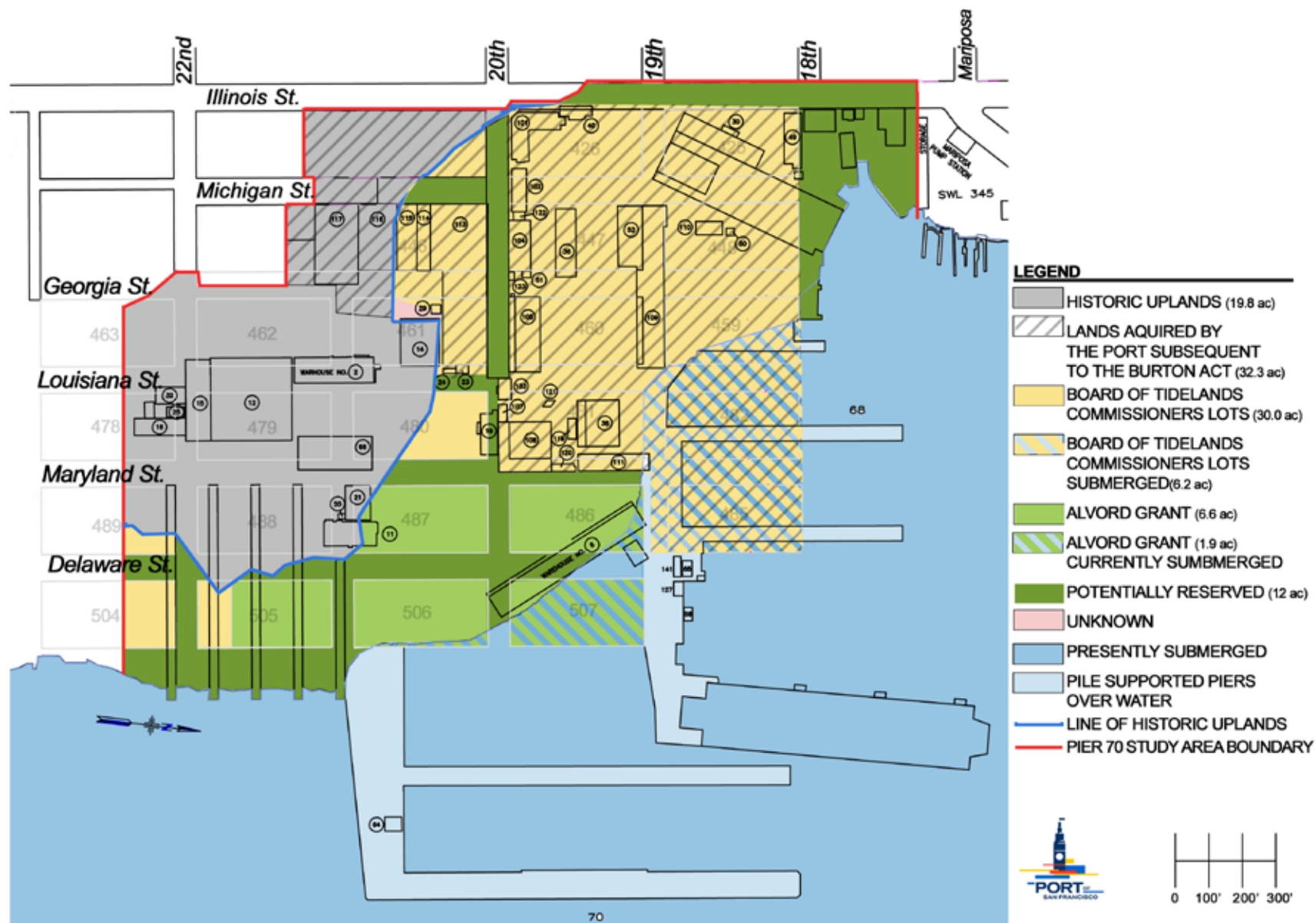


EXHIBIT 12: PUBLIC TRUST PRELIMINARY TITLE HISTORY

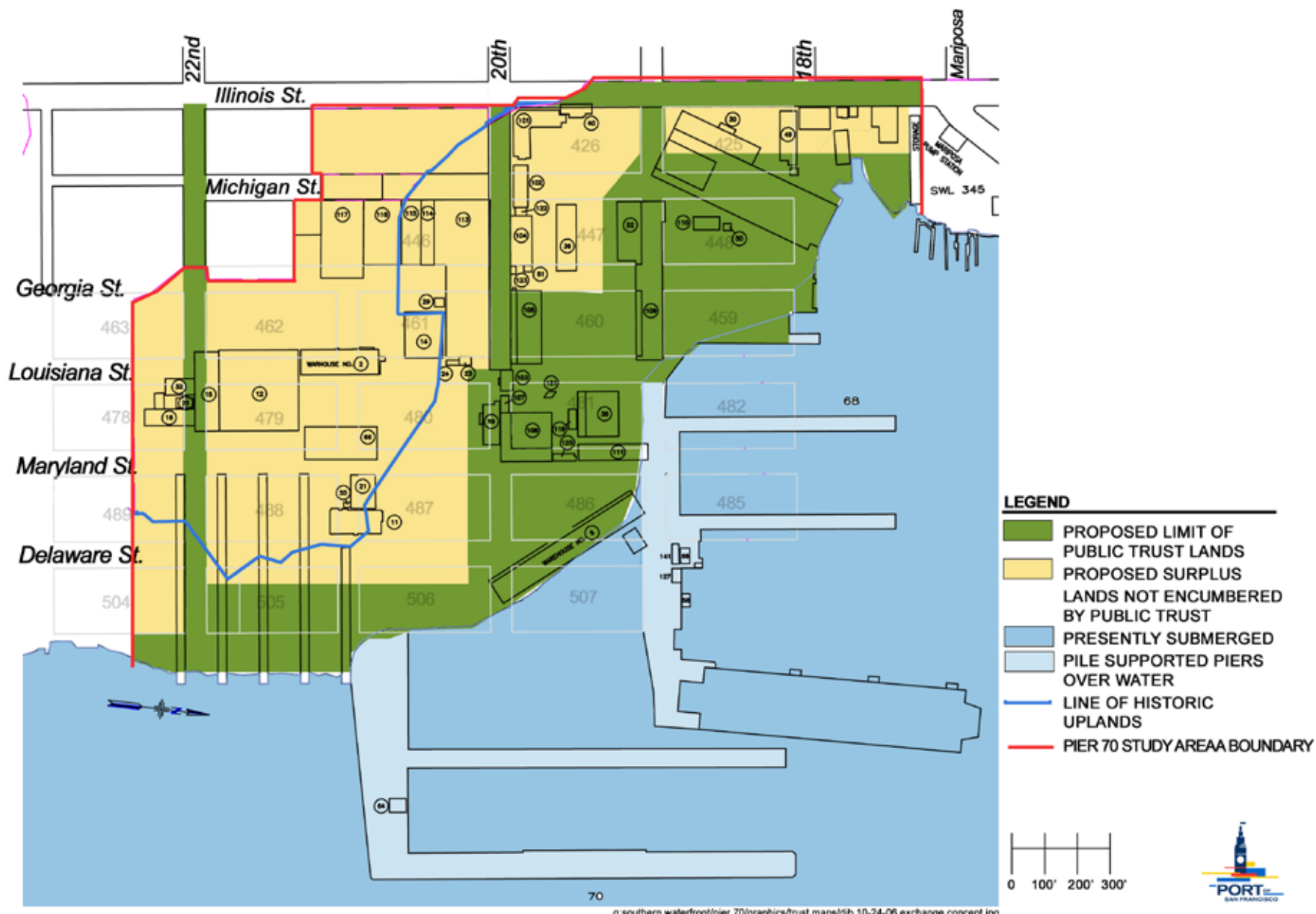


EXHIBIT 13: PRELIMINARY PUBLIC TRUST EXCHANGE CONCEPT

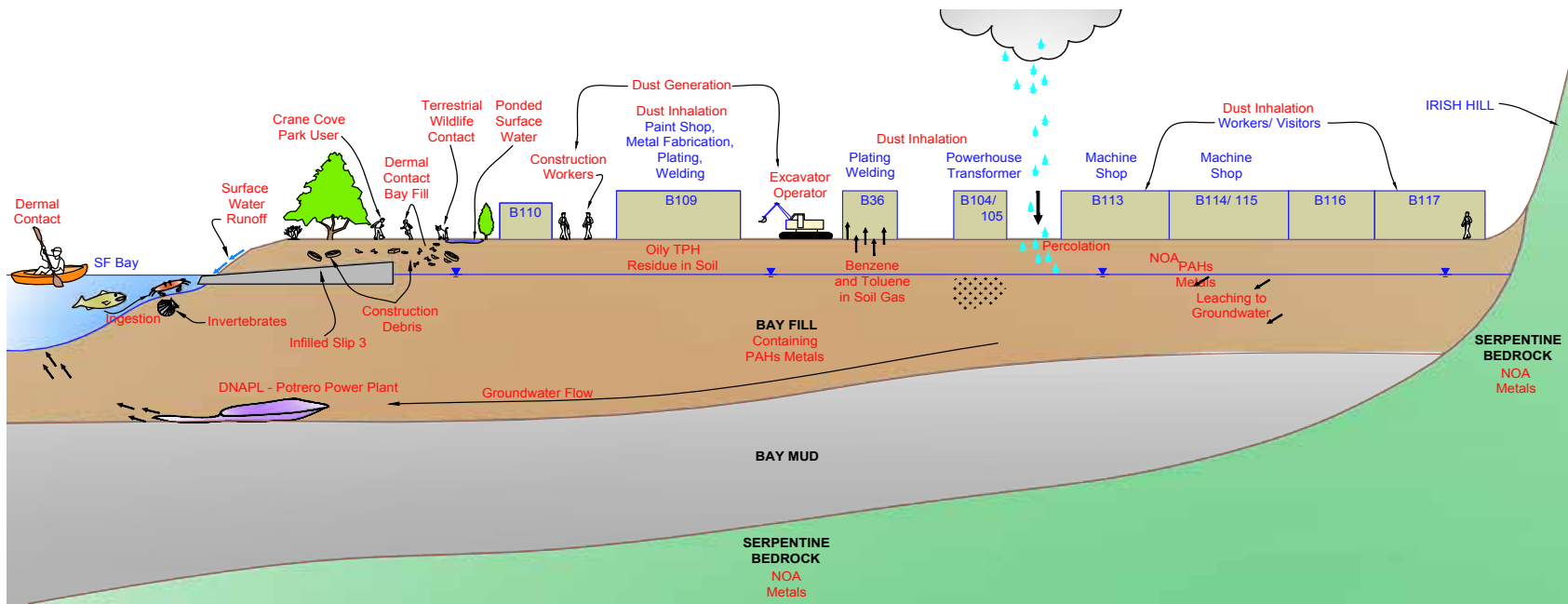
*San Francisco Bay Regional Water Quality Control Board
("Water Board"): Environmental Remediation*

Resolving the environmental legacy of 150 years of industrial use is critical to the Plan's implementation. Virtually all of Pier 70's historic buildings will require abatement of hazardous building materials such as asbestos and lead-based paint. The soil throughout the site contains potentially hazardous constituents, including naturally-occurring asbestos in the native serpentine rock that comprises the historic uplands. This serpentine rock was used to fill former tidelands to create portions of Pier 70. The soils at the site contain metals, petroleum and related compounds, chlorinated hydrocarbons, and may contain polychlorinated biphenyls resulting from former industrial activities. Volatile compounds, such as certain petroleum hydrocarbons and/or methane generated by degradation of organic matter, do not appear to be present at concentrations that pose a risk of intrusion into overlying buildings, based on March 2010 information.

Based on the Port's current understanding of the type and concentration of potentially hazardous constituents in soil, groundwater and soil gas at Pier 70, the Port anticipates that capping soil in conjunction with new construction and parks and open space improvements will enable contaminants to be safely managed in place, as has been the case throughout much of Mission Bay area development. In some portions of Pier 70 or certain types of construction, additional measures, such as excavation and removal of soil or addition of vapor barriers in new construction, may be required. The required measures and conditions that would trigger their use will be established in the Risk Management Plan for Pier 70.

These conditions must be thoroughly evaluated and accommodated in the design, construction, and long-term management of development at Pier 70.

Various entities have conducted numerous environmental investigations of limited portions of Pier 70 over the past 20 years. Most recently, as part of this planning process, the Port investigated the shoreline along the planned Crane Cove Park. With a grant from the United States Department of Defense, through the United States Department of Commerce, Economic Development Administration (EDA), the Port has initiated an investigation of contaminants in soil, groundwater, and soil gas throughout the area. When complete, this investigation will identify impacts from historic uses and naturally-occurring materials that could affect future development and will inform design and cost-estimating for future development. The Port will also use EDA funds to survey hazardous building materials in the historic buildings. These data will support and inform public trust discussions with State Lands, regulatory approval of land use and construction plans, and financial arrangements and remediation strategies with future developers. Prior knowledge of site conditions and the potential need for environmental remediation and design and construction requirements related to environmental conditions will ease Plan implementation.



Site conceptual model of environmental investigation.

The specific measures required to remediate or manage contaminants present at the site before, during, and after development will be determined based on the findings of the environmental investigation. The Port will complete the site investigations in May 2010 and publish a feasibility analysis of potential remedial alternatives later in the year. Anticipated remediation measures range from capping-in-place (covering to prevent contact with contaminants) to off-site disposal, depending on the types of materials that are present at the site. The Water Board (the lead regulatory agency for soil and groundwater investigation and remediation at Pier 70) will approve a remedial action plan or risk management plan for relevant portions of Pier 70.

Roles:

- Oversee environmental investigations
- Approve a remedial action plan or risk management plan to address contamination on the site and protect human health and the environment, while respecting the goals of the Plan
- Oversee remedial action and, if conditions warrant, impose land use restrictions, ongoing reporting, or other obligations on the site

San Francisco Bay Conservation and Development Commission (BCDC): Shoreline Public Access and Fill Removal

BCDC's mandate is to regulate shoreline development, prevent Bay fill except in limited circumstances for water-oriented uses, and ensure maximum feasible public access to the Bay. BCDC exercises its authority through adopted plans and regulations covering any use or development projects in the Bay or within 100 feet of the shoreline. BCDC's San Francisco Bay Area Seaport Plan provides a Pier 70 site-specific policy to reserve a 16-acre area for ship repair.

Presently, the shoreline at Pier 70 is inaccessible and unsafe for public use. This Plan reserves approximately 2,500 linear feet for both shoreline public access and continued ship repair operations. The Port has consulted with BCDC, which supports of the Port's Pier 70 master planning effort. Any development proposal for Pier 70 within BCDC's jurisdiction will be subject to BCDC review and approval.



BCDC: Enhancing public access to the waterfront.

Roles:

- Administer, enforce, and modify if required, the San Francisco Waterfront Special Area Plan
- Administer, enforce, and modify if required, the Bay Area Seaport Plan
- Issue permits for development areas of the Pier 70 plan

*San Francisco Planning Commission, Historic Preservation Commission, Port Commission and Board of Supervisors:
Aligning Zoning and General Plan Policies*

The Planning Commission establishes land use planning policies through the San Francisco General Plan. Consistent with those policies, the Planning Commission, in consultation with the Historic Preservation Commission, establishes zoning and land use regulations in the City's Planning Code and Zoning Map. The Board of Supervisors also approves any amendments to the General Plan, Planning Code, or Zoning.

Pier 70 is currently zoned M-2, Heavy Industry, a reflection of the Port's historic and ongoing need to promote maritime and associated industrial activities. New development will require rezoning in some form, including changes in height limits. This need has been discussed with the Planning Department and is anticipated in the Eastern Neighborhoods rezoning context. The Port anticipates Pier 70-specific amendments to its Waterfront Land Use Plan and conforming amendments to the San Francisco General Plan to ensure that Port and City land use policies remain consistent. In September 2009, the Planning and Historic Preservation Commissions each received an informational briefings on the draft of this Plan and expressed strong support for the policy directives and the care to which competing needs were balanced. Finally, the Planning Department is the City's lead agency for conducting environmental review of development projects pursuant to the California Environmental Quality Act (CEQA).



Mission Bay

Roles:

- Review and approve changes to the Waterfront Land Use Plan, General Plan, Planning Code or Zoning
- Prepare and certify CEQA documents

San Francisco Board of Supervisors: Public Finance and Leasing of Pier 70

The San Francisco Board of Supervisors (“the Board”) will be asked to authorize critical public financing tools that allow the growth in property, payroll, and other taxes to be reinvested in Pier 70. Through successful legislative initiatives discussed below, the Board has new authority to allow such reinvestment.

Infrastructure Financing District

The Port secured state legislation, Senate Bill 1085 (SB 1085), which became effective January 1, 2006, and provided the authority for the Port to create infrastructure financing districts (IFDs) to fund public infrastructure improvements, subject to approval by the Board. An IFD operates in substantially the same way as a redevelopment area – it creates a district that can capture future growth in property taxes to fund needed capital improvements. Pursuant to SB 1085, the Board may authorize the capture of the local San Francisco share (65%) of property tax growth.

In 2010, the State Legislature is considering AB 1199, which would expand the Port’s infrastructure financing powers. If enacted into law, AB 1199 would allow an IFD for Pier 70 to capture 90% growth in property taxes from Port revitalization efforts in the Pier 70 area. AB 1199 would require the Port to spend at least 20% of total Pier 70 IFD revenues on waterfront parks and public access to the Bay, environmental remediation of the contaminated shoreline, and removal of Bay fill.

Proposition D: Pier 70 Finance and Land Use Plan

In November 2008, San Francisco voters modified the City’s Charter to facilitate the revitalization of Pier 70. Approved by 68 percent of voters, Proposition D established a process for the Board to approve a financial and land use plan for Pier 70 early in the implementation process (Pier 70 Plan). Board approval of the Pier 70 Plan will constitute approval of any lease implementing the Pier 70 Plan if a number of administrative conditions are satisfied.

In addition to increasing certainty in the Pier 70 entitlement process, Proposition D represents an extraordinary public commitment to invest public monies in Pier 70. It allows the Board to allocate to Pier 70 a 20-year funding stream of up to 75 percent of the projected growth in any payroll and hotel taxes from Pier 70 development. In order to receive Proposition D funding, the Port must demonstrate that additional financial resources beyond property tax increment and lease revenues are needed for the project. The funds must be used to fund waterfront parks, preserve or repair historic waterfront properties, seismically strengthen piers and structures, remediate environmental conditions, and support maritime facilities within the Pier 70 area. Proposition D resources could be used on a pay-as-you-go basis or to support revenue bonds.



Ship repair yard, 2004



Building 101

Board of Supervisors Roles:

- Approve Pier 70 Finance and Land Use Plan, pursuant to Proposition D
- Establish infrastructure financing district
- Assist in attracting key development partners, seek state and federal legislation and appropriations, and maintain the civic consensus to re-create Pier 70 as an economic hub

Related Planning Efforts

Several citywide Planning efforts will inform Pier 70's implementation. The Port is participating in or closely following these initiatives.

Blue Greenway Planning

Most of the land along the Bay shoreline in the southeast sector of San Francisco is or has been used for industrial activities, and was off limits to the general public. The Blue Greenway is a City effort to expand and improve public access and open space from China Basin Channel south to the San Francisco county line. This effort evolved from two other efforts to introduce public access and open space along the Bay, including the San Francisco Bay Trail, a 500 mile public access system encircling San Francisco Bay through all nine Bay Area counties, and the Bay Water Trail, which seeks to expand access to and within the Bay waters for recreational access and appreciation.

The purpose of the Blue Greenway is to create an organized system of existing and new public open spaces, which improve and connect with the Bay Trail and Bay Water Trail. The Blue Greenway will expand recreational and water-oriented activities and green corridors to surrounding neighborhoods. Given the location of land under the Port's jurisdiction in southeast San Francisco, Port sites have been identified in the Blue Greenway, including public open spaces proposed for Pier 70.

The Port is leading the City's Blue Greenway community planning process to define and prioritize open space locations and develop

design guidelines for Blue Greenway public improvements and installations. This planning process will provide the public forum for developing a concept design for Pier 70's Crane Cove and Slipways Park and for determining how open space funding allocations for Port lands, approved by the 2008 Proposition A, Clean and Safe Neighborhood Parks Bond measure, will be utilized. The Blue Greenway community planning process is underway and will be completed in 2010.



Illustrative Rendering of Crane Cove Park and Blue Greenway

Eastern Neighborhoods Transportation Implementation Planning Study (EN TRIPS)

EN TRIPS is a coordinated multi-agency partnership between the San Francisco MTA, the San Francisco Planning Department, and the San Francisco County Transportation Authority. EN TRIPS is expected to recommend a means to minimize future transportation impacts by identifying key transit-oriented, pedestrian-friendly infrastructure projects timed to support growth in the Eastern Neighborhoods over the next 20 years. Pier 70 and other Port sites are among the areas considered. The Port will coordinate its transportation planning with EN TRIPS.

EN TRIPS will study the transportation network of San Francisco's Eastern Neighborhoods, which include Eastern SoMa, the Mission, Showplace Square/Potrero Hill, and the Central Waterfront, together with surrounding high-growth areas of Western SoMa, Transbay District, Rincon Hill, and Mission Bay. The majority of the City's new residential and commercial growth over the next 20 years will occur in these areas. These neighborhoods also contain key local and regional transit service, including Muni bus and light rail, BART, Caltrain, and future high-speed rail. The area's combined development potential and rich transit access present a tremendous opportunity to create integrated, mixed-use, transit-rich neighborhoods.

Potrero Power Plant Closure

The Potrero power plant occupies 20 acres adjacent to Pier 70 to the south. This facility is expected to close by December 31, 2010, and the City will work with the landowner to transition to new uses. The Port expects to coordinate closely with other City agencies as new plans for this site are developed.



Mirant Potrero Power Plant, 2009

Public Financing Tools

The Port recognizes that the financial requirements to adaptively reuse Pier 70 will require a full range of public and private financing sources and mechanisms integrated in a comprehensive financing strategy. A substantial portion of the funds needed for development of infrastructure and public facilities and to rehabilitate historic structures will come from real estate revenues generated by rehabilitated buildings and new development. Financial analyses to date demonstrate that the economic value of new uses at Pier 70 cannot fund the extraordinary combined costs of historic rehabilitation, environmental remediation, parks, and new infrastructure. Public financing mechanisms are required to close the feasibility gap. This section discusses potential public financing tools in this implementation effort from the most common for similar projects to those specific to Pier 70.

Federal Rehabilitation and New Market Tax Credits

The Pier 70 Historic District designation will provide financial benefits to support implementation. Private investment in rehabilitation of historic structures listed on the National Register can qualify for tax credits for up to 20 percent of preservation costs under the Federal Historic Preservation Tax Incentives program. The site is also in an economically disadvantaged area, which allows for a potential allocation of New Market Tax Credits to attract private investment for economic development.

Mello-Roos Community Facilities District (CFD)

This land development financing tool is used to fund infrastructure improvements with land-based bonded debt. A CFD could be used to establish a special tax on property within the district. These tax revenues can secure CFD bonds for qualifying capital improvements and can also support ongoing maintenance and services. Such a special tax typically would be paid by building owners or ground lessees, although it can be initially structured to be paid by the site developer.

Infrastructure Financing District (IFD)

An IFD allows for growth in future property taxes to be reinvested in the project. This revenue stream can be capitalized with tax-exempt bonds or used on a pay-as-you go basis. Property taxes grow significantly after rehabilitation and development is underway, making this tool valuable only when public finance markets know that an adequate property tax revenue stream will be available to pay back the bonds. Property tax-based financing is a common tool used for redevelopment and new development projects in California.

Park and Open Space Funding Mechanisms

In February 2008, San Franciscans approved the Proposition A, Clean and Safe Neighborhood Parks Bond initiative, which provides \$33 million in general obligation bond revenues for the expansion of waterfront public open space on Port properties. Of this amount, \$20 million is dedicated to support the Blue Greenway open space network, expanding the San Francisco Bay

Trail along the Bay shoreline through former industrial lands from China Basin Channel south to the San Francisco County line. The Port expects to utilize a portion of the Blue Greenway funding for Pier 70 parks. Additionally, the City has established a parks impact fee assessed on new development, which could be used to fund shoreline parks as part of the implementation strategy for the City's Eastern Neighborhoods rezoning. Designated Port areas, including Pier 70's Crane Cove Park, are identified for new parks and public open space. These designations favorably position Pier 70 as a possible recipient of future City park impact fees and other public funding.

Proposition D Financial Plan Funding

In November 2008, the citizens of San Francisco passed Proposition D, which allows the Board to allocate a 20-year funding stream based upon projected growth in payroll and hotel taxes. These payments could also be used to support revenue bonds to accelerate the implementation of the Plan. The Charter Amendment is included in Appendix E.

Grants or Low Cost Debt Sources

The Port, in collaboration with City policymakers, the ship repair operator, the community, and future development partner(s) will continue to pursue grants and other public funding sources for applicable improvements. For example, the Port assisted BAE in securing \$1.8 million in federal economic stimulus funds for upgrades to the ship repair facility. The Port has secured \$2.4 million in federal funding to investigate environmental conditions and initial steps for remediation. The Port will continue to pursue

environmental remediation funds from grants and other sources to address the costs of the legacy contamination and public benefits at Pier 70.

Lowering the cost of debt for project infrastructure costs will also facilitate implementation. For example, funding mechanisms could be used to finance utility upgrades to be repaid from utility fees of future users at a lower cost than private debt. One role of this Plan is to illustrate how specific project applications for grants, loans, or other funding mechanisms fit within the overall concept for Pier 70.



Port infrastructure

Financial Feasibility Analysis

Financial feasibility analyses have been an integral part of the planning effort, helping to shape the direction of the Plan. This section and Appendix B summarize the analysis completed by Economic Planning Systems, Inc. in early 2010. The Financial Feasibility Analysis tested the development program presented in the density and massing analysis (Appendix A) with assumptions representing a schedule of development to realize the Plan vision. Including all costs and contingencies associated with preparing the land for new development and rehabilitating historic buildings, expenditures total approximately \$665 million, in constant 2009 dollars. Over a 30-year horizon, the developer receives approximately \$810 million in revenues, but the costs of the project occur far earlier in time than the revenues generated. A lender or investor must advance funds to move the project forward; these funds must later be returned with a risk-appropriate level of interest.

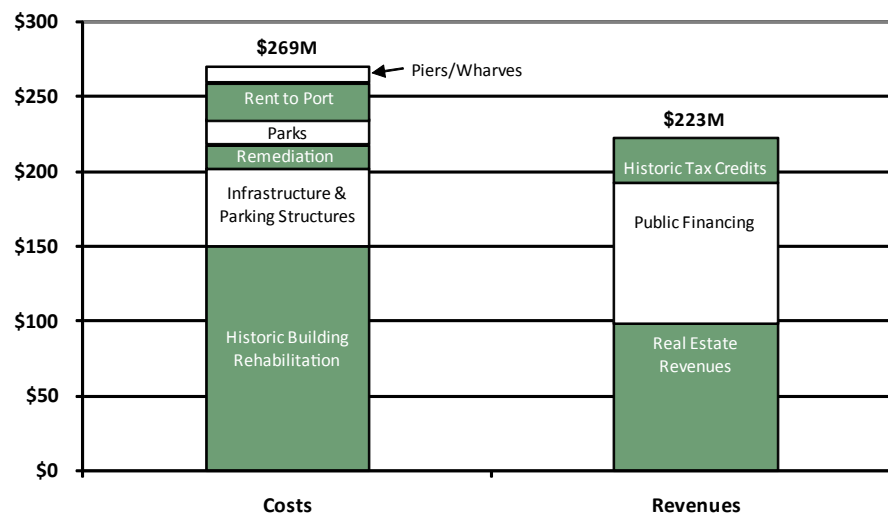
A “feasibility gap” is the difference between the net present value (NPV) of the costs and revenues over time, reflecting the time value of money. Because most of the revenues accrue after the development costs are incurred, the illustrative cash flow analysis demonstrates a feasibility gap of \$46 million on a NPV basis using a 15 percent discount rate, reflecting a blend of private sector debt and equity returns (Exhibit 14). While the Feasibility Analysis shows substantial value is created by new development and historic rehabilitation under this Plan, that value may not be enough to fund all the rehabilitation and public benefits identified in the Plan. The Port continues to seek additional resources for this project and to sharpen its approach to implementation.

A number of key feasibility issues are critical to understanding as Plan implementation moves forward.

Changes in the development program, timing of development, or major adjustments to estimated costs could affect the feasibility of the Plan program. Additional public finance methods, phasing of significant costs, or addition of grant or other outside funding would improve the feasibility of the Plan program. Conversely, a drawn-out development schedule or significant cost overruns would increase the feasibility gap and the project would require higher development revenues, greater financing, or additional outside funding.

EXHIBIT 14 - COST AND REVENUE COMPARISON

Net Present Value of Revenues and Costs in millions
(Reflects a 15% risk-adjusted discount rate)

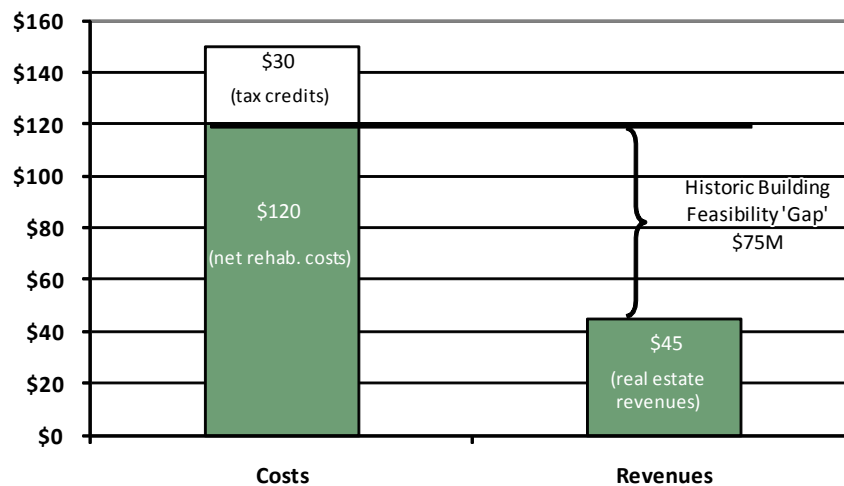


Prioritizing historic building rehabilitation early in the plan is a financing challenge. Adaptive reuse will bring in revenues ultimately and create value from historic buildings, but the NPV of costs associated with the rehabilitation of historic buildings exceeds potential revenues by almost \$75 million, as shown in Exhibit 15. The Port hopes that the compelling case for rehabilitation of fragile Pier 70 buildings, coupled with their grand reuse potential, can attract additional philanthropic or public investment beyond that assumed in this financial model. Prudent use of resources may require stabilizing buildings in the near term and delaying full rehabilitation until funds are secured.

The Feasibility Analysis will need to be updated to reflect future and changing economic conditions. Because feasibility testing relies upon estimates of market values and construction costs, it reflects a snapshot of real estate economics at the time of the analysis. Achieving adaptive reuse of Pier 70 for any combination of land uses will require a partnership with the private sector and a significant level of private investment with delayed financial returns. As the Pier 70 project moves forward, the Port and its private partners will continue to update the Feasibility Analysis and communicate to the public the efforts to make this project feasible.

EXHIBIT 15 - HISTORIC BUILDING FEASIBILITY GAP

Net Present Value of Revenues and Costs in millions



Development Partner Strategy

The complexity of the Pier 70 vision, balancing multiple goals over 67 acres and the associated phasing and financing requirements, will require careful orchestration of a comprehensive and integrated historic rehabilitation and infill development strategy. Moreover, a concerted “place-making” effort is essential to establish an identity for Pier 70 as a unique West Coast district that will draw business tenants and local residents to enjoy the commercial and cultural offerings of the site, as well as its parks, open spaces, and connections to the Bay.

Even with substantial public financing mechanisms, strong public-private partnerships are essential to realizing the vision for Pier 70. Private sector partner(s), with first-hand knowledge of market conditions, private financing, and an understanding of key technical analysis is required for the entitlement process, are well-suited to take the lead in adaptive reuse of Pier 70 buildings and development of vacant lands. The Port will seek partners with financial capacity and strong qualifications to undertake development of the 50 acres outside of the ship repair leasehold.

Particular capabilities desired in private sector partners and their development teams are:

- Sophisticated understanding of complex mixed use redevelopment efforts necessary to lead a collaboration with the Port, end users, the ship repair tenant, regulatory agencies, and the community.
- Access to the necessary financial resources to implement the Plan over a multi-year horizon and a strong track record of securing investment in complex multi-phase development projects.
- Vision and technical skills to develop a detailed plan for new development, including development size, scale, and configuration, integration with historic resources, and design of first-class parks, open spaces, and shoreline access.
- Marketing acumen to successfully secure large-scale tenants and users suited to the unique historic and industrial character of the site. In particular, collaborating with the Port to find a visionary entity to transform the Union Iron Works Machine Shop into a publicly-oriented facility that provides a heart to Pier 70 while revealing its fascinating history.
- Qualifications to secure regulatory entitlement of the site.
- Understanding of brownfields development and required environmental remediation strategies.
- Demonstrated success at adaptive reuse of historic buildings with expertise to identify construction methods and use programs and knowledge of the Secretary Standards and modern code requirements, including seismic and disability access requirements.
- Urban development expertise to partner with the diverse community and end users to design, fund, and build new buildings appropriate to the historic district.
- Designing, financing, and building infrastructure for master planned developments including establishing needed assessment mechanisms to fund and maintain necessary infrastructure.

Developer Solicitation Process

In addition to the public partners and stakeholders, the private sector is critical to the implementation of the Plan. The Port has invested a substantial amount of effort to prepare the Plan and to collaborate with all stakeholders. The next steps on the path towards implementation must include the involvement of private partners who can integrate the Plan and its goals with the market and financial realities the project will face. The Port Commission could initiate a development solicitation process for Pier 70 as early as Spring 2010.

To meet its fiduciary responsibilities, the Port expects to use a competitive solicitation process to choose partners for Pier 70. The development solicitation process will ask development teams to submit their qualifications to undertake all or part of the Pier 70 project by demonstrating professional capability and financial capacity to refine and realize this Plan.

This Plan looks at Pier 70 as a whole to define a comprehensive vision for its future. Creation of that vision will occur in steps over at least a decade. Fortunately, the Port can use Proposition A funds to begin improvements at Crane Cove Park and federal funds to characterize environmental conditions at the site, laying the groundwork for private investment. The agreements with development partners will include specific commitments by the developer to provide infrastructure and public benefits (historic preservation, parks, open space and environmental remediation) either in-kind or through funding mechanisms with each stage of private investment.

Partner for Union Iron Works Machine Shop

The Union Iron Works Machine Shop is one of the most valuable and vulnerable historic resources on the site. With its rich history and grand volume of space, it can become the civic soul of Pier 70. The Plan calls for a publicly-accessible use, such as an entertainment venue, market hall, institutional, or cultural uses. The Plan's overall vision to create a revitalized district at Pier 70 centers on the Union Iron Works Machine Shop. The Port will complete an initial stabilization of the structure by 2011 and continue to stabilize it as soon possible with budgeted funds and prioritize its complete rehabilitation as the Plan is implemented.

Due to the level of public and philanthropic funds required to rehabilitate this unique resource, the Port envisions further policy discussion of potential uses for the Union Iron Works Machine Shop among the Mayor, the Board of Supervisors, the Port Commission, regulatory partners, and the public. The Port will work closely with both the community and its development partners for Pier 70 to determine the appropriate use for the Union Iron Works Machine Shop and to secure funds to rehabilitate the building. In parallel with the developer solicitation for private partners, the Port will continue to outreach to potential institutional, cultural, and other users for the building.

Implementation Imperatives

The Pier 70 vision in this Plan and the public financing tools available provide great impetus to initiate implementation, but key elements are still required to realize this Plan.

Pier 70 Revitalization Requires Early Investment and Public Finance Tools

Time is of the essence to save Pier 70's most valuable historic buildings. Even more than a typical development project, the costs to realize this Plan are front-loaded. In the last few years, the Port has broadened the public financing tools available to meet this challenge. To succeed, the Port and its partners will need to take full advantage of the Port's financing authority and seek new resources. The Financial Feasibility Analysis shows that additional public financial investment or new creative tools to lower development costs would reduce the financial risks of the project and hasten Plan implementation.

The Port is Committed to Realizing Pier 70's Potential by Implementing the Plan

Throughout this Plan, the Port has identified Pier 70's potential as a site for continuing ship repair, a historic district that can be infused with new uses and users, a jobs district for new industries, and substantial opportunities for new waterfront parks and shoreline access. The Plan can transform a neglected edge of the city to an integral part of San Francisco's future while telling its past.

As steward of Pier 70, the Port has initiated specific planning and development processes to advance the goals of this Plan and hasten its realization. The Port's commitment to realizing this Plan, in partnership with all stakeholders includes taking action to:

- Realign public trust restrictions to allow portions of the site to be developed for non-trust uses.
- Establish a National Register Historic District in a manner that recognizes the critical role of infill development to meet Plan goals.
- Secure Board of Supervisor approval to form a Pier 70 infrastructure financing district.
- Collaborate with the Planning Department, San Francisco Municipal Transportation Authority, and other city agencies to integrate Pier 70 into Eastern Neighborhoods planning efforts.
- Present a land use and financing plan to the Board of Supervisors to obtain Proposition D funding and necessary zoning and regulatory changes.
- Continue environmental site investigation to characterize existing conditions throughout the site and develop a remediation strategy.

- Work with the community and available public funds to develop a design concept and carry out initial improvements for Crane Cove Park.
- Stabilize the Union Iron Works Machine Shop as soon as possible, conduct additional financial and physical feasibility analyses to expedite adaptive reuse, and market this grand structure to publicly-oriented users.
- Continue to pursue funding opportunities to make Pier 70 a model of financially and environmentally sustainable development.
- Continue to engage the stakeholders while implementing the Plan.

Public and Private Partnerships Will Be Essential to Pier 70's Future

Mayor Gavin Newsom, the Board of Supervisors and the Port Commission recognize that the opportunities discussed in this Plan will take over a decade to realize and will require sustained public and policymaker support. The 68% vote approving Proposition D in November 2008 was an auspicious beginning. While the economy recovers from the 2008-09 recession, maintaining the momentum and public engagement will be vital to positioning Pier 70 for its future.

Recent private investment by BAE and Princess Cruises in Pier 70 is encouraging. The 2008 \$5 million upgrade of Drydock #2

increased the frequency of large ships in drydock, demonstrating the continuing strength of ship repair. BAE is actively working with the Port to modernize operations and continue its success. Ships are the essence of a port and the Port is proud to have the longest operating civilian shipyard in the U.S.

The Port is heartened that its public sector partners and the community understand the challenges of Pier 70 and are engaging early to support its revitalization. As the Port chooses private sector partners for Pier 70, it will emphasize that success is tied to strong relationships with regulatory partners and community stakeholders. Well-crafted development agreements respond to objectives set forth in this Plan are essential to Plan implementation.

The Port seeks a range of private partners. The financial complexities of the project, including: infrastructure development, 3 million square feet of new buildings, 700,000 square feet of rehabilitation of historic buildings, associated parking, and 20 acres of open space – require sophisticated real estate development partners to fashion a development program acceptable to the real estate and capital markets. Site-wide, the scale of opportunity for new and renovated buildings is ideal for a corporate, institutional, or educational campus that could “anchor” the revitalization of Pier 70. In particular, the Port invites discussion with users interested in the grand potential of the Union Iron Works Machine Shop as a publicly-oriented place.

Luckily, this type of public-private partnership is a hallmark of San Francisco: consider the Fort Mason Center, the Academy of

Sciences, the UCSF Mission Bay campus, and the Presidio. In some sense, Pier 70 combines, in one place, challenges similar to those the City and its partners overcame to revitalize the Ferry Building and Piers 1 through 5, construct the Embarcadero roadway and promenade, create the San Francisco Giants' ballpark, develop new shoreline access in Rincon Park and Mission Creek and establish a new residential and jobs district at Mission Bay. Guided by the Mayor's Office and the Board of Supervisors, City agencies including the Port achieved these successes in partnership with the private sector.

The Port of San Francisco, working in concert with other City and State policymakers, regulatory partners, and the public, are excited to begin the process of transforming Pier 70 into a place where 21st century industries excel, alongside industrial ship repair, as part of a grand district of restored 19th century maritime industrial buildings.

The Port of San Francisco invites your participation in realizing the vision of the Preferred Master Plan and looks forward to continuing civic conversation regarding how to harness the best of the public and the private sectors to revitalize Pier 70.

For additional information on the Port's Pier 70 planning process, including background information, please go to the Port's Pier 70 website at:

www.sfport.com/pier70



Union Iron Works Machine Shop Building



Illustration: Union Iron Works Machine Shop Building



Aerial photo of Pier 70 Area looking north, 2007

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BAE San Francisco Ship Repair
 Potrero Boosters
 Dog Patch Neighborhood Association
 Mission Bay Citizens Advisory Group
 Neighborhood Parks Council
 San Francisco Architectural Heritage
 San Francisco Tomorrow
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Site conceptual model of environmental investigation on page 83 by Treadwell and Rollo.

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San Francisco Planning Commission

San Francisco Historic Preservation Commission

Central Waterfront Advisory Group

San Francisco Tomorrow

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APPENDIX A: INFILL DEVELOPMENT DENSITY & FORM STUDY

Chapters 5- 9 of this Plan establish goals, objectives and criteria for the physical components of the Preferred Master Plan. Chapter 8, Form and Character of Infill Development, provides specific criteria for new infill development that is compatible with the historic setting and is consistent with the Secretary Standards. In order to determine if the site can accommodate new infill development as required to support the overriding Plan goals, including the economic and financial requirements to support the Plan implementation, the following density analysis was conducted. The analysis included preparation of a site Plan with a proposed block structure, new building sites, building heights and building envelopes. The diagrams are not intended to represent building designs, but rather some of the basic urban design parameters within which buildings could be designed and to prove that the amount of new development suggested in the Plan can occur consistent with the Plan objectives, goals and infill criteria.

The suggested building envelopes correspond to the mix and size of the development program required to support the site improvements and public benefits required for a successful plan. In general, tallest building heights are proposed in locations away from the 20th Street historic corridor and adjacent clusters of historic resources. Within Blocks 6-8, a 90-foot height for new infill buildings is indicated and 85-foot heights are indicated for new buildings along Illinois Street. These heights were developed in consideration of the development density requirements of the Plan and the

appropriate fit of development within the Pier 70 historic district. Considerations include creating complementary scale relationships, reinforcing the character of the historic buildings and the spatial qualities of the district. The Plan anticipates that new development within these areas will have varying heights to create visual interest and in response to the historic setting of the site and its waterfront location.

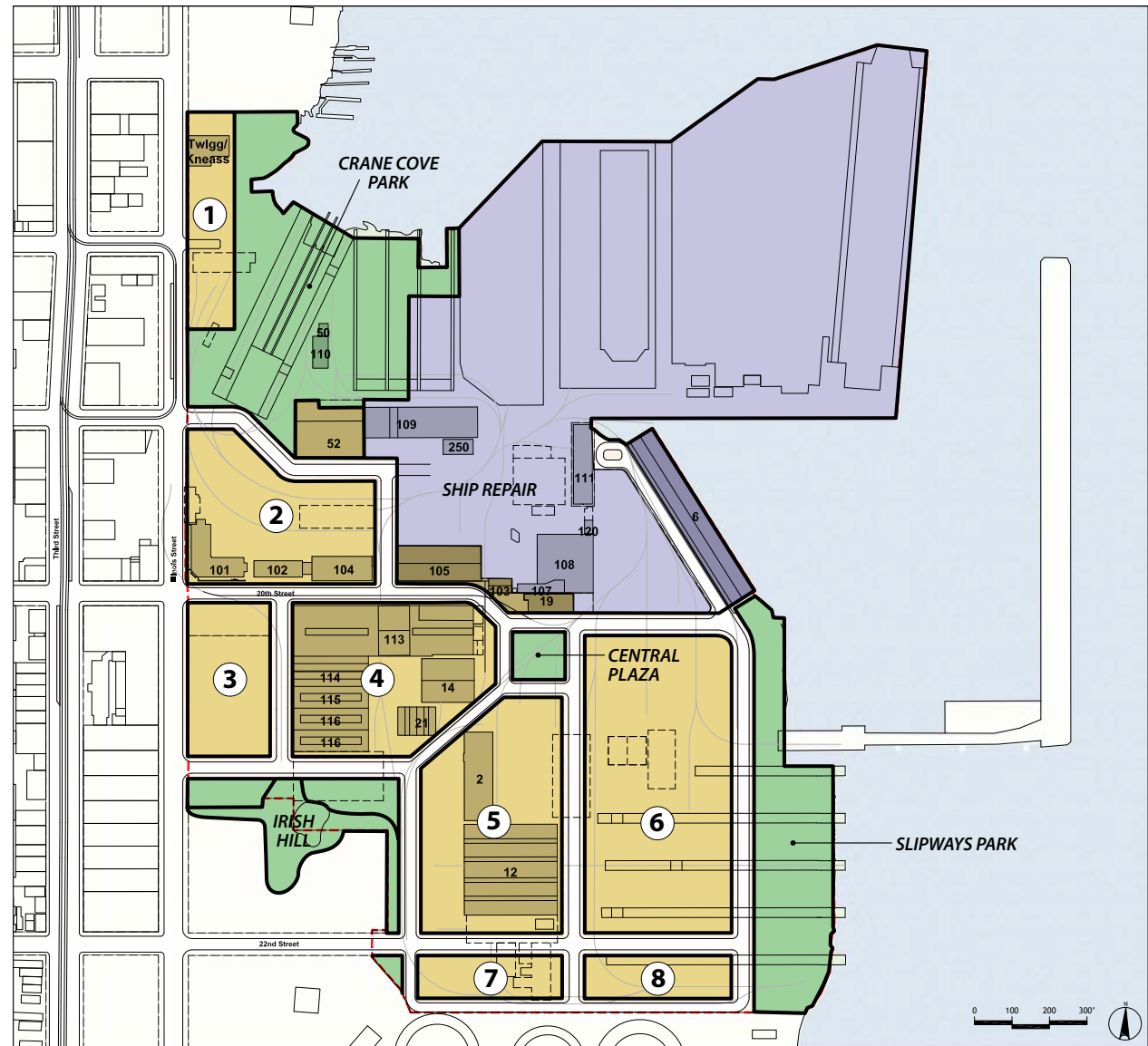
Proposed building sites provide flexibility, easily accommodating larger floor-plates as well as construction of multiple buildings within them. The suggested heights of the building envelopes are also designed to provide flexibility of floor-to-floor heights so that developers can adapt to the range of commercial, retail and research and development uses expected on the site.

Structured parking above the existing predominant street-front grade occupies potential developable space. This Plan assumes that much of the parking on the site will be above grade because of the high water table and the cost of underground structures. Below-grade parking does not occupy usable space within the building envelopes, and may be suitable on sites with an appreciable downward grade from the street or where the cost of below-grade parking is warranted.

This diagram defines the block structure of the Plan which provides the framework for the adaptive reuse of historic buildings and future infill development. Within the blocks, new infill development, pedestrianways and on-site open space areas can be developed in various forms guided by the Plan's historic preservation policies and infill development criteria. Beyond the blocks, the site also includes the ship repair area, Crane Cove Park, the Central Plaza, Slipways Park and Irish Hill. A few historic buildings associated with and adjacent to these open space areas are also designated for preservation, but not included within the block structure of the Plan.

DEVELOPMENT BLOCKS

BLOCK	AREA
1	1.66 AC
2	3.76 AC
3	2.07 AC
4	4.91 AC
5	4.95 AC
6	7.12 AC
7	1.11 AC
8	1.03 AC



Block Structure

This diagram indicates a height of the existing historic buildings and the potential height of new infill development. The potential heights depicted in this diagram were developed in consideration of the development density requirements of the Plan and the appropriate fit of development with the Pier 70 historic district. The actual footprint and height of the buildings may vary, depending on use and other design considerations of specific development proposals which are in keeping with the historic context and the development goals of the Plan.



Building Heights



View from East



View from Northeast



View from West



View from Southwest

Building Envelopes

The building envelopes for new development, shown in yellow in the four views above, illustrate an appropriate density and bulk established for each of the suggested development areas. The actual design of buildings within these envelopes should be derived not only from the appropriate form response to the programmatic requirements of the activities to be accommodated in the buildings but also to create a sense of place in keeping with the historical character of the industrial district and the visual and open space relationships to the waterfront.

As shown in Table 2, *Density Study Development Program*, the maximum capacity of the site is estimated at approximately 3.7 million gross square feet, assuming full build-out of the illustrated envelopes and reuse of the historic buildings, including limited additions. This represents a net Floor Area Ratio of approximately 3:1, excluding the ship repair area. Of the total building square footage, about one-third may be required for structured parking, leaving approximately 3 million square feet of occupiable space. It is possible that other development programs can be built, such as with underground parking, that result in more than 3 million square feet of occupiable space.

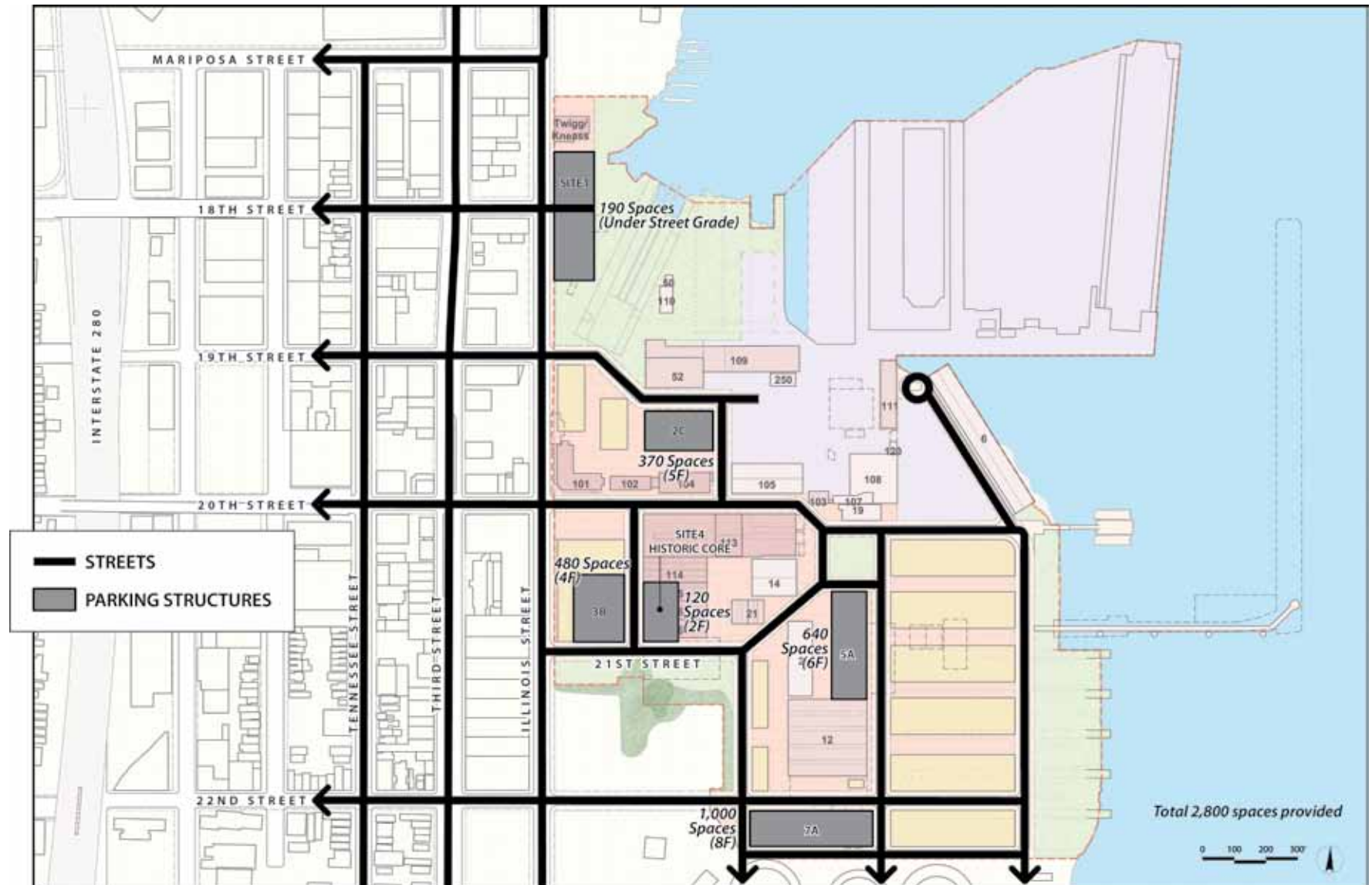


Existing bay view from Building 2, 2005

Table A1: Density Study Development Program

DEVELOPABLE BLOCKS																	
BLOCK	AREA	RETAINED HISTORICAL BUILDING					NEW BUILDING										
	(AC)	BUILDING NAME	FOOT PRINT	PLANNED # of FLOORS	ASSUMED HEIGHT	PLANNED TOTAL FLOOR AREA	BUILDING NAME	NEW BUILD PADS	PLANNED # of FLOORS	ASSUMED HEIGHT	TOTAL FLOOR AREA	HISTORICAL AND NEW TOTAL FLOOR AREA	ASSUMED BUILDING FLOOR AREA FOR PARKING	BUILDING FLOOR AREA REMAINS	REQUIRED PARKING SPACES @ 1 space	PARKING SPACES PROVIDED	ON-SITE OPEN SPACE AREA
	<i>a</i>		(SF) <i>b</i>			(SF) <i>c</i>		(SF) <i>d</i>			(SF) <i>e</i>	(SF) <i>f=c+e</i>	(SF) <i>g</i>	(SF) <i>h=f-g</i>	<i>i=h x 1/1,000</i>	(spaces)	(SF) <i>k=a-b-d</i>
1	1.66	Kneass	7,550	(1.5)	25'	11,325	1A	12,750	(6)	85'	76,500		(50,500)			144	
							1B	17,000	(6)	85'	102,000		(B1F)				
1 SUBTOTAL			7,550			11,325		29,750			178,500	189,825	-	189,825	190	190	35,043
2	3.76	101	12,358	(4)	72'	56,268	2A	17,854	(6)	85'	107,122						
		102	5,439	(2)	48'	8,424	2B	13,532	(6)	85'	81,190						
		104	8,458	(4)	60'	37,641	2C	25,779	(5)	50'	128,893		128,893			368	
2 SUBTOTAL			26,255			102,333		57,164			317,205	419,538	128,893	290,645	291	370	80,367
3	2.07						3A	25,783	(5)	85'	128,917						
								41,527	(1)		41,527						
							3B	41,825	(4)	40'	167,301		167,301			478	
3 SUBTOTAL								67,584			337,744	337,744	167,301	170,443	170	480	22,457
4	4.91	113	84,111	(1.0)	62'												
		114	16,000	(1.0)	41'	100,111											
		115	12,078	(2P/1R/1O)	57'								14,000			40	
		116	21,780	(2P/1R/1O)	57'	73,734							27,900			80	
		21	7,638	(1.5)	44'	10,172											
		14	16,315	(2.5)	66'	38,947											
		103	2,391	(1.0)	45'	2,258											
		19	6,350	(2)	25'	10,000											
4 SUBTOTAL			166,663			235,222					-	235,222	41,900	193,322	193	120	47,181
5	4.95	2	17,936	(6)	80'	96,804	5A	37,309	(6)	50'	223,856		223,856			640	
		12	60,098	(3)	59'	162,335	5B	10,604	(4)	55'	42,415						
							5C	6,953	(4)	55'	27,811						
5 SUBTOTAL			78,034			259,139		54,866			294,083	553,222	223,856	329,365	329	640	82,628
6	7.12						6A	44,701	(6)	90'	268,208						
							6B	45,045	(6)	90'	270,268						
							6C	45,045	(6)	90'	270,268						
							6D	45,045	(6)	90'	270,268						
							6E	45,045	(6)	90'	270,268						
6 SUBTOTAL			-			-		224,880			1,349,279	1,349,279	-	1,349,279	1,349	-	85,472
7	1.11						7A	48,280	(8)	80'	350,000		350,000			1,000	-
7 SUBTOTAL			-			-		48,280			350,000	350,000	350,000	-	-	1,000	-
8	1.03						8A	45,045	(6)	90'	270,268					-	-
8 SUBTOTAL			-			-		45,045			270,268	270,268	-	270,268	270	-	-
Other Areas	1.27	6	41,741	(1)	52'	37,707											
		111	10,600	(4)	60'	46,272											
	7.73	110	3,910	(1)	15'	3,910											
		52	24,983	(1)	15'	24,983											
		50	678	(1)	15'	678											
SUBTOTAL			52,341			113,550		-			-	113,550	-	113,550	114	-	2,791
TOTAL	35.61		360,414			721,569		527,569			3,097,079	3,818,648	911,950	2,906,697	2,907	2,800	355,939

Note: This program is not intended to be prescriptive in nature. It was developed to test the capacity of development within the parameters established by the Plan and to inform the feasibility analysis.



Vehicular Circulation and Parking

APPENDIX B: FINANCIAL ANALYSIS

Financial Feasibility Analysis

Financial feasibility analyses have been an integral part of the planning effort, helping to shape the direction of the Plan. The financial feasibility analysis tested the development program as shown in the density and massing analysis (Appendix A) with assumptions representing a schedule of improvements and development to realize the Plan vision. The financial outcomes could differ with changes in the use program, a different pace of development, or changes in the revenue or cost levels realized. This appendix summarizes the Feasibility Analysis.

Development Entity Modeled

Economic Planning Systems, Inc. prepared a financial model for the Pier 70 project that arrayed project costs and revenues into an annual cash flow for the development entity for a 30-year period. The model excludes the BAE shipyard area, its buildings, and BAE's lease payments to the Port. Building 111 and buildings scheduled for release from the BAE leasehold were included in the development cash flow as it was assumed that their rehabilitation and reuse would be part of the Pier 70 reuse.

The financial analysis is similar to a base reuse or large-scale redevelopment project financial model. A single developer for the 50-acre site is an analytical assumption; the Port may lease Pier 70 in a different manner. The financial model assumes that the Port will continue to own the land and enter into a long-term ground lease with a master development entity. Consistent with Proposition D,

the model assumes that the Port will receive rent from its Pier 70 developer equivalent to the current interim income from the site, about \$3 million per year.

The developer would undertake the “horizontal” development: infrastructure, site preparation, park and open space, and pier/wharf projects. The developer would also rehabilitate the historic buildings and build the parking structures required on the site. As modeled in the Feasibility Analysis, the costs of new buildings – the “vertical” development – are not included. Instead, the analysis assumes that the developer would enter into land leases with other developers or users for building sites. The developer and its subtenants, and not the Port, would bear the capital costs of implementing the Plan. The financial model assumes that the future public funds from the IFD, CFD and Proposition A and D funds are dedicated to the Pier 70 project costs and the developer bears the remaining costs through financing.

The overall income and revenues received by the development entity are:

- Public finance funds (IFD, CFD, Prop. A and D) as they are available to pay for allowed public uses;
- Rent from tenants of rehabilitated historic buildings and interim rent from existing tenants in the early years;

- Ground rent from the new building sites;
- Parking income from structured parking; and
- Debt and investment from the private sector as required.

The Feasibility Analysis tests whether the public financing and expected real estate revenues are sufficient to attract the private sector investment needed for the Plan to succeed.

Development Costs

The development costs included in the Feasibility Analysis include site preparation, environmental remediation, infrastructure (new streets and utilities), parks, pier and wharf improvements, parking improvements, and historic rehabilitation. Estimates are at a planning level of detail for the infrastructure, parks, remediation, and other site costs. The historic building costs were developed with the benefit of field visits and a conceptual reuse program informed by historic architects, structural engineers, hazardous materials experts, and cost estimators. All of the capital cost estimates include a factor for soft costs including planning, entitlement, and contingency. Also included are base rent to the Port and environmental remediation monitoring costs.

Parking is expected to be distributed throughout the site. Parking revenues are not expected to be sufficient to fund all structured parking. The financial model reflects parking costs in two ways. A portion is included in the development pro forma for new and rehabilitated buildings, and stand-alone parking structures are shown as a development cost.

TABLE B1 - PIER 70 PROJECT DEVELOPMENT COSTS

Item	30-Year Total (thousands, 2009\$)
Capital Costs	
Historic Building Rehabilitation	\$355,000
Piers/Wharfs	60,000
Infrastructure and Site Preparation	70,000
Structured Parking	30,000
Parks/Open Space	30,000
Site Remediation	20,000
Subtotal	\$565,000
Ongoing Costs – over 30 years	
Base Rent to Port	\$85,000
Remediation Monitoring	5,000
Subtotal	\$90,000
Total Costs	\$655,000

All capital costs include a 29 percent factor to cover planning, entitlement, and contingency. Rehabilitation costs include asbestos and lead paint abatement. Structured parking costs are adjusted for parking revenues. Due to the planning level nature of these cost projections, estimates are shown to nearest \$5 million.

Table B1 (left) reports that costs used in the Feasibility Analysis totaled over a 30-year time period without including inflation (2009 dollar value). The largest cost item, historic rehabilitation, is shown prior to the application of historic tax credits. As noted above, the costs exclude the development costs of the new buildings.

Public Finance Revenues

The public financing sources available to the project include property tax increment, community facility district financing, and Proposition D funds based on growth in payroll taxes. The financial feasibility model estimated the public funding resources, based on the development program concept, assumptions about timing, land and property values, and mix of users. Property tax projections assume that possessory interest tax (the property tax equivalent on long term leaseholds) is assessed on rehabilitated and new buildings.

Payroll tax projections factor in existing City payroll tax incentives for biotech and clean tech uses. If additional future users of Pier 70 are exempt from property or payroll taxes (e.g., government or certain nonprofit users), assessment district, infrastructure financing district revenue, and Proposition D revenues could be reduced. Tax-exempt users will be required to pay an equivalent share of infrastructure and other costs to support Pier 70 public benefits and infrastructure.

New development and historic building rehabilitation projects will pay impact fees to support transportation improvements, affordable housing, and child care facilities. These fees total about \$80 million

for the planned development program. These fees are included in the soft costs in the financial model.

Project Real Estate Revenues

Projected ground lease revenue from new development is based on the land value projected in the feasibility analysis for each land use category. These ground lease revenues were adjusted downward to reflect the impact of community facilities district financing, which imposes a special tax on new development sites. Lease revenue estimates for rehabilitated buildings were based on conceptual use programs for the various historic spaces and market rate rents.

Most project costs will occur periodically during the project timeline. In contrast, most revenues will be realized on an ongoing basis (e.g., ground lease and historic building lease revenues). In order to compare costs with revenues, revenues are shown here in constant 2009 dollars summed over 30 years.

Due to the planning level nature of the revenue projections, estimates are shown to nearest \$10 million and exclude inflation. IFD revenues reflect receipt of 65% of the growth in property tax revenues.

TABLE B2 - PIER 70 PROJECT REVENUES

Item	30-year Total (thousands, 2009\$)
<i>Development Revenue</i>	
Ground Lease - New Developmens	\$220,000
Historic Building Lease	260,000
Interim Lease Revenue	20,000
Subtotal	500,000
<i>Public Financing</i>	
Park Bond Proceeds	\$10,000
Proposition D Bond Proceeds	40,000
Land-Secured Bond Proceeds (Mello-Roos)	80,000
Infrastructure Financing District (IFD) Proceeds	110,000
Historic Tax Credits	70,000
Subtotal	310,000
Revenue Total	\$810,000

Due to the planning level nature of the revenue projections, estimates are shown to nearest \$10 million and exclude inflation. IFD revenues reflect receipt of 65% of the growth in property tax revenues.

Feasibility “Gap” between Revenues and Costs

Development of Pier 70 will require a substantial outlay of capital. Including all costs and contingencies associated with preparing the land for new development and to rehabilitate historic buildings, expenditures total \$665 million, in constant 2009 dollars. Over a 30-year horizon, the developer entity receives \$810 million in revenues, but the costs of the project occur far earlier in time than the revenues generated. In particular, in the first five years, key 20th Street historic buildings (101, 102, 104, 113/114) are projected to be rehabilitated, requiring investment of \$80 million, after adjustments for historic tax credits. A lender or investor must advance funds to move the project forward; these funds must later be returned with a risk-appropriate level of interest. The cash flow shows a total of \$165 million of private capital invested before the development entity realizes a return on that investment.

As estimated today, the financial cash flow includes all of the public financing sources now available to the Port and evaluates the “internal rate of return” (IRR) realized by the developer. As presented, the project reflects an IRR of 10.2%. Real estate development projects of this complexity generally require an IRR of 15% or more, reflecting the market returns required on a mix of private debt and investor equity.

This “feasibility gap” is the difference between the net present value (NPV) of the costs and revenues summarized over time, reflecting the time-value of money. An NPV discount rate of 15 percent (reflecting a blend of private sector debt and equity) is used here. Because most of the revenues accrue after the development costs,

this illustrative cash flow analysis demonstrates a feasibility gap of \$46 million on NPV basis.

The \$46 million feasibility gap indicates that further refinement of the Pier 70 financial structure is required. Sensitivity testing demonstrates several pathways to a feasible project. Access to lower cost financing mechanisms, additional IFD revenues from AB 1199, and tuning the timing and magnitude of costs incurred will be the most important factors in closing the feasibility gap. The Port anticipates that real estate developers can bring additional insights into refining the project land use program, cost estimates, and financing plan to meet market demands and assist in finding the best users for historic buildings, while meeting the Plan goals. Concerted efforts by the Port, its constituents, and its partners to access additional funding sources and achieve additional value from the site will be needed to realize a successful project.

APPENDIX C: PIER 70 CENTRAL WATERFRONT ADVISORY GROUP 2006 MASTERPLANNING GOALS

The following goals were developed through a community outreach process including the Port's Central Waterfront Advisory Group and other interested citizens and groups. The goals were refined and developed in late 2006 for the benefit of the initiation of the Port's Preferred Master Plan effort.

Develop a coherent site plan to define a framework to support future efforts to redevelop and/or improve the Pier 70 Area to meet maritime, historic preservation, public access and trust objectives, in a manner compatible with and integral to the rest of the Central Waterfront

1. Provide for current and future needs of the ship repair industry. Ensure that large ships continue to have unimpeded access to the shipyard facilities and other maritime areas.
2. Identify the optimal site size and configuration of SF Dry-dock's operations.
3. Complete a survey of Pier 70 historic resources to enable preparation of a National Register historic district nomination to facilitate historic rehabilitation projects, and conduct assessments regarding building condition and rehabilitation potential. Define how preservation of the Pier 70 historic resources, particularly the Union Iron Works and un-reinforced masonry structures, can be achieved.
4. Complete a phase I archeological reconnaissance and assessment of the Pier 70 area.
5. Provide for future maritime support and other industrial uses and their access to heavy rail transportation, as well as associated buffer zones, as necessary.
6. Identify opportunities for new, revenue-generating redevelopment, compatible with maritime objectives, which also enable public benefits (e.g. waterfront open space and public access) to be achieved.
7. Define how and where safe waterfront open space, public access, and Bay access can be provided, with the objective of creating a major destination open space next to the Bay and publicly accessible water-oriented recreational uses, that do not interfere with ship repair or related activities.
8. Provide public access for non-motorized watercraft. If environmentally feasible, provide supporting facilities such as a boathouse and launching beach for water recreational activities, which also would enhance overall public access.
9. Create a permanent shoreline edge between Pier 66 and Slip No. 4 that provides public access to the Bay. If any minor Bay fill is required, it should be limited to the minimum amount

necessary for improved public access and shoreline appearance, and/or watercraft berthing/landing.

10. Allow for a future public water taxi terminal in the Central Basin.
11. Establish rational, safe pedestrian connections between public access, parks, and public-oriented developments. Pedestrian connections and overall site planning should also highlight rehabilitated historic buildings and artifacts, such as the gantry cranes, views and sight lines, as well as Pier 70's maritime history.
12. Recognize 20th Street as Pier 70's "Main Street."
13. Improve 22nd Street so that it fully functions as the primary industrial access route into and out of Pier 70.
14. Develop a site plan for Pier 70 that integrates with the urban design and development context for the inland Central Waterfront neighborhood/district. Support on-going coordination with the Planning Department's Central Waterfront Neighborhood Area Planning process. Where not in conflict with historic buildings or maritime activities, extend the City street pattern into Pier 70 which provide views of the Bay, historic buildings, or new architecture with a waterfront identity.
15. Define infrastructure, seismic and environmental remediation requirements for redevelopment and allow minor bay fill if

necessary for hazardous materials remediation.

16. Encourage partnerships with the existing community for the development of the Pier 70 area
17. Identify a mix of uses and strategies for meeting public trust requirements.
18. Identify financing and/or outside funding options to fund site improvement costs.

APPENDIX D: PIER 70 MASTER PLAN COMMUNITY OUTREACH/ COMMISSION MEETINGS

07/11/06 - Port Commission (Approval of Historic Preservation Contract)

- 11/15/06 - Central Waterfront Advisory Group (CWAG) meeting
- 01/10/07 - Central Waterfront Advisory Group (CWAG) meeting
- 03/27/07 - Central Waterfront Advisory Group (CWAG) meeting
- 05/23/07 - Central Waterfront Advisory Group (CWAG) meeting

06/12/07 - Port Commission- (Preferred Master Plan Background Information Basis for Plan)

- 07/25/07 - Pier 70 Preferred Master Plan Community Workshop # 1- Background Information, Basis for the Plan
- 06/31/07 - Potrero Boosters - Background Information, Basis for the Plan
- 08/16/07- San Francisco Planning and Urban Research (SPUR) – Background Information, Basis for the Plan
- 09/19/07 - Central Waterfront Advisory Group (CWAG) meeting
- 10/17/07 - Central Waterfront Advisory Group (CWAG) meeting

11/07/07 – Pier 70 Second Community Workshop (Framework Plan Alternatives)

- 11/27/07 - Potrero Boosters (Review of Framework Concepts and comments to date)
- 12/16/07 - Port Commission (Review of Framework Concept and Community Meeting)
- 12/18/08 - Central Waterfront Advisory Group (CWAG) meeting
- 02/13-08 - San Francisco Tomorrow Board –
(Review of Framework Concepts and comments to date)
- 01/16/08 - Central Waterfront Advisory Group (CWAG) meeting
- 01/22/08 - San Francisco Planning Commission (Review of Framework Concepts and comments to date)
- 05/05/08 - Central Waterfront Advisory Group (CWAG) meeting
- 05/07/08 - San Francisco Landmarks Preservation Board
- 05/21/08 - San Francisco Planning Commission- Eastern Neighborhoods
- 05/28/08 - Central Waterfront Advisory Group (CWAG) meeting
- 06/02/08 – San Francisco Planning Commission

07/17/08 - Pier 70 Third Community Workshop- Draft Plan

- 07/22/08 - SF Board of Supervisors
- 07/23/08 - Central Waterfront Advisory Group (CWAG) meeting
- 08/12/08 - Port Commission Meeting – Review of Draft Plan and Public Comments
- 09/30/08 - Potrero Boosters - Review of Draft Plan and Public Comments
- 10/06/08 - San Francisco Architectural Heritage - Resources Committee
- 10/09/08 - San Francisco Chamber of Commerce
- 10/09/08 - SPUR - Review of Draft Plan and Public Comments
- 10/14/08 - Dog Patch Neighborhood Association- Review of Draft Plan and Public Comments
- 01/11/08 - Port Commission (Approve expanded scope for EPS team)
- 04/22/08 - Port Commission Approval to Release RFP for Environmental Services)
- 08/12/08 - Port Commission (Review of Draft Concept Plan and Public Comments to date)

Fall '08 – Proposition D Campaign (approximately 60 neighborhood meetings to discuss Proposition D and Plan)

11/13/09 - Port Maritime Commerce Advisory Committee- Review of Draft Framework Plan

11/19/09 - Central Waterfront Advisory Group (CWAG) meeting
Fall '08 – Proposition D Campaign (approximately 60 neighborhood meetings to discuss Proposition D and Plan)

01/29/08 - Central Waterfront Advisory Group (CWAG) meeting

06/30/09 - Potrero Boosters- Pier 70 Environmental Investigation Work Program and Plan Overview

07/14/09 - Port Commission

07/29/09 - Pier 70 Fourth Community Workshop- Final Draft Plan

08/11/09 - Port Commission Meeting

08/12/09 - San Francisco Tomorrow Board Meeting

08/26/10 - Central Waterfront Advisory Group

09/01/09 - San Francisco Architectural Heritage

09/02/09 - SPUR Lunch Time Brown Bag

09/16/09 - San Francisco Historic Preservation Commission

09/17/09 - San Francisco Planning Commission

09/30/09 - San Francisco Housing Action Coalition

11/05/09 - Urban Land Institute Project Analysis Session (ULI
National Conference in SF)

11/18/09 - Central Waterfront Advisory Group

12/09/10 - Central Waterfront Advisory group

1/11/10 - SPUR Project Review Committee

2/17/10 - Central Waterfront Advisory Group

3/09/10 - Port Commission Meeting

APPENDIX E: 2008 PROPOSITION D-CHARTER AMENDMENT REGARDING PIER 70

EC. B7.310. PIER 70 WATERFRONT DISTRICT.

(a) The Port of San Francisco's southern waterfront includes a site known as Pier 70. For over 150 years, some portion of this site has been in use for ship building and repair, or steel production, as well as for other heavy industrial uses. In 2001, the California State Office of Historic Preservation determined that Pier 70's approximately 40 historic buildings, structures, and features are eligible for the National Register collectively as contributors to a Pier 70 historic district. This Section B7.310 is intended to enable the City and County, through its Port Commission, to rehabilitate the Pier 70 area by establishing planning, financing and project approval mechanisms appropriate to the area. These mechanisms will serve a significant public purpose by preserving and restoring historic waterfront properties in need of repair, restoring waterfront land, and building new waterfront parks and maritime facilities.

(b) The Port Commission may submit to the Board of Supervisors for approval a financial and land use plan or plans for all or a portion of Pier 70 (each a "Pier 70 Plan") that includes a description of the boundaries of a Pier 70 planning area ("Pier 70 Waterfront District") and projections of the Port's need for financing, in addition to authorized property tax increment financing, to preserve and restore deteriorated Pier 70 historic waterfront properties, seismically strengthen Pier 70 piers and structures, remediate and restore contaminated waterfront land and structures, build new waterfront parks, and build maritime facilities ("Waterfront Improvements"). The financing plan may include, without limitation, issuance of debt to finance Waterfront Improvements or direct payments

to a tenant for the Waterfront Improvements. As used in this Section B7.310, Waterfront Improvements include rehabilitation of an existing historic resource consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, seismic strengthening of existing structures, environmental remediation and/or mitigation consistent with applicable regulations and/or a plan approved by a regulatory agency with jurisdiction over the contaminated area, construction and landscaping of waterfront open space, including natural shoreline habitat, construction of utility infrastructure necessary to achieve compliance with environmental performance standards that exceed applicable building code requirements, and the construction or rehabilitation of maritime facilities.

(c) Before proposing to issue indebtedness to finance Waterfront Improvements or to assume the responsibility to pay for the improvements pursuant to this Section B7.310, the Port Commission, by resolution, must approve a capital budget for the proposed Waterfront Improvements and find that the new lease revenues from private investment in and development of the proposed Pier 70 Waterfront District for a period of 20 years, commencing with the Port's projected date of issuance of a certificate of occupancy for a lease identified by the Port for all or a portion of the Pier 70 Waterfront District, and property tax increment available under the Pier 70 Plan, are insufficient to finance the Waterfront Improvements.

(d) The Clerk of the Board of Supervisors shall refer the Pier 70 Plan to the Controller within 30 days after the Port Commission's submission

to the Board of Supervisors. Within 90 days of the Clerk's referred, the Controller and the Tax Collector, in consultation with the Department of Real Estate and the Port Commission, shall report to the Board of Supervisors the following:

1. The total amount of taxes received by the City and County from (A) the City Payroll Expense Tax under Article 12-A of the Business and Tax Regulations Code, as amended from time to time (the "Payroll Tax"), from businesses located in the Pier 70 Waterfront District, and (B) Tax on Transient Occupancy of Hotel Rooms under Article 7 of the Business and Tax Regulations Code, as amended from time to time (the "Hotel Tax"), from any hotel rooms located in the Pier 70 Waterfront District (the "Base Year Tax Revenues") in the full fiscal year immediately preceding the submission of the proposed Pier 70 Plan to the Board of Supervisors; and
2. The projected annual increases in Payroll Tax and the Hotel Tax above the Base Year Tax Revenue that will accrue to the General Fund for each year ("Pier 70 Annual Payroll and Hotel Tax Increment") for a twenty year period following the issuance of a certificate of occupancy related to a Port lease identified by the Port for all or a portion of the Pier 70 Waterfront District, using assumptions about new lease and tax revenues from development of allowed uses in the Pier 70 Waterfront District.

The publication of the Controller's and Tax Collector's report will not be a violation of Business & Tax Regulations Code Section 6.22-1. The Controller and the Tax Collector shall be entitled to reimbursement of their costs to perform their responsibilities under this Section B7.310.

- (e) The Board of Supervisors may approve the Pier 70 Plan, with or without the financing for Waterfront Improvements described by the

plan. The Board of Supervisors may approve the financing for Waterfront Improvements described in the plan, if it finds that new lease revenues from private investment in and development of the proposed Pier 70 Waterfront District for a period of twenty years, commencing with the Port's projected date of issuance of a certificate of occupancy for a lease identified by the Port for all or a portion of the Pier 70 Waterfront District, and property tax increment available under the Pier 70 Plan, are insufficient to finance the Waterfront Improvements.

- (f) If the Board of Supervisors approves the Pier 70 Plan and associated financing for Waterfront Improvements, then, for the purposes of this Section B7.310, the Base Year Tax Revenues for the Pier 70 Plan will be the total Payroll Tax from businesses located in the Pier 70 Waterfront District and any Hotel Tax from any hotel rooms in the Pier 70 Waterfront District in the fiscal year preceding Port Commission issuance of debt to finance Waterfront Improvements or obligation to first pay for Waterfront Improvements pursuant to this Section B7.310, and the Controller and the Tax Collector, in consultation with the Department of Real Estate and the Port Commission, shall revise their projections of Pier 70 Annual Payroll and Hotel Tax Increment for a 20-year period, commencing on the Port's projected date of its issuance of debt for, or obligation to pay for the construction of Waterfront Improvements pursuant to this Section B7.310, based on updated assumptions about new lease and tax revenues from development of allowed uses in the Pier 70 Waterfront District. These updated assumptions shall serve as the basis for appropriations pursuant to this Section B7.310 for the remainder of the term of the Pier 70 Plan.

- (g) If the Board of Supervisors approves financing for Waterfront Improvements described in the Pier 70 Plan, then the City and County

shall appropriate from discretionary General Fund revenues to the harbor trust fund the amount necessary to pay debt service on indebtedness issued by the Port Commission to finance Waterfront Improvements or to fund the Port's obligation to pay for Waterfront Improvements pursuant to this Section B7.310 in an amount up to seventy-five percent (75%) of the Pier 70 Annual Payroll and Hotel Tax Increment beginning in the fiscal year in which the Port Commission is obligated to A) begin paying for the Waterfront Improvements, or B) pay debt service on indebtedness that it has issued to finance Waterfront Improvements and for each subsequent fiscal year until the earlier of (i) the date the Controller certifies that the Port Commission has retired all indebtedness issued or to finance the Waterfront Improvements or fully satisfied its obligation to pay for the Waterfront Improvements or (ii) 20 fiscal years commencing with the first fiscal year that the Port Commission is obligated to pay such debt service or payment on the Waterfront Improvements. The City and County shall appropriate the funds to the harbor trust fund notwithstanding the actual amount of the annual increase in Payroll Taxes and Hotel Taxes during any fiscal year, without any adjustment based on the actual amounts of such taxes paid or accruing to the City and County. In no event may the amount appropriated to the harbor trust fund in the aggregate be greater than seventy-five percent (75%) of the amount of Pier 70 Annual Payroll and Hotel Tax Increment estimated by the Controller for a 20-year period pursuant to subsection (f). The Port may use the funds appropriated solely to finance the construction of Waterfront Improvements described in its Pier 70 Plan and any amendments to the plan by the Port Commission and the Board of Supervisors.

(h) The Board of Supervisors' approval of the Pier 70 Plan, with or without approval of the financing for Waterfront Improvements, shall

constitute approval by the Board of Supervisors of any lease for a project developed under the Pier 70 Plan under Article IX, Section 9.118 of this Charter upon approval by the Port Commission if all of the following conditions are met:

1. The Controller, in consultation with the Department of Real Estate, finds the lease consistent with the Pier 70 Plan;
2. If required for purposes of the receipt of federal historic tax credits, the lease binds the lessee to obtain from the National Park Service and/or State Historic Preservation Office a finding of consistency of the federally-subsidized historic rehabilitation project(s) contemplated by the lease with the Secretary of the Interior's Standards for the Treatment of Historic Properties;
3. If required, the lease binds the lessee to obtain a permit from the Bay Conservation and Development Commission for the improvement and maintenance of the 100 foot shoreline bond along Pier 70 in the premises of the lease;
4. If required, the State of California has approved the consistency of the Pier 70 Plan, or portions thereof, with the Burton Act trust and the public trust for navigation, commerce and fisheries; and
5. If required, any applicable environmental regulatory agency has approved a site remediation or site management plan, or the equivalent, for the relevant portion of Pier 70, where the Port or a former owner, occupant, or operator is the primarily responsible party.

(Added by Proposition D, 11/4/2008)

APPENDIX F: BAE PIER 70 SHIP REPAIR FACILITY PLAN

BAE's planning process began with an assessment of the current site's physical conditions and the activities that support operations. The site investigation included an analysis of the conditions of the buildings, overhead cranes, utilities, equipment, machinery, over-water structures, and open areas. BAE's plan includes a preliminary phasing plan that broadly outlines the steps forward and an estimated order of magnitude for costs associated with these steps.

The current BAE facility and layout was developed in the 19th and 20th centuries for ship building and has undergone very limited modifications. In order to be successful for ship repair in the 21st century, some significant modifications will be required to be able to maintain this important use that defines Pier 70.

The Plan recognizes and incorporates BAE's plan for the ship repair yard. The diagram Ship Repair Area Plan illustrates BAE Plan (page 18).

Facilities to Remain in Use

BAE is proposing to consolidate its ship repair shops into the two largest structures on site, Buildings 109 AND 105. These buildings have the best location and orientation to the main yard and high-water platform, accommodate the floor loading and height clearance for the shop equipment, and are in relatively good condition for continued occupation. The administration offices are planned to remain in the portable buildings and will be relocated closer to the main ship yard entrance, providing more efficient use of space and

potentially a second secure and direct entrance for non-shipyard personnel visiting the site. Other BAE constructed buildings will remain in place and retain their functions, namely warehousing in Building 251 and the blast booth in Building 250.

The buildings and structures along the high water platform (buildings 68, 58, 243, 127) will remain fully occupied and will be used for the most part as they are today. The industrial air compressors will be relocated from buildings 103 and 107 to the high-water platform. An underwater and under-pier investigation of piers and the high-water platform in February 2008 did not identify any significant deterioration of pier decks or piling.

Buildings to be Vacated or Removed

In developing the ship repair plan, BAE recognized that the lease area will require modifications to allow for modern day work flows and sequences. In addition, some buildings are obsolete for today's ship repair business. To that end BAE identified categories buildings to be vacated as a part of the "reversion area" to be given back to the Port and buildings to be demolished.

Vacated/Reversion Area

The proposed buildings/structures that are no longer planned to be occupied by BAE are Buildings 36, 52, and 19. All are within the reversion area and will be vacated in 2012. The Plan has identified reuse options for these buildings.

Proposed Demolitions

BAE is proposing demolition, relocation, or alteration of three buildings to create sufficient laydown area for operation of the shipyard. These changes provide the ability to respond to customer needs during peak industrial periods. Laydown space for logistical support of equipment and materials is necessary for the larger and more complex ship repair contracts that today's market demands. Adequate open areas for logistic support within the shipyard avoid transportation bottlenecks along corridors that service the shipyard.

Buildings 38 and 119 are proposed to be demolished in order to provide a central laydown area for the shipyard. Building 38, which is minimally occupied at present, is in an advanced state of deterioration and creates an imminent danger to life safety. Building 119, a former washroom, has been condemned by the Port and has not been occupied for many years.

As part of opening up access to the "triangle lot" and allowing better truck access to building 105, building 121 needs to be moved or modified. The current awkward location of Building 121 which houses the steel shop office, partially obstructs access to the steel shop in building 105. Building 121, which according to the historical resources report was relocated to its current location in 1975, is proposed to be removed.

Each of these proposed impacts on the buildings needs to be analyzed within the context of the future National Historic District. Great value is given to preserving the historic use and operational needs of the facility must be weighed against impacts on historic

resources. A preliminary review indicates that the above proposals, would not impact the integrity of the Historic District.

Adjacent Buildings

Buildings 111 and 6 are on the water 's edge and in need of substantial investment to address structural conditions to use. Building 111, although within BAE's leasehold, has been generally unused for ship repair since damaged by the 1989 Loma Prieta earthquake except for some storage complying with the Port's "limited access" restrictions. Building 6 is adjacent to but not within the BAE leasehold. Effective reuse of Building 6 and 111 will require access to the buildings coordinated with ship repair use of the "triangle lot".

The location and orientation of these buildings make them ideal for the ship repair facilities and possibility ill-suited for other uses or tenants. If a funding mechanism for the high cost to rehabilitate these buildings is identified, BAE would consider further consolidation of the ship repair facilities into these buildings. Rehabilitation of these structures for ship repair use would require a new long-term lease agreement with the ship repair operator.

Alternatives beyond the current lease expiration date in 2017 include the use of building 6 for consolidation of industrial operations, as well as the potential for consolidation of administrative and light commercial activities in building 111. Use of these two structures, in conjunction with the demolition of buildings 38 and 119, could allow for the termination of shipyard operations in buildings 109 and 105, providing development opportunities for a

larger area to the west of the shipyard.

Given the importance of these two facilities, the financial feasibility analysis for this Plan has included the costs of renovation buildings 111 and 6 as part of the larger project costs. The appropriate use for those buildings will be determined through future consideration.

Circulation and Site Access

The main entrance to the shipyard would move from 20th Street to the foot of 19th Street to connect the truck access route and to ease congestion from new uses in the rehabilitated the buildings along the 20th Street corridor. A secondary entrance to the site is shown at the foot of 20th Street for employee access to a proposed new parking area within the “triangle lot” located at the foot of 20th Street.

Relocation of the shipyard main gate from 20th Street to 19th Street changes the orientation of the shipyard. If planned appropriately, this could improve the efficiency of truck circulation since trucks would enter directly into the main yard to off-load/pick up material. The separation of employee vehicles from shipyard traffic also improves the security of the shipyard, which is becoming a more common customer requirement.

With the inclusion of Parcel 3B into the proposed new leasehold boundary, the capacity of the new parking lot/laydown area is greatly improved. Approximately 260 parking spaces could be accommodated in that area, which provides employee parking for a typical shift with the overage accommodating parking for customer subcontractors. Currently, up to 80% of shipyard personnel park outside of

the shipyard. This parking lot, in addition to the parking planned adjacent to the administrative offices, meets the parking needs for 90% of the projected customer business. During peak periods any needed parking and laydown area will be leased on case-by case-basis.

Related Issues

Beyond the ship repair leasehold, successful continued operation of the shipyard will require addressing the following issues:

- Dredging of the Central Basin to maintain access;
- Appropriate means of separating recreational boating, in particular, kayaks, from the ship repair operations.
- Ensuring an appropriate buffer of uses along the boundary of the ship repair yard and Crane Cove Park.
- Upgraded infrastructure, including utilities and piers to serve the yard.
- Removing pier pilings and deck timbers that dislodge from nearby dilapidated waterfront improvements and interfere with operations.

