

THE PHILADELPHIA NAVY YARD

HSPV 701 STUDIO

FINAL MEMO

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Descriptive Analysis of Site



League Island (Before the Navy Yard)

Formerly known as League Island, the Navy Yard was acquired by the Federal Government from the Commonwealth of Pennsylvania in 1868 for one dollar. At the time of its acquisition the 410 acre island was used primarily for farming. The entire island was surrounded by an earthen embankment surmounted by a stone wall. Before development occurred, 22 million cubic yards of fill was incorporated into the island to provide firm footing for planned masonry buildings. A temporary causeway was constructed across the channel that separated the island from the remainder of Philadelphia. In the period since the acquisition by the Federal Government, the area of the island has been considerably enlarged by filling in the channel and by filling the wetlands to the east of the 19th century island. By the end of World War II, the land area of the naval yard totaled 1,029 acres. ¹

The Site (The Navy Yard)

Currently the Navy Yard is roughly a 1,200 acre artificial peninsula located just south of Philadelphia. According to the 2013 Master Plan, the Navy Yard's campus is comprised of seven different districts: The Shipyard, Commerce Center, the Historic Core, Central Green District, Mustin Park District, Canal District, and the Port. Within these districts, the campus contains more than 143 companies occupying over 6.5 million square feet of office, industrial, and research and development space. ² Two entrances, S 26th Street and South Broad Street, connect the Navy Yard to the rest of south Philadelphia. The Broad Street entrance is marked by the historic gate house and a large arching sign that reads "The Navy Yard", while the S 26th Street entrance is marked by a large sign composed of brick and concrete.

Commerce Center District

The Commerce Center district is located at the S 26th Street entrance on the western portion of the Navy Yard. This district is the only one not directly located on the peninsula. The boundary of the district includes the property between Lanier Avenue to the north, Penrose Ferry Road to the west, S 26th Street

1. McVarish, Douglas C, "National Register of Historic Places Registration Form", Philadelphia Naval Shipyard Historic District, Section 8, Page 2.

2. "The Navy Yard Walking Tour and Visitors Guide", *The Navy Yard Today*, pg. 2.

to the east and Girard Point to the south. There are currently four main buildings located within the commerce district, one of which is the Tasty Baking Company. Each building has a corresponding parking lot with some tree plantings in the medians. The district also contains a few smaller buildings located near the entrance which belong to Danbro Distributors LLC. An additional group of buildings is located near Girard Point that possibly belong to the Navy or the shipyard. Much of the landscape is a designed which includes planting buffers along the road, sidewalks, decorative rocks and street lights. Other portions of the landscape are composed of empty lots, some small wooded areas, and wetlands near the river. South 26th Street connects Commerce Center to the Shipyard after crossing under the Delaware Expressway and crossing the S 26th St Bridge.

The Shipyard District

The Shipyard district is located on the western portion of the peninsula. The majority of the land within the shipyard is located on the peninsula, however, there is a portion located on the mainland, east of Commerce Center. This includes the land east of South 26th Street, south of the Delaware Expressway and the majority of the land west of South Broad Street. The Shipyard's boundary on the peninsula includes most of the land west of South Broad Street and north of Kitty Hawk Avenue, and all land west of South 17th Street. Unique to the Shipyard is also the Naval Bay located between the peninsula and the mainland. This area is currently used for ship storage by the Navy. The landscape within the Shipyard contains very little vegetation that includes two small wooded areas, some trees plantings, and a large lawn area. Most of the landscape is made up of pavement and buildings that house a large portion of the Navy Yard's employment. There are a large number of warehouses, storage facilities, and hangers within the Shipyard. Most of the work being done there includes submarine repairs, mothballing naval vessels, and general ship engineering. There are also several dry docks located in the Shipyard. Most of the Shipyard is not accessible to civilians due to fencing near the roads that surrounds most of the buildings.

The Historic District

The Historic Core district is the geographical heart and center of the Navy Yard. The area can be defined by the land west of League Island Blvd, and south of Rouse Blvd; South of Constitution Ave and west of S 11th Street; South of Normandy Place and west of S 12th Street; South of Intrepid Ave and west of S 13th Street; a portion of land west of S Broad Street on the mainland; and east of S 17th Street, just north of Kitty Hawk Ave, and east of S 15th Street. The landscape contains large areas with vegetation, including the Marine Parade Grounds, Admirals Row, and several other large lawn areas. Furthermore there are rows of deciduous trees along the sidewalks, within the Parade Grounds and Admiral's Row. Within the Historic District there are also a large number of historic buildings, including the Receiving Station, Quarters M-1 and M-7, the houses along Admirals Row, and the Urban Outfitters Headquarters buildings. Many of the buildings within the district serve a functional purpose, though some remain empty and abandoned.

Central Green District

Within the Central Green District is a large amount of the Navy Yard's new construction, which houses various company office spaces. This district is defined by the 2013 Master Plan as the land west of League Island Boulevard, north of Constitution Ave, and east of S 11th Street; north of Normandy Place and east

of S 13th Street; north of Intrepid Ave, east of S Broad Street and south of League Island Blvd; and a thin portion to the north of League Island Blvd that is currently a parking lot. A large portion of the landscape within the district is composed of vegetation and green space. Included in the green spaces are Crescent Park, several lawn areas that are maintained, designed features that includes trees, shrubs, and grasses, and central green spaces. The other half of the landscape is taken up by office buildings, parking lots and other buildings containing amenities for the site. These amenities include the Courtyard Philadelphia, PNC Bank, and an Italian Restaurant called Lo Spiedo.

Mustin Park District

The location of the Mustin Park District currently includes all land east of League Island Boulevard, North of Kitty Hawk Avenue, and south of the train tracks. Mustin Park's landscape is heavily vegetated, containing trees that are both planted as a buffer along the street and ones that are part of the untamed landscape. Additionally there are large open areas covered in grasses, shrubs, and weeds. There are only two main buildings in this district, which are occupied by Wuxi AppTec Inc. and Tier Point web hosting company. Each building has a corresponding parking lot with an additional lot at the corner of Kitty Hawk Ave, and League Island Blvd. Two large paved avenues that acted as runways have been carved into the landscape. There also appears to be the foundation and remnants of a building and a gravel lot as seen from an Arial view. Also within the center of the district and adjacent to one of the diagonal runways is a segment of pavement in the shape of a racing track with a grass center. A large portion of Mustin Park is also inaccessible to the public, thus making it difficult to determine some of the areas features.

The Canal District

The Canal District, located in between the Historic Core and the Port, is the smallest of the seven districts. The property within the Canal District includes a small portion of land south of Kitty Hawk Ave, directly east of League Island Blvd, and west of an additional diagonal runway. Most of the landscape in the Canal District is covered in vegetation that includes wooded areas, open park spaces and some lawn spaces. Some of this district appears to be maintained, including areas of the landscape that have been recently designed. The canal district contain a unique green space that has been built out onto the river that connects to an abandoned dock. Most of the structures within this district are office buildings with the exception of a covered picnic area in the park space near the river and a maintenance building. Parking lots correspond with the office buildings, including an additional paved space in the southwest corner of the district near the river.

The Port District

The Port is located on the eastern portion of the Navy Yard. The area is defined by most of the property east of League Island Boulevard, South of Kitty Hawk Avenue, and north and west of the Delaware River. The majority of the landscape in the area is composed of large open areas covered in vegetation, wetlands along the coast, small wooded areas, and barren areas where the naval housing once stood. Some buildings are present in this district, which are office buildings or warehouse structures. A large portion of the Port is closed to the public, thus making it difficult to determine the exact usage of the landscape and its buildings.

Focus Buildings

The four buildings within the Historic Core that will be the focus of study for the Penn 2016 Navy Yard Studio include: Building 83, Building 611, Building 624, and the Receiving Station. The buildings are relatively close to each other and currently have no function with the exception of Building 611, which is used as storage space for Urban Outfitters.

Building 83

Building 83 was designed in 1919 as a flat roofed warehouse facility and constructed by Industrial Engineering Company. The eight story building is constructed using concrete and brick and contains 527,072 feet of space. The first floor features the loading dock, sheltered by a hipped roof over the doorways. Due to erosion, salt has begun to crystalize in the form of small stalactites underneath the loading dock. Fenestration consists of groups of two to seven fixed and awning windows set in the concrete grid. The middle floor windows are placed above brick spandrel panels.³ The warehouse is eight bays wide on the Rowan Street side and 17 bays wide on the Second Street side. A notable feature are the concrete piers that span the height of the building delineating the 17 window bays along the west façade. Most of the first floor openings are steel loading dock doors. Additionally there are mechanical penthouses that project upward from the rooftop.⁴ The interior is an open floor plan supported by 136 cylindrical columns spaced 20 feet apart. The majority of the interior space on the first floor is four large rooms, aside from restrooms, a maintenance room, two elevators, the lobby space, and the stairwells.

Building 611

Building 611 is a rectangular, steel sided, two story warehouse. It was constructed in 1942 with an addition in 1943 making the building 216,000 square feet. The building features a tall monitor roofed block with additional shed roofed blocks. Ribbons of three light transom windows sheathed in fiberglass are located along the top and center of the structure. A large metal overhead vehicular door is centered on the east wall and a loading dock with a metal overhead door is located near the east end of the north wall. Likewise the west façade and south façade of the northern section contain additional metal overhead doors.⁵ The interior is an open floor plan consisting of two stories of warehouse space.

Building 624

Building 624 is an eight story rectangular, flat roofed, brick and concrete warehouse. It was constructed in 1941 and designed by Zantzinger and Borie Architects. The building is 14 bays wide and 20 bays deep containing 880,000 square feet of space. The bays are delineated by fluted concrete pilasters extending from the first to the seventh story. Most of the windows consist of four light awning sashes flanked by panes of glass. Additionally the ground story of the west façade features a series of loading bays. Several rectangular penthouses project from the roof, marking the locations of elevator shafts and stairwells.⁶ The interior is an open floor plan supported by over 144 cylindrical concrete pillars. The majority of the floor space on each level is one large room aside from some office space, restrooms, elevators and the stairwells.

3. "The Navy Yard", *Building 83*, <http://www.navyyard.org/flash/history/architecture.swf>.

4. McVarish, Douglas C, "National Register of Historic Places Registration Form", *Philadelphia Naval Shipyard Historic District*, Section 7, Page 13.

5. McVarish, Douglas C, Section 7, Page 29.

6. McVarish, Douglas C, Section 7, Page 30.

Historical Narrative

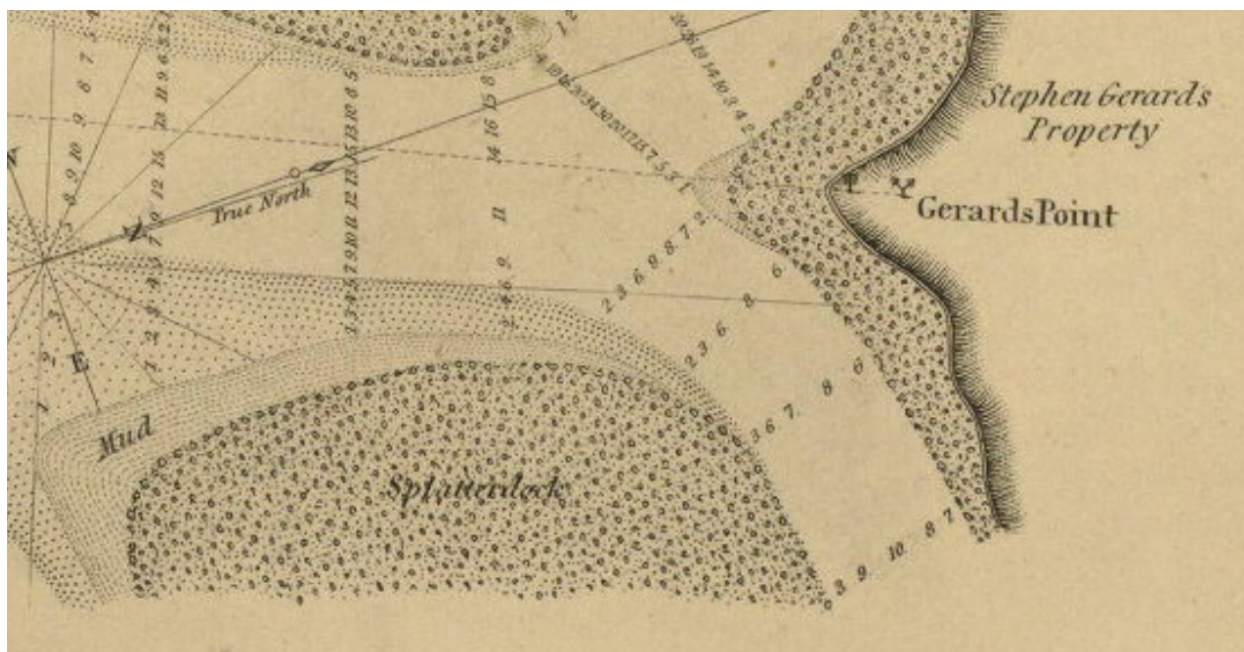
Geologic History

Historic maps corroborate, and likely have influenced the theory that

“League Island probably originated as a low lying stretch of land that developed gradually, appeared [sic] seasonally above the waterline. In late prehistoric/early historic times it occupied approximately one-third the area of the current League Island complex.”¹

Its unaltered state has been described as “probably a mixed tidal setting of marshes, mud flats, and shallow waterways.”²

The oldest maps of the area show the island as very long and narrow, in theory not including the marshy shoreline; later maps indicate the changing shape of the island due to its muddy topography. As League Island underwent man-made topographic interventions, the island changed in form, increasing in width and decreasing in length.



Dave McClure's 1828 *Chart of the River Schuylkill*. This map shows some early topography of the marshy land around League Island. “Splatterdock” is another term for the Yellow Pond Lily.

1. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): 5.

2. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): Appendix ii, 6.

Pre-Colonial Settlement

The Navy Yard sits at the confluence of the Delaware and Schuylkill Rivers. Before the area was colonized by the Swedish and Dutch, the Lenni Lenape maintained a settlement called Passyunk at that same point.

A Phase I Archaeological Resources Survey of the Naval Complex was conducted by John Milner Associates in 1994. While no prehistoric artifacts were found, four sites were identified as historic archaeological sites:

1. The former location of the World War I Barracks: may reveal early military housing patterns
2. The south end of the Marine Corps Parade Ground: contains a rubble deposit which does not match with documentary sources from this location
3. The former location of the Marine Corps Receiving Barracks: soil profile shows filling and disturbance
4. The area surrounding Quarters A: may clarify the living habits of nineteenth century naval officers and their families³

League Island Pre-Navy Yard

The Dutch and Swedish had historically maintained settlements along the Delaware and Schuylkill Rivers. The closest of these settlements to the Navy Yard was by the Swedish at Kingsessing, located about a mile west of League Island.⁴

League Island is included in maps of the region as early as 1654.⁵ It was one of a series of islands located south and southwest of the Philadelphia mainland. Others included Province Island, Carpenters Island, Woodberry Island, Hog Island, Mud Island, and Red Bank Island. Although there is no documentation of where League Island's name originated, it is theorized that at one point the circumference of the island measured one league, or three miles. Its name appears on colonial era maps, indicating that the name has origins from this period.



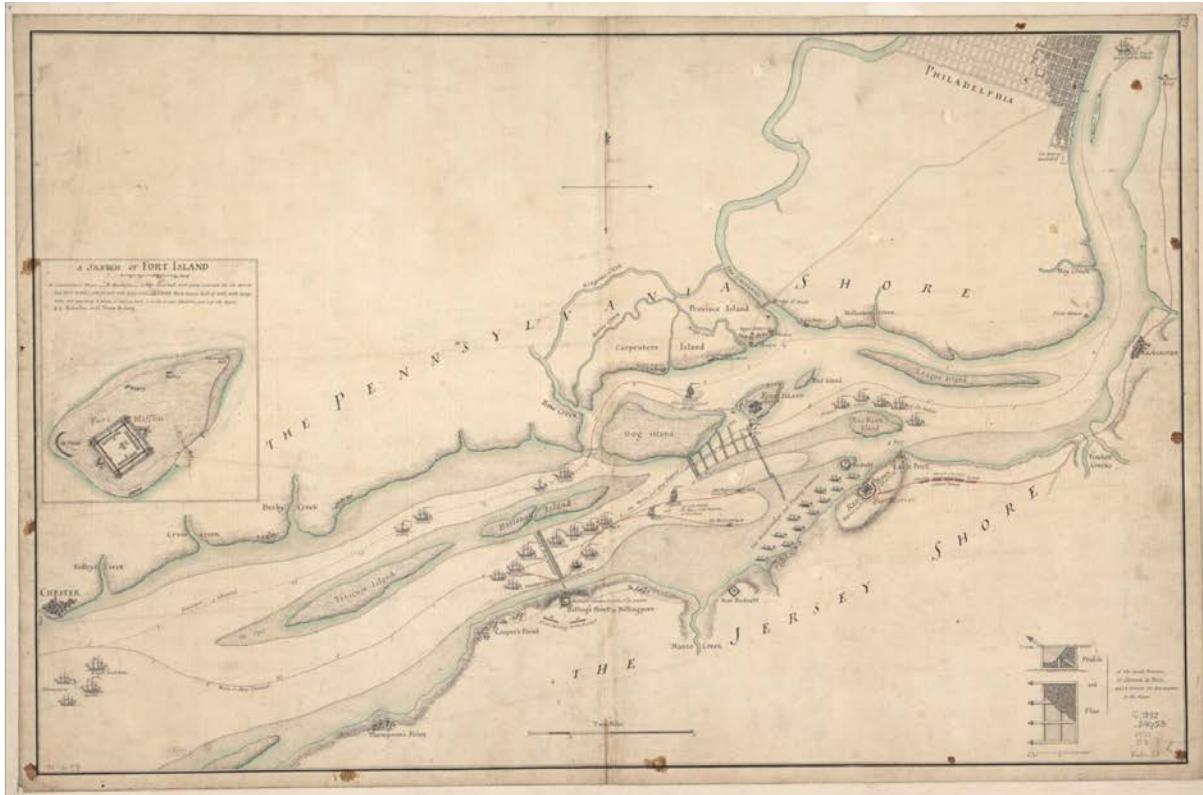
A portion of Peter Lindstrom's Map of New Sweden, 1654-55. Labeled with a lowercase Y, it is called Druifwe Evländh, or Grape Island

3. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): 41-42.

4. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): 10.

5.. James Laurence Kauffman, *Philadelphia's Navy Yards (1801-1948)* (New York: The Newcomen Society, 1948): 17.

To the early colonists, the confluence of the Delaware and Schuylkill Rivers was an important strategic point for fortification. During the Revolutionary War, the British built a number of forts on these islands, and took over the American stronghold at Fort Mifflin, which was on Mud Island. There were also two British gun batteries at the site of Girard's Point (a nineteenth century settlement described below), as well as a 16 pound gun located near today's Navy Yard entrance on Broad Street.



Faden, William. *The course of Delaware River from Philadelphia to Chester, exhibiting the several works erected by the rebels to defend its passage, with the attacks made upon them by His Majesty's land & sea forces*. Map. [1777]

By this time, League Island was owned by 5 individuals who divided the tracts of land along the short length of the island.



The portions of mainland Philadelphia just north of League Island were sparsely populated in the early to mid nineteenth century. During the Colonial period, Bellaire Mansion, attributed to Philadelphia

Mayor Samuel Preston, was not far away; today the house still remains in FDR Park. By 1808 League Island was owned by the Sickle/Seckel family, who also owned land on the Philadelphia mainland near Schuylkill Point, or “the Neck.” A butchered version of the family name is indicated on the 1808 Hill map.



A plan of the City of Philadelphia and Environs Surveyed by John Hills, 1808.

Also around this time, on the mainland of Philadelphia just north of League Island was Girard’s Point. Girard’s Point, which had previously been known as Schuylkill Point, was established by Stephen Girard, a wealthy banker and philanthropist known for his land holdings and the founding of Girard College. The settlement was home to a number of farms and taverns.

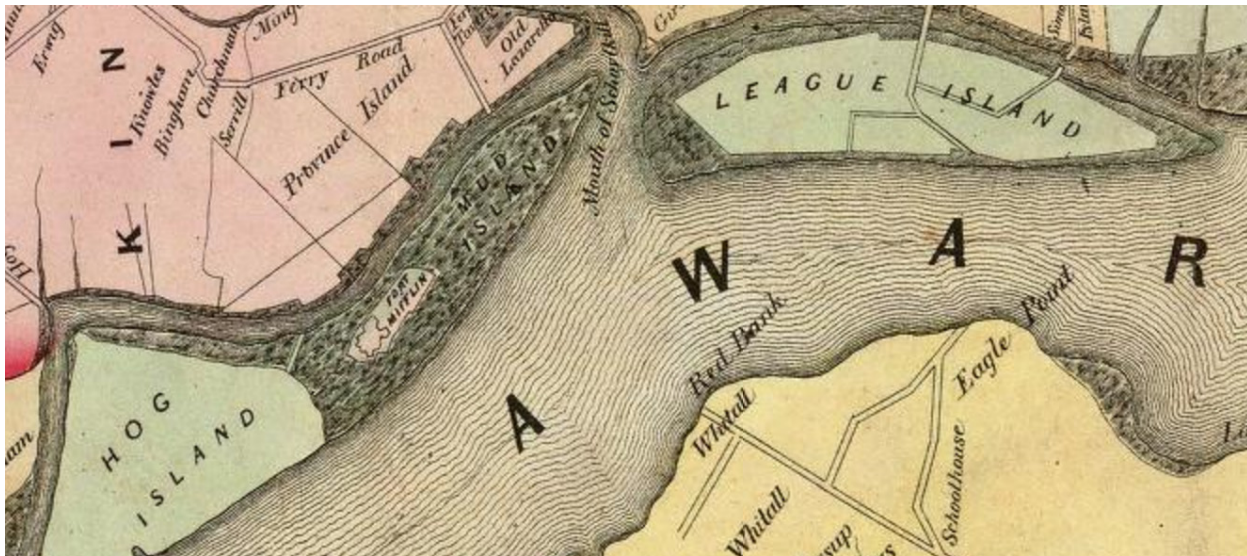
In 1835 the island was bought by Charles Wharton, a Philadelphia merchant. Wharton understood the strategic location of the island; in 1836 he applied to the Commonwealth of Pennsylvania for permission to construct a causeway connecting League Island to the southern terminus of Broad Street.⁶ On February 23, 1837 an act was approved by the Commonwealth to pursue the causeway.⁷ When Wharton died in 1838, the Pennsylvania Company for Insurances on Lives and Granting Annuities, an early life insurance company, took title of the land, and it was this company that technically served as the grantor when the title to the land was transferred to the City of Philadelphia.⁸

From Wharton’s death until the 1860s, the fate of League Island was unknown. Although the causeway was built, it was not maintained. There were structures on the island, and historic maps indicate that the city may have intended to expand the block grid to League Island, but keep it topographically distinct from the main land.

6. *Letters and Documents Relative to the Application to Connect League Island, With the Main Land*. Harrisburg: Printed at the office of the Keystone, 1837.

7. *Laws of the General Assembly of the Commonwealth of Pennsylvania, Passed at the Session of 1836-37, in the Sixty-First Year of Independence*. Harrisburg: Theo Fenn, 1837, 20.

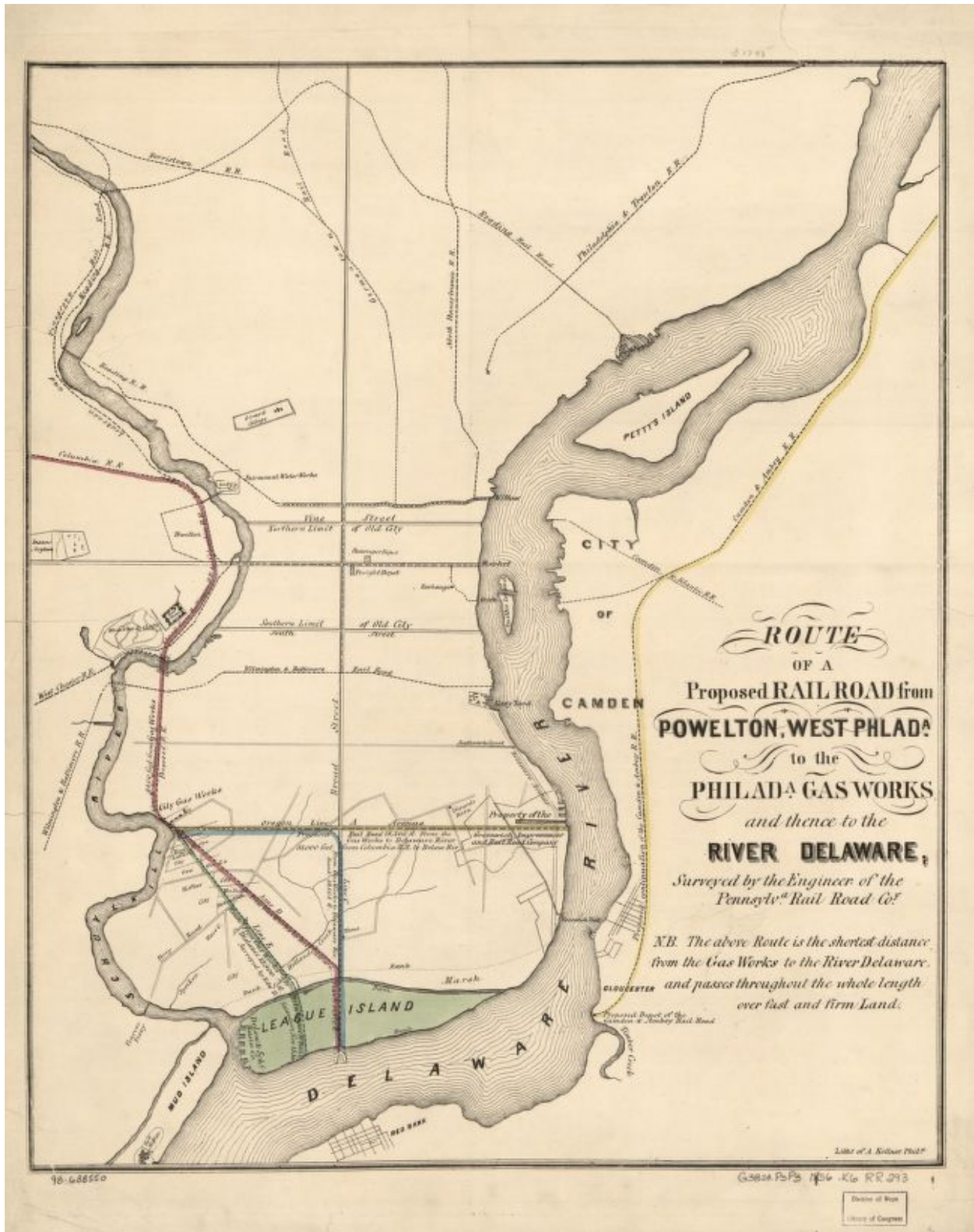
8. James Laurence Kauffman, *Philadelphia’s Navy Yards (1801-1948)*. New York: The Newcomen Society, 1948. 17.



J. C. Sidney's A Map of the Circuit 10 Miles Around Philadelphia, 1847.



R. L. Barnes' Map of the newly consolidated City of Philadelphia, 1852.



Kollner, Augustus. Route of a proposed railroad from Powelton, West Philad'a, to the Philad'a gas works and thence to the River Delaware. [n.p., 1856] Map. Retrieved from the Library of Congress, <https://www.loc.gov/item/98688550/>.

Transition to a Navy Yard

The history of the Philadelphia Naval Shipyard arguably starts in 1801. The Department of the Navy, established by Congress in 1798, acquired 11 acres of land along the Delaware River at Federal Street.

The site was criticized by many as being too close to a rapidly developing urban core.⁹ By 1820 this Navy Yard occupied 20 acres along the river between Washington and Reed Streets.

As the Navy transitioned to constructing wooden steamships, the site at the Delaware River became increasingly obsolete. The Civil War overextended the capacity of the Federal Street Yard and highlighted the increasing industrial obsolescence of the site. The Civil War marked a changing point in discussions on a new Navy Yard. The Federal Street Navy Yard was growing further obsolete and incapable of keeping up with the increasing demands of wartime industrial society.

In 1862 Secretary of the Navy Gideon Wells called for the establishment of a Navy Yard which could assemble ironclad warships. The Pennsport Navy Yard was unable to expand to accommodate this work. Thus, a search began to find a new suitable location. Twice in 1862, he asked Congress for funds to acquire a site.

Meanwhile, that same year, Philadelphia City Council passed a resolution authorizing the transfer of League Island to the federal government. The following February, the City of Philadelphia purchases the land from its various owners. When the land was officially transferred to the city of Philadelphia, it comprised of 409 acres of “fast land” on League Island, 124 acres of marshland east of Broad Street, 67 acres of wetland west of Broad Street, and a 1 acre lot and wharf at the foot of Broad Street owned by a man named Joseph C. Harris.¹⁰

The Mayor of Philadelphia, Alexander Henry, offered the land to Welles, and negotiated a deal with railroad magnates and City Council to donate the land. Although the resolution passed at that time, it took six years before title was officially granted to the United States Government. This delay was due to a number of local and national factors.

Upon submission of a report by a group of Naval Officers, the island could begin its use as a Navy facility. However, two other cities, New London, Connecticut, and Narragansett, Rhode Island, were also vying to be chosen. The cities engaged in a national pamphlet war wherein each touted their own strengths and decried the shortcomings of the others. The two competing cities claimed that League Island was unfit as a Navy Yard due to its distance from the ocean, the freezing temperature of the water damaging boats, and its marshy land conditions. However, at the confluence of the Delaware and Schuylkill Rivers, League Island was the only choice among the three to be situated in freshwater, a crucial argument in light of the Navy’s transition to iron vessel construction. Local politics also prevented the League Island Navy Yard transition during Philadelphia Mayor Alexander Henry’s administration.¹¹ There simultaneous unrest in the political structure of the Southwark Navy Yard resulted in a number of arrests of Navy Yard employees.

Despite there being no official acceptance of League Island by the United States Government, ships began to dock at League Island as early as 1865. Congress finally voted to accept League Island in 1867, and the land was officially transferred on December 12, 1868.

9. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): 15.

10. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 88.

11. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 89.

Navy Yard at League Island

When the Federal Government acquired League Island, it was between 410 and 600 acres large and was surrounded by a mounted stone wall built to prevent flooding. 22 million cubic yards of fill were taken from dredged islands in the Delaware and Schuylkill Rivers to add more acreage and support future construction.

In the first years of the Navy occupying League Island, the Federal Street shipyard was still in operation. In 1872 Congress authorized permanent building at League Island, but ongoing activity at the Federal Street yard meant that development occurred slowly. Once the Federal Street yard was officially closed in 1876, League Island was able to expand unencumbered. A number of buildings were initially transported from the Federal Street Yard to League Island, including a ship house, sheer-legs, and a floating dry dock. However, on October 17, 1878 a storm greatly damaged the Navy Yard's holdings, destroying approximately 1,400 feet of the earthen embankment that surrounded the island as well as some of the Federal Street yard buildings. This storm, in addition to lack of funding for repairs from Congress, resulted in League Island almost shutting down.

The decade from 1880 to 1890 was one of reflection for the Navy, as many in high command felt that it would be unwise to start building from scratch for a second time. Although a boom of ship construction occurred for the U.S. Navy in the 1880s, the League Island Navy Yard was still too underbuilt to participate; rather, ships were assembled at other privately-owned yards along the Delaware River. However, the decision to construct a dry dock on the island in 1891 resulted in a boom of construction. These discussions were further set aside upon the start of the short-lived Spanish American War, during which Navy vessel support was a priority.

The building boom on League Island in the 1890s “intended to transform League Island into a major base for the support of large warships during the first decades of the twentieth century.”¹² This included sidewalks, utilities, living quarters, and the Reserve Basin. Funding continued through the Philippine-American war, 1899-1902. This status as a support base was further validated when the League Island Navy Yard was selected as headquarters of the Fourth Naval District in 1903. Perhaps to solidify their place, power, and brand, League Island Navy Yard was renamed the Philadelphia Navy Yard in 1908.

Despite this building, there was little funding allocated to the upgrading of shipbuilding capabilities. Although ships were commissioned at/by League Island, they were built elsewhere on the eastern seaboard, and their transport to League Island caused groundings and collisions.

The leadership of the Navy Yard in the early twentieth century reflected the Progressive political principles of the time. A hierarchy of managerial staff was established to more smoothly operate the site.

In the first decades of the twentieth century, building campaigns also catered to the increasing Marine Corps presence. In particular, between 1901 and 1912 a 40-acre large the Marine Corps Reservation developed. The Marine Corps Advance Base Training School was relocated to League Island from Newport.

In June 1914, League Island received approval to build its first shipbuilding ways. Two months later, World War I broke out in Europe.

12. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia*, Philadelphia, Pennsylvania, Volume 1 (West Chester, PA: John Milner Associates, 1994): 18.

World War I

The First World War further catapulted the Philadelphia Navy Yard into ship production and support operations. In February 1914, Congress gave \$200,000 to construct the yard's first shipbuilding station. During this time, the Navy Yard accommodated a 12,000 person workforce to meet up with the demands of wartime. The Yard expanded to otherwise undeveloped areas of League Island, adding a 350-ton hammerhead crane, shipways, dry docks, the first Receiving Station, and even a German internment camp. In June 1916, the first ship built on League Island was completed.

In order to appear as not preparing for imminent war, the Navy reduced funds for overhaul on League Island, and refused to purchase safety supplies for its laborers. However, the yard was repairing Latin American ships as well as domestic ones.

By 1916, preparedness activity was underway. Between 1916 and 1919, the League Island Navy Yard underwent a \$25 million expansion that was the brainchild of Captain Josiah McKean. With a budget twice as large as what was spent between 1876 and 1916, the plan divided League Island into a navy base on the east side of Broad Street and a shipyard on the west side of broad street. Called "The New Yard," this westernmost portion would contain a shipbuilding factory complex.

Aviation on the Navy Yard

Per Captain McKean's plan, the east side of League Island would come to contain aviation infrastructure. In February 1917, the Marine Corps founded the First Marine Aeronautics Company. That same year, the yard was selected as the site of the Naval Aircraft Factory; arguably considered the most important development on the yard during World War I, it is the only government-owned aircraft factory in the country.¹³

The 47-acre Naval Aircraft factory underwent ongoing expansion and development, comprising consistently over 25% of the civilian work force on the yard by 1926.¹⁴ In addition, the Navy at this time partially filled in the Back Channel in order to create a landing field, adding 125 acres of land to the "island." This field was dedicated as Henry A. Mustin Aviation Field in 1926.

Between the Wars

After World War I, the Navy yet again reevaluated its purpose on League Island, ultimately decided to serve as a base for ships in reserve, ship repair yard, and primary shipbuilding yard.¹⁵ In 1919, the Philadelphia Navy Yard received \$3.1 million for "Improving and Equipping Navy Yard for Construction of Ships."¹⁶ Although work may have slowed and employment decreased in the 1920s and 1930s, the amount of building that occurred on the Navy Yard would have not shown it. In 1921, built fabric on the yard consisted of 549 buildings, 21 miles of railroad track, three dry docks, and 150 decommissioned ships.¹⁷

13. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): 20.

14. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 154.

15. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994): 21.

16. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001) 142.

17. Douglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania,*

For the Sesquicentennial Exhibition hosted in nearby League Island Park, the grounds of the Navy Yard were improved, and the gates were replaced with what stands today. In addition, historic ships were restored on site or brought to the Navy Yard.

As a signer of the Five-Power Naval Treaty in 1922, the United States was required to dispose of capital ships. This resulted in a scrapping program that made up a bulk of the workforce on the Navy Yard between the first and second world wars. “Conversion and scrapping of long-obsolete capital ships greatly benefitted the Philadelphia Navy Yard by providing jobs, reducing overhead costs for storage of large decommissioned ships, and clearing the facility of the useless relics of the Spanish-American War era.”¹⁸ Despite the Great Depression beginning in October 1929, employment on the Navy Yard due to this scrapping effort increased between 1930 and 1932. However, by the mid-1930s the Navy Yard was feeling the effects of the economic crisis.

New Deal money, though arriving later than anticipated, also brought activity to the Navy Yard. Workers cleared and improved grounds, and built the Naval Hospital in League Island Park. Additional legislation provided funding for new ships and cruisers.

World War II

When World War II began, activity at League Island increased as a state of limited national emergency was declared and ships were recommissioned for neutrality patrols across the east coast. The yard also repaired vessels sent to Great Britain as part of the lend-lease program.

During the United States’ involvement in World War II, The Philadelphia Navy Yard had a peak employment of 47,000, constructed 53 ships and repaired about 1,200 others. The yard also manufactured various wartime materials, including life jackets, boats, and propellers. According to the yard’s building inventory, 99 buildings and structures were constructed on the yard between 1939 to 1945.

One new operation housed at the Navy Yard during this time was the Naval Air Material Center, which oversaw the Naval Aircraft Factory, the Naval Aircraft Modification Unit, the Naval Air Experimental Station, and the Naval Auxiliary Air Station at Mustin Air Field. In 1944, the NAMC was moved outside of Philadelphia, in a way foreshadowing the decline of the yard in the decades to follow.

Post-World War II

By the end of World War II, the island comprised 1,029 acres and supported an immense number of workers and projects. In the years following World War II, employment steadily fell from 47,000 to the federally mandated maximum of 9,000 employees by eliminating 1,000 jobs per week. The yard did not construct new ships, instead repairing and dismantling vessels.

The Korean and Vietnam wars each briefly increased activity at the yard, with each lull period between “remained overhaul, repair, and modernization of ships to “fight” the Cold War.”¹⁹ Although employment was nowhere near as high as during World War II, to say that operations ceased would be incorrect.

During the Korean War, the Navy Yard expanded their research and development arm. Even after the *Volume 1* (West Chester, PA: John Milner Associates, 1994): 20-21.

18. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001):151.

19. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 198 .

cease-fire, work remained consistent. “The period from 1958 to 1962 was one of the most productive peacetime eras in the history of the local naval shore establishment, with every dry dock, shipbuilding ways, and pier holding a ship.”²⁰

With President Johnson increasing United States involvement in Vietnam in the early 1960s, “League Island entered one of its most active periods of operations and highest employment levels since the end of World War II.”²¹ Ships docked at League Island since World War II were recommissioned, and others were brought down from the newly-closed Brooklyn Navy Yard – a facility that was thought to be superior to League Island since its inception.

By this time, aviation operations were beginning to be discontinued and gradually phased out. Mustin Airfield closed in 1963. With the rights signed over, the Philadelphia Naval Shipyard constructed 350 housing units and community areas for employees and their families.

Ultimately, nationwide antiwar sentiment decreased the budget for naval activities. With each subsequent budget cut, a “culture of closure” dominated Navy Yard activities from 1969 to 1996.²² By the 1970s it was recommended for the Navy Yard to be downgraded to a Naval Station rather than a Navy Yard. During the 1980s the Navy Yard continued its repair operations as part of the Ship Life Extension Program.

In 1988, the Base Realignment and Closure In 1991, the Philadelphia Naval Shipyard and Naval Station were recommended to be closed as part of the BRAC (Base Realignment and Closure) program. In September 1995, the shipyard officially ceased operations.

The Navy Yard in the 21st Century

In 2000, the PAID, under the umbrella of the Philadelphia Industrial Development Corporation gained title to the Philadelphia Navy Yard. Robert A. M. Stern Architects completed a master plan for the site in 2004.

One of the first tenants to occupy the Navy Yard was Urban Outfitters. Using Federal Historic Tax Credits to rehabilitate buildings in the historic core, the company now owns and leases 11 buildings at the yard. Other notable tenants include Tasty Baking Company (2010), GlaxoSmithKline (2013), Penn State University, and Liberty Property Trust (2004).

In 2013, the master plan was updated. Work is currently underway to transition the Navy Yard from its earlier vision of a suburban office park to one of mixed commercial, industrial, shipyard, and potential residential development. Following the guidelines set forth in the master plan, looking into residential in the historic core, allocating land for the Philadelphia regional port authority, expand corporate and light industrial development, and grow navy operations.

As part of this master plan, Mustin houses have been demolished, as well as contributing properties in the National Register Historic District (as of 2012).

20. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 200.

21. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 203.

22. Jeffery M. Dorwart, *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age* (Philadelphia: University of Pennsylvania Press, 2001): 206.

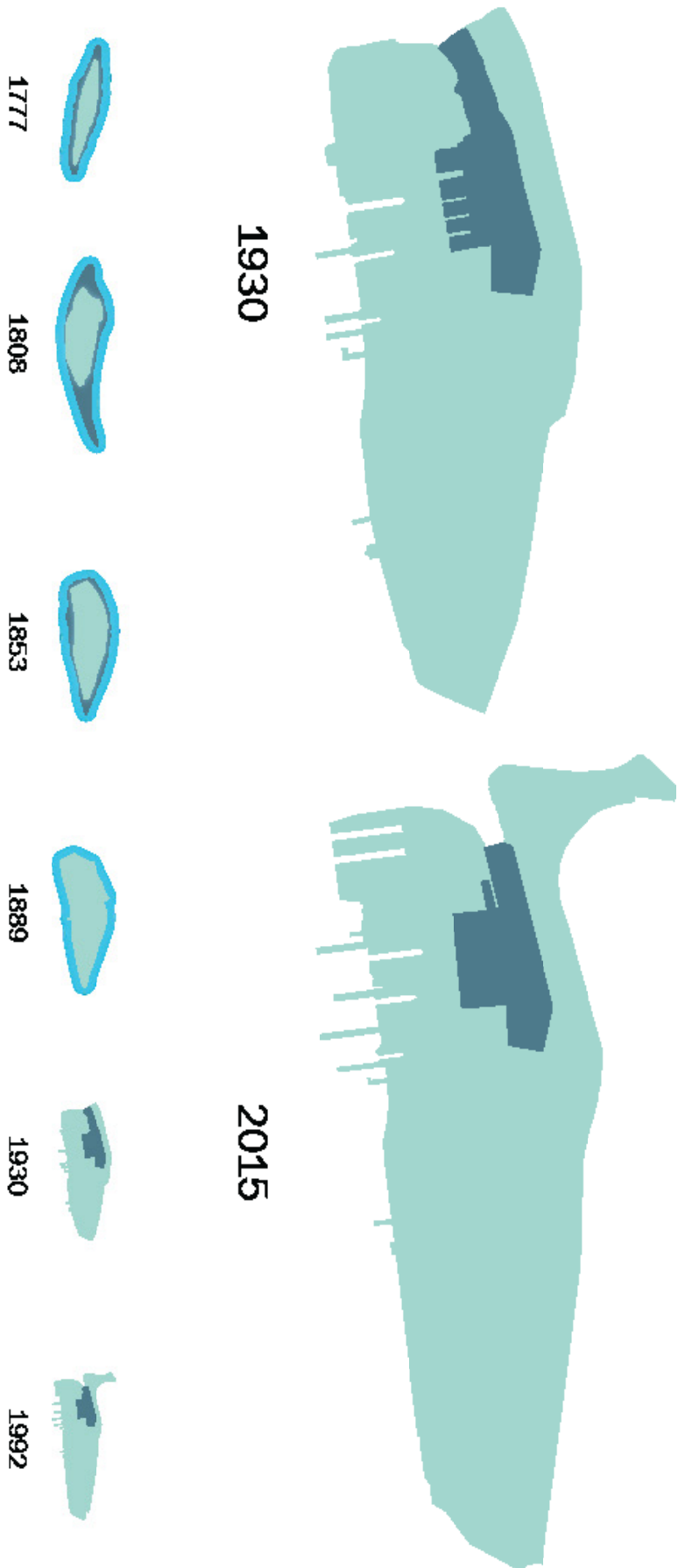
Timeline

Year	Event
ca. 1682-1830s	League Island used as farming land. It is included in Peter Lindstrom's 1654 Map of New Sweden.
ca. 1777	By this time, League Island is owned by 5 men.
1798	The Department of the Navy is established and acquires 11 acres of land on the Delaware River at Federal Street to use as a Navy Yard.
1835	League Island is bought by Charles Wharton. Upon his death, the island is seized by a life insurance company. It is purchased by the City of Philadelphia in anticipation of its use as a Navy Yard.
1862	Secretary of the Navy Gideon Wells called for the establishment of a Navy Yard which could assemble ironclad warships.
June 1862	Philadelphia City Council passes resolution to authorize transfer of League Island to the U.S. Navy. A nationwide search is conducted to find the most suitable area on the east coast.
July 1863	President Lincoln signs legislation granting permission for the Navy to accept title to League Island.
1868	The Department of the Navy purchases League Island from the City of Philadelphia for \$1.
1871	Congress authorizes the construction of permanent buildings at League Island.
1874	Structures are transported from Federal Street Navy Yard to League Island.
1876	Federal Street Navy Yard closes.
1878	A storm in October greatly damages the Navy Yard.
1888	First dry docks are built.
1899	One mile of trolley tracks are built.
1899	First major building campaign begins.
1903	Philadelphia Navy Yard is established as the headquarters of the Fourth Naval District.
1904	Rusting civil-war era monitors are removed from the Back Channel and sold.
1906-1914	Philadelphia Navy Yard is largely developed as Reserve and Marine Corps Station.
1908	League Island Navy Yard renamed Philadelphia Navy Yard.
1909	Back Channel is redesignated as Reserve Basin.
1910	The Aero Club of Pennsylvania builds hangar and flying field on the east side of League Island.
1917	Philadelphia Navy Yard is selected as the site of the Naval Aircraft Factory (NAF). The same year as its establishment, Congress authorizes an expansion which quintuples the size of the plant.
1920-1936	Lull in activity. NAF shuts down manufacturing and operations, instead serving as a repair station for the Navy's air fleet.
1923	The Back Channel east of Broad Street is filled in for Mustin Field. It is dedicated in 1926.
1937-1941	The Navy Yard undergoes a period of expansion; the Marine Corps continue to use the site for training.

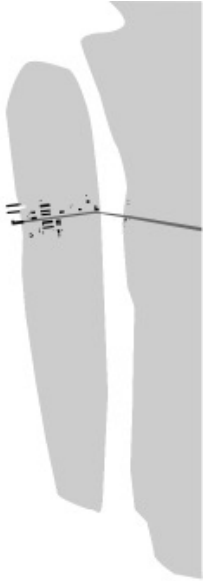
Year	Event
1939	The Navy Yard serves as a repair shop for destroyers dispatched on neutrality patrols or sent to Great Britain as part of the lend-lease program, and also overhauled and converted fleet auxiliary vessels.
1939-1945: World War II	Philadelphia Navy Yard builds 53 ships, and repairs/converts/overhauls 1,200 others; produces \$40 million of industrial products, and employs 45,000 people.
1943	Naval Air Material Center is established.
1945	The year World War II ends, employment drops from 45,000 to 12,000. The following year, jobs are continued to be cut by 1,000 per week until employment reaches the federally mandated maximum of 9,000 employees.
1945-1955	Navy Yard work included repair, overhaul, conversion, and dismantling ships. The Navy Yard also ended aircraft design and production work.
Korean War	The Navy Yard experiences one of the most productive peacetime periods in its history.
1963	Mustin Field closes.
1970s	Navy Yard called to be downgraded to a Naval Station
1980s	Navy Yard participated in Ship Life Extension Program
1991	The Philadelphia Naval Shipyard is recommended to be closed as part of the Base Realignment and Closure (BRAC) program
1994	Section 106 review, as required for the closure of the site, produces a cultural resource survey.
1995	Philadelphia Naval Shipyard is renamed the Philadelphia Naval Business Center.
1995	Philadelphia Navy Yard officially closes.
1997	Philly Shipyard, now known as Aker Philly Shipyard, is founded and resumes activity at the yard. From 1997-1999 they rebuild the yard's shipbuilding site.
1999	Philadelphia Naval Shipyard listed in the National Register of Historic Places.
2000	PIDC acquires title to the Navy Yard.
2002	PIDC enters into an agreement naming Liberty Property Trust and Synterra Partners as master developer for a 72-acre portion of The Navy Yard lying adjacent to the historic gateway and primarily east of Broad Street.
2004	Robert A. M. Stern architects draft a master plan for the Navy Yard.
2006	Urban Outfitters moves to the Navy Yard and rehabilitates buildings. They are currently one of the largest stakeholders, owning upwards of 10 buildings on the site.
2010	Penn State University builds a satellite campus at the Navy Yard.
2012	SEPTA discontinues route 71 service from AT&T Station to the Navy Yard; PIDC implements shuttle service from AT&T Station and from 10th and Filbert Streets in Center City.
2013	Robert A. M. Stern's master plan is revised.

Evolutionary Diagrams

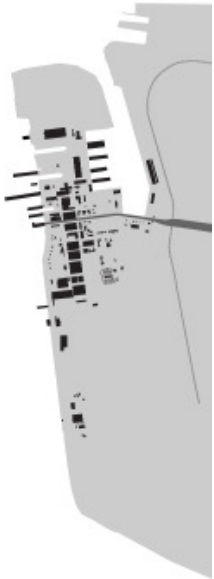
LEAGUE ISLAND EVOLUTION



CONSTRUCTION EVOLUTION



1897



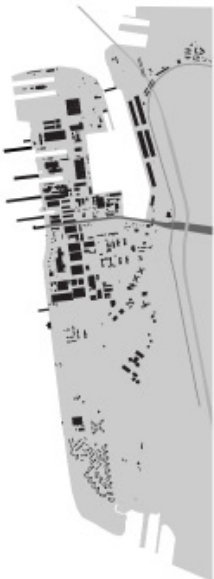
1930



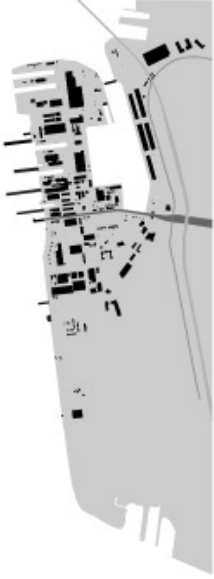
1959



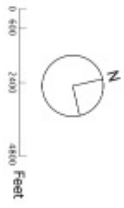
1975



1992



2015



Construction



Broad Street



Rail Road



I-95 Express Way



Enabling Environment

The environment that makes preservation and development possible at the Navy Yard is a combination of Federal and City regulations, paired the surrounding environment and PIDC's strategic plans.

Deed Restrictions

When the site was decommissioned and sold by the Federal Government, there were deed restrictions placed on the buildings which prohibited future residential development. PIDC currently is in the process overturning this restriction, and residential development has become central to their developmental mission moving forward.

National Register Historic District

Part of the Navy Yard is designated as a National Register Historic District, including 233 buildings, with 28 structures listed contributing. This offers little protection, but ensures development undergo section 106 review. We however see a large number of structures that have been demolished since the yard was decommissioned, many under PIDC, which raises a number of questions about the type of development happening on the site. The district has also made the use of preservation tax credits possible, notably in the reuse of the buildings now comprising the Urban Outfitters Campus. Moving forward, preservation efforts will likely rely on these credits.

Preservation Easement on Building 100

The Preservation Alliance holds a donated preservation easement on building 100, not only ensuring the future of this building, but affirming that preservation is a part of PIDC's vision of the Navy Yard.

ENVIRONMENTAL REGULATIONS AND LIMITATIONS

As a constructed peninsula, with the water table is less than 10 feet below the surface, building is expensive on the site. The site is also within the 100-year floodplain, which further limits the possibility of residential development. Noise Pollution is also a problem on the site due the the nearby airport and industry, particularly over southern half of the Navy Yard. This sound pollution has been measured at levels incompatible with residential and recreational development. To make these types of development possible, FAA soundproofing standards must be met, which further increases costs.

Zoning

The site outside of the Navy Yard is zoned for I-1, I-2, and I-3, or light, medium, and heavy industrial respectively. This zoning allows for great density (up to 500% in I-3 and I-2) and minimal requirements for open space, creating large blocks of substantial buildings. These restrictions become slightly more strict when in proximity to residential development, but it is unclear how nearby the development would have to be for these requirements to kick in.

Philadelphia 2035 District Plan

The Philadelphia 2035 plan for the Lower Southern District deals largely with the Navy Yard, and sees the yard as the potential economic driver for this part of the city. It includes extensive recommendations for development, and highlights that the district has three times the number of employees who work in the district than it does residents who live in it. The recommendations include the extension of the Broad Street Line, an update of the Master Plan (which was completed in 2013), increasing marketing and awareness of the site, including more events, expanding municipal amenities including police and fire, and including residential development.

PIDC's Autonomy as a Public-Private Partnership

PIDC as the corporate development arm of the City of Philadelphia holds a lot of power in the public and private sectors. As the primary owners of the site, and as the stewards of everything from streets, parks, garbage, and development, PIDC has great flexibility in their management of the site. PIDC has also made preservation a part of their mission, and hopes to include more successful adaptive re-use projects in the future.

Proximity to FDR Park

FDR Park, which is on both the National and Local Register of Historic Places, nominated as a landscape and for several individual buildings, offers an important potential physical and programmatic linkage.

Clients and Stakeholders

The Navy Yard has a small group of vested stakeholders, making gaining a sense of public opinion difficult. These stakeholders include:

1. PIDC
2. Aker Philadelphia Shipyard/Philly Shipyard
3. Urban Outfitters
4. Liberty Property Trust
5. US Navy
6. Penn State
7. Veterans Stadium Neighbors Civic Association
8. Friends of Historic FDR Park
9. 26th Republican Ward Resident Community Organization
10. The South Philly neighborhood at large
11. Current and former employees
12. The City of Philadelphia
13. The City Council
14. Federal Government (This district is 45% federally owned)
15. The Preservation Alliance

Users

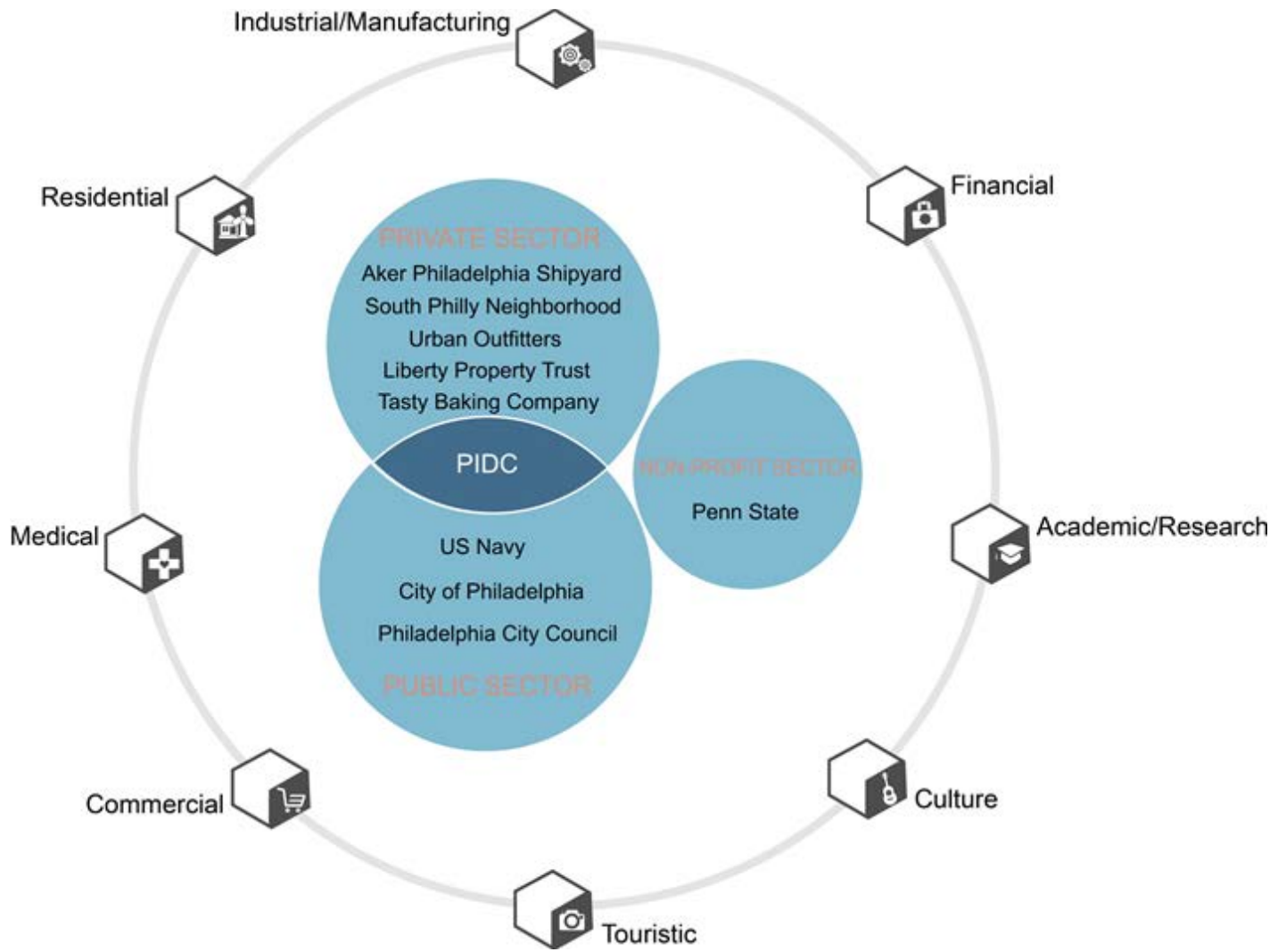
Tenants (current and future)

Visitors

Cultural event users (runners, baseball players, cider festivals)

Medical

The image on the following page shows the relationship between these various factors.



Statement of Significance/Typology of Values

STATEMENT OF SIGNIFICANCE

The Philadelphia Navy Yard possesses important cultural, natural, and use values, and has been a successful site of adaptive reuse and industrial redevelopment in the last two decades. Once a separate island, then a workplace for thousands of Philadelphians, then a white elephant, the Navy Yard has seen a stunning resurgence, engineered by the private-public partnership group, PIDC. Many historic buildings and landscape elements remain; many others were destroyed as part of the redevelopment. The site remains multi-use today, with industrial, commercial, and academic uses represented. The site is significant as an industrial district, not for individual buildings. Today, the Navy Yard perches at a crucial juncture: PIDC has purposefully mixed new construction and adaptive reuse of the historic core and has plans to return residential development to the mix.

The site's period of significance is 1868-1996, but within that contains three eras of significance that coincide with growth and decline in building campaigns and overall identity: 1868-1914, 1914-1945, 1945-1996. From its founding in 1868 until the start of WWI in 1914, the Navy Yard was a naval base with support provided to the Marine Corps. From 1914 until 1945, the Navy Yard expanded drastically, both in terms of physical building stock and materials production, to supply the United States with aircraft and ships through two World Wars. Beginning in 1946, the Navy Yard refocused its work from supporting the war effort to ship repair and consequently entered a period of slow decline. In 1991, the Base Realignment and Closure program announced the forthcoming closure of the Philadelphia Navy Yard, and shipyard workers completed their final ship repair in 1996. In 2000, PIDC purchased the site and began a major redevelopment and reuse project.

Environment

Once an island at the confluence of the Delaware and Schuylkill River, the Navy Yard is now a peninsula with an artificial waterfront, sculpted from infill to converge with mainland Philadelphia. Its site has been heavily managed, first by the Navy, and now by PIDC. With the obvious exception of the parade ground, which has always been undeveloped, many of the open spaces and parks have been created by the demolition of historic buildings, including contributing and non-contributing resources within the National Register historic district. However, elements of a non-managed, natural environment still exist on the site, such as the thick field of marsh grass growing next to Building 611. Wildlife, such as deer, still inhabit the campus. A school of goldfish have colonized the basement of Building 624. These elements lack individual significance, but represent the overall wildness of the site. And although the site's original environmental context has changed drastically, its unbroken connection to the waterfront has remained constant throughout the site's history. This union is a defining characteristic of the Navy Yard. The waterfront is the sole reason for the historic, built form of the site, as well as the driving natural characteristic that will attract future site development.

Use

A site's identity is always shaped by its use. The Navy Yard's current users are a mix of Philadelphians; from blue-collar welders up to millionaire executives. At present, the Navy Yard is a commercial, industrial, and military site. However, PIDC hopes to add residential uses to the campus within the next few years; this future 24-hour, mixed-use nature of the site will undoubtedly alter the identity of the Navy Yard.

While underutilized, the site also features multiple spaces for events, including the parade ground and 611, which is occasionally used for Philadelphia Horticultural Society events. The Navy Yard also offers unstructured recreation spaces, primarily the waterfront which includes a path ideal for walking.

Heritage

The Philadelphia Navy Yard is, at its heart, a well-established military and industrial site, and the buildings and vessels remaining on the site convey this identity. Its industrial maritime uses continue into the present, with an active shipyard occupying the southern end of the site, and a planned seaport intended for the northern end. Heritage buildings on the site include both former houses (Admiral's Row) and industrial edifices such as warehouses. According to the John Milner Associates Cultural Resource Survey of the site, architectural resources include "Georgian Revival, Victorian, Beaux Arts, Italianate, Second Empire, Renaissance Revival, and modernistic styles."¹ There is a National Register Historic District encapsulating 198 contributing buildings and structures. Future development the site must include a careful consideration of possible uses for the remaining historic fabric, which remains a dominant physical presence, in ways that do not diminish its historic value.

Culture

One of the most defining characteristics of the Navy Yard is the way that it developed separately from the rest of Philadelphia; the campus looks nothing like other areas of the city. The Navy Yard's cultural values are representative of the manner in which it developed and thrived as its own community. The active shipyard remains an ever-present reminder of the continuing industrial nature of the site. The URBN campus speaks to a new emerging culture: that of a population seeking an "it factor" in the places they choose to work, reside, and spend time. As a former military base, the Navy Yard also maintains separation from the rest of Philadelphia, and its relative isolation was a driving factor in the original selection of its site. Today, the doors of the Navy Yard are for the first time mostly open to the public (the Navy still maintains some operations on the eastern edge of the campus). The process of integrating the site with the City will prove a unique challenge, and the culture of the site is certain to continue to change as outside influences penetrate the site.

Economy

The economic value of the Navy Yard is one of the most practical and most highly considered values at this moment in the Yard's trajectory. From a real estate standpoint, the site and buildings on it have extremely high monetary value. From an employment standpoint, the Navy Yard supports 12,000 local jobs. However, its economic potential is staggering—according to the 2013 Master Plan, the site has the potential to support "up to 13.5 million square feet of development, 30,000 people, and over \$3 billion in private investment."² However, immediate economic value must be tempered by consideration of the importance of the preceding values to the site, to ensure long-term economic sustainability. The Navy Yard must thrive economically to be truly successful to its stakeholders; however, this will not be achieved without maintaining, and enhancing, the unique values of this cultural landscape.

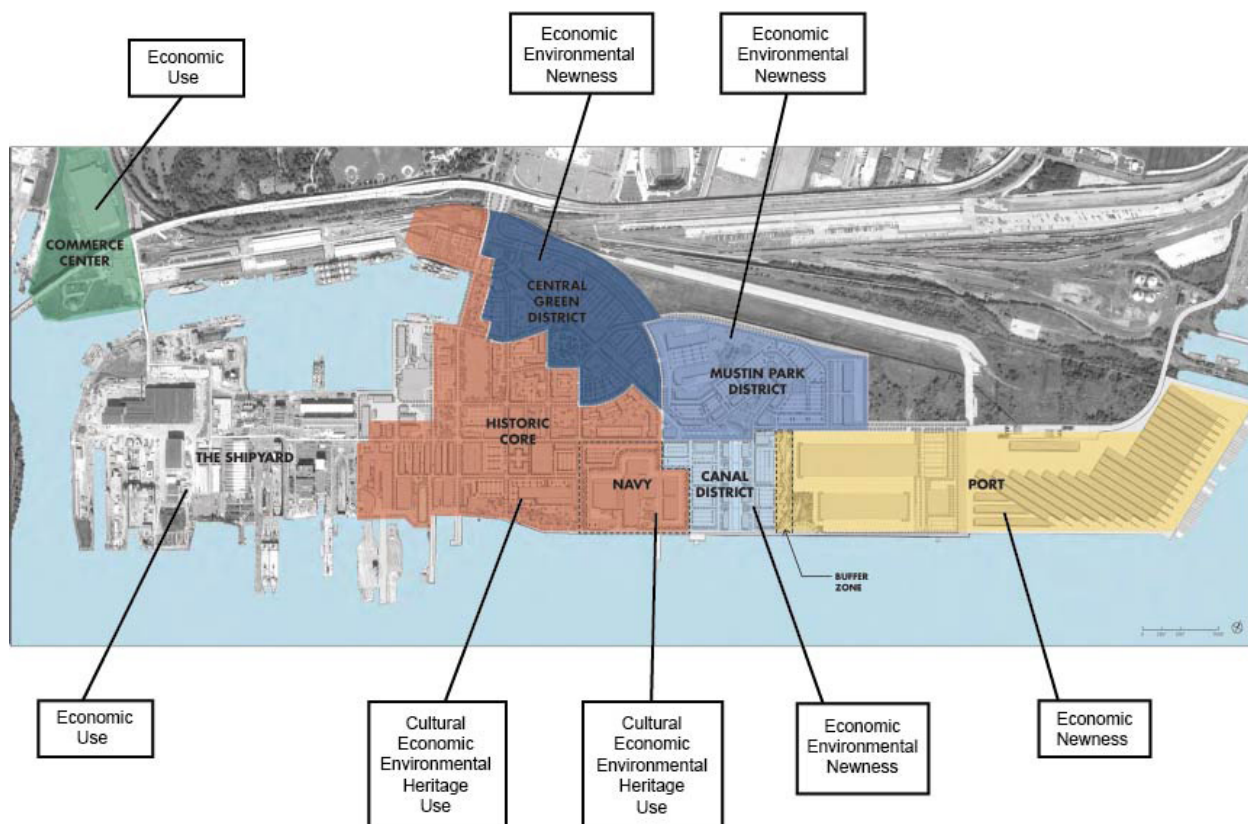
1. JDouglas McVarish et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1* (West Chester, PA: John Milner Associates, 1994):Abstract.

2. PIDC, "About the Campus: Master Plan," 2018. <http://www.navyyard.org/about-the-campus/master-plan/>

VALUES

The Navy Yard has always developed in an organized, spatially-segregated fashion. As a self-contained campus on which sailors and marines lived and worked, there was a natural development of distinct zones categorized by use: ship construction and repair along the coast, industrial buildings for the northern Naval Aircraft Factory, an airfield, residential sections for officers and enlisted men, and a marsh north of the campus. Because of this zoned nature of this development, many of the values associated with the Navy Yard are limited to specific, geographical locations on the campus—certain zones have unique associations. Sequential development continues today, with the 2013 Master Plan identifying eight unique, intended districts on the Navy Yard site.³ These will incorporate offices and residential (both in new buildings and adaptively reused historic buildings), the existing shipyard and manufacturing areas, and a new seaport at the eastern edge of the property.

The diverse uses and values of the Navy Yard are an interconnected web contributing to the identity of the entire cultural landscape.



The above map displays the eight distinct zones identified by PIDC in the 2013 master plan. We have identified their key values, which are further described in the sections below.

Natural/Environmental Value

The natural aspects of the Navy Yard have been managed for hundreds of years. In its earliest domesticated form, the Navy Yard site was League Island, a 410-acre parcel of farmland. In 1868, the site passed to the federal government. In the years following this acquisition, the Navy infilled the marshes between League Island and the Philadelphia coast, expanding the site to 1,029 acres.⁴ Though the yard

3. Robert A. M. Stern Architects, *The Navy Yard Master Plan 2013 Update*, 2013, 12.

4. Mcvarish, Douglas, "Philadelphia Naval Shipyard Historic District," 1999, Section 8 Page 2.

began as a general naval base, it expanded into shipbuilding activities during WWI and aircraft construction during WWII.

Today, the site is a peninsula, with the fresh water of the Delaware River surrounding the Navy Yard on three sides. The riverside location of the Navy Yard drove its original development and is a major attractor of future development. The PIDC-era demolitions have increased the suburban feel of the Navy Yard, contributing to a decided lack of urbanity not present elsewhere in Philadelphia. While the site's interaction with the water has also been heavily managed, there are remaining areas of marshland that hint at earlier plant life that may have originally populated the site.

Use Value

While the Navy has withdrawn from a significant portion of the site, Philadelphia's Navy Yard remains an important military and shipbuilding center. Since the PIDC took control in 2000, new uses have also appeared on the site, with the arrival of 143 commercial tenants.⁵ PIDC and Urban Outfitters have their offices on the site, and the Liberty Property Trust continues to develop office space in new construction. In the future, residential uses may be reintroduced to the Navy Yard.

Heritage Values

The Philadelphia Navy Yard is important locally and nationally for its military history. George Washington signed the U.S. Navy into existence in Philadelphia, and the city produced the first ship in the American Navy. In 1868, the federal government purchased League Island, the site of the Navy Yard, from the City of Philadelphia for the token transfer sum of \$1. Expansions during WWI positioned the Philadelphia Navy Yard as a major producer of ships. During WWII, manufacturing focused largely on naval aircraft, with the Navy Yard functioning as the only government-owned aircraft manufacturer in the United States.⁶ Production at the Navy Yard steadily decreased after WWII, with employment dropping from 47,000 to 9,000 people. In this post-war era, the Navy Yard began to position itself as a repair facility and ship graveyard. Until 1996, the Navy Yard served as an important center of Philadelphia's manufacturing jobs.⁷ Its closure mimicked the decline of blue collar manufacturing industry throughout the city and nationwide. A shipyard retains operations on site today, and the Navy continues to occupy a small portion of the yard. The military, maritime, and industrial contexts of the site remain strong in the present day; numerous ships flank Broad Street (the main artery into the Navy Yard), and the detached, 19th century residences that comprise the Marine Reservation and Admiral's Row, the industrial architecture that permeates the site, and the spacious, suburban-esque landscape of the Navy Yard speak strongly to its historic development separate from that of Philadelphia's dense urban core.

The interventions of PIDC have also shaped the heritage values of the site. Twentieth century maps reveal numerous buildings since demolished to make way for the new vision of the Navy Yard. As we continue our studio research, the rationale behind the demolitions (driven by type, condition, or location) may become clearer and provide additional insight into the City's goals for the Navy Yard.

Newness Value

Despite buildings and a site dating back to the mid-1800s, certain areas of the Navy Yard are in part defined by their newness value. Urban Outfitters is perhaps the most well-known new occupant of the

5. "The Navy Yard Walking Tour and Visitors Guide", *The Navy Yard Today*, pg. 2.

6. United States Department of the Interior, National Park Service, *Philadelphia Naval Shipyard Historic District*. National Register Nomination, Section 8, Page 4.

7. Ibid, Section 8, Page 8.

site; 12 years ago, they bought six historic buildings and renovated them and the surrounding site.⁸ The result is an exciting corporate campus that includes installation art, indoor koi ponds, a gym, a café, and office buildings for each of the company's clothing brands. While the outdoor site retains historic elements, many of these have been imaginatively modernized. For example, train tracks have become pathways, and a flooded drydock has become the arresting central feature of a dog-friendly park, replete with greenery and colorful seating. The appeal of the site is the artistic blend of historic and modern material. Part of PIDC's hope for the Navy Yard is that additional companies will creatively reuse the rest of the existing building stock.

The demolition of existing buildings on the site created open lots that will soon disappear beneath new construction. These lots exist both within and without the site's historic core. Sections of the Navy Yard have been renamed as part of the rebranding effort, recasting the Yard's identity as a burgeoning office and residential site. A large new section of office/commercial buildings has been erected along the northern edge of the campus. The new building stock includes an innovative design from the Bjarke Ingels Group that possesses striking white walls and black windows, with a curved and tilted façade. More creative new construction is proposed. Additions to the site will be a major component of a new era in the decommissioned Navy Yard.

Cultural Value

According to Merriam-Webster dictionary, culture is "the beliefs, customs, arts, etc. of a particular society, group, place or time."⁹ Ultimately, culture has to do with the way a group of people understands, interacts with, and influences a location. The Navy Yard began as a military and industrial stronghold. For a hundred and fifty years, residents of Philadelphia understood the site within this context. However, since the closure of the Navy Yard, the culture of the site has changed. The addition of Urban Outfitters brought a different user into the site—millennials. The Navy Yard has become a hip locale. While earlier cultural values are still representative of much of the site, with the shipyard industry representing the maritime/working class culture, Urban Outfitters and the new office zone represent an emerging trend toward more a more hip and luxurious way of living and working in the Navy Yard.

Economic Values

The Navy Yard is located on a waterfront parcel not far from I95, the airport, and Center City. It possesses tremendous economic value to its stakeholders, which include PIDC (the owners of the site), the City of Philadelphia, as well as the site tenants and individuals who work at the Navy Yard. The site's human capital includes twelve thousand workers—a higher number than "when [the Navy Yard's] closure was announced in 1991."¹⁰ These individuals run the gamut professionally, and include Navy employees, shipyard workers, and white-collar Urban Outfitters personnel. Any future site interventions will have an effect on the business of the various companies who are headquartered in the Navy Yard. The site's most crucial economic value, at this stage, lies in its potential for development. As PIDC makes plans to renovate existing edifices and build new ones, they must by necessity consider options that provide a reasonable economic return—and seek to find tenants who increase the public exposure of the Navy Yard for economic gain.

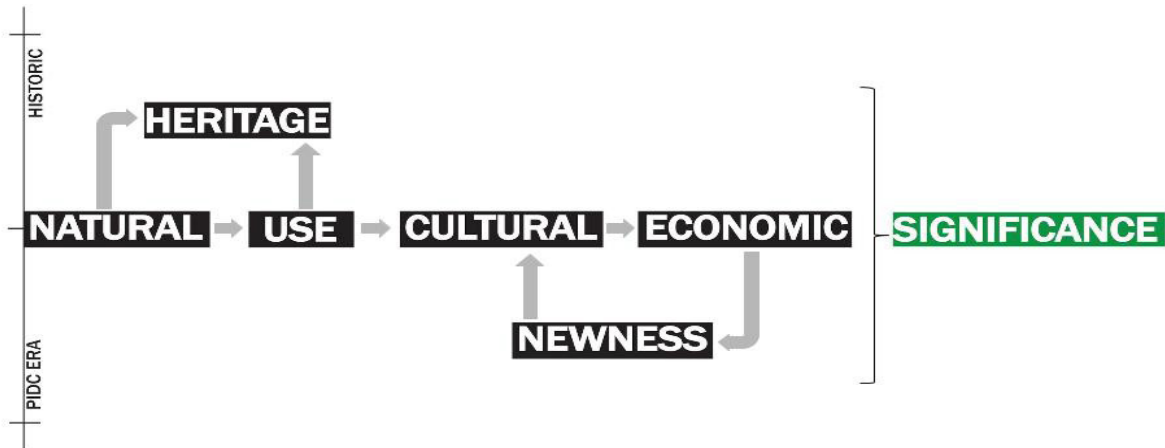
A GRAPHIC INTERACTION OF VALUES

8. Colin Woodward, "The Coolest Shipyard in America," *Politico Magazine*, July 21, 2016. Accessed September 23, 2016, <http://www.politico.com/magazine/story/2016/07/philadelphia-what-works-navy-yard-214072>.

9. Merriam-Webster, s.v., "Culture" accessed September 23, 2016. <http://www.merriam-webster.com/dictionary/culture>.

10. Woodward, "The Coolest Shipyard in America."

VALUES: TYPOLOGY



17

As shown in the diagram above, the natural values of the site drove its original use and the construction of heritage buildings. Heritage value and use value feed each other, with the buildings housing the uses, and the uses demanding specific building types. Today, the Navy Yard possesses a combination of both historic and PIDC-era use and natural values. PIDC's interventions have introduced newness value to the site. All of these values, together, form the cultural value of the site—the way the Navy Yard is understood and interpreted by its stakeholders and by Philadelphia citizens. The interactions of the heritage, natural, use, and newness values together comprise the economic value and potential of the site. As PIDC continues to spend money on the development of the Navy Yard, the newness value of the Navy Yard will increase, as will the Yard's cultural values. All of the site's values together comprise its significance.

Assessment of National Register of Historic Places and Integrity

The Philadelphia Naval Shipyard was listed as a historic district in the National Register of Historic Places in 1999. At the time of nomination, the historic district contained 264 contributing and 57 non-contributing resources. Since 1999, 64 contributing and 10 non-contributing resources in the historic district have been demolished by PIDC.

There is also a perpetual covenant held by the Pennsylvania Historical and Museum Commission for the Navy Yard Historic District. This agreement was executed in 1997 as a result of the property's transfer out of Federal ownership. All changes or alterations to buildings and property within the covenant zone are subject to review by the Pennsylvania Historical and Museum Commission and adhere to a set of guidelines. There is also a Programmatic Agreement for the Navy Yard which governs future Section 106 consultations.

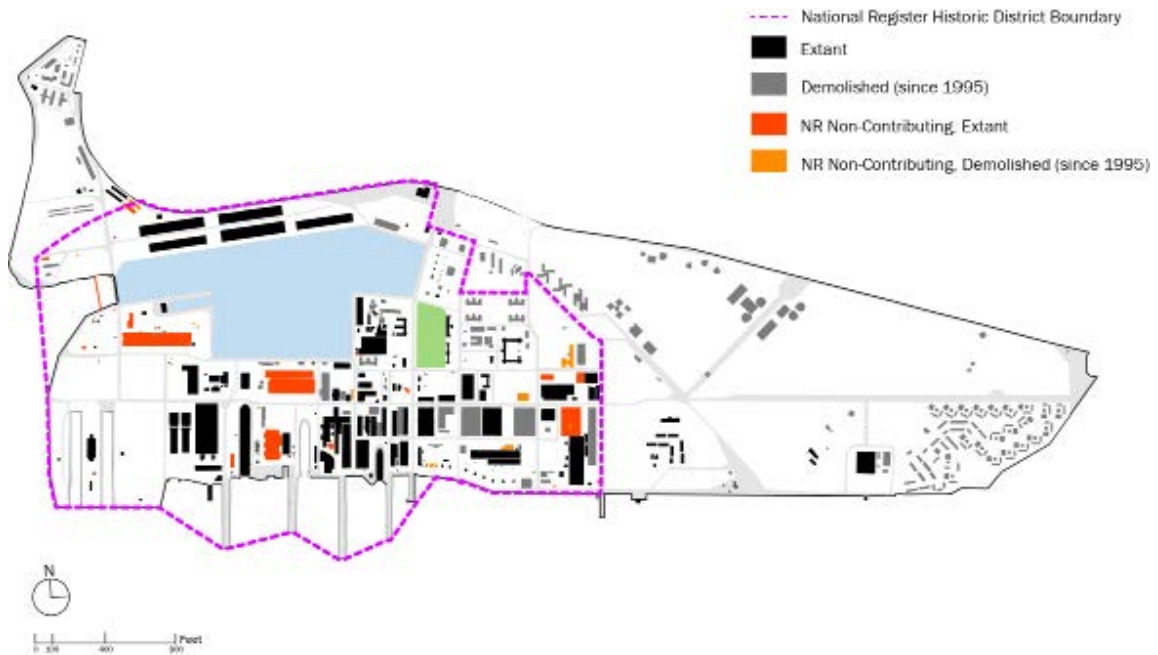
The following map adapted from the Pennsylvania Historical and Museum Commission (the Commonwealth's SHPO) shows in those buildings which have been demolished in grey, and extant structures in black. The fuchsia dashed boundary delineates the National Register Historic District.



Of those buildings which have been demolished, a large number were contributing to the National Register Historic District.



There are a fewer number of non-contributing structures that were demolished.



The majority of structures which were demolished were non-listed structures within and outside the National Register Historic District.



Overall, new construction has replaced the space of non-listed structures or previously vacant lots. It is unclear why so much demolition has occurred in the National Register Historic District with nothing replacing it. It is also unclear what the SHPO's oversight is on these demolitions.



Buildings 83, 624, and 611 are of contributing significance and high integrity. Although their built fabric and massing have remained intact from their time of construction, through the closing of the shipyard, to the present, their use at the Naval Shipyard (warehouses and storage) was less significant than other structures.

With each building that has been demolished, the site's integrity has been compromised as the overall density and industrial fabric of the Navy Yard Historic District is diminished.

Illustrated List of Character-Defining Elements

The Philadelphia Navy Yard illustrate significant characteristics in different ways, as an army ship Yard, and Industrial site, a multifunctional area and an urban neighborhood. Since 18th century beside all the changes happened in this site, some of these characters existed and became more valuable, and many others were added to site. Today Navy Yard stands on all these Characters.

In Navy Yard Studio, the characteristic features of the site are defined as those that directly will effect on the site's values, preservation plan and schemes. These features could and should be preserved and physically be noticed during any kind of preservation/redevelopment project that might happen in the entire site. The "Eastern Historic Core's" character defining features include:

- Historic industrial and residential campus, include both former houses (Admiral's Row) and industrial edifices such as warehouses. According to the John Milner Cultural Resource Survey of the site, architectural resources include "Georgian Revival, Victorian, Beaux Arts, Italianate, Second Empire, Renaissance Revival, and modernistic styles."



Figure 1, Building 611, metal structure, photo: Sh. Torkzaban, 2016

- Variety in size, massing and material used in historic buildings. industrial warehouses of large scale massing built of red brick and concrete with art deco plasters. Awning windows in concrete grids and metal and wooden structures make a unique combination in Eastern historic core.



Figure 3, Building 624, concrete with brick infills, photo: Sh. Torkzaban, 2016



Figure 2, building 83, concrete with brick infills, photo: Z. Qin, 2016



Figure 4, Admiral's Row, wooden structure, photo: Sh. Torkzaban, 2016

- Maritime/Industrial elements, although most of these buildings have been vacant since 1990's but there are still some maritime artifact remains there, for instant the anchor in building 83. These items are considered as an important part of character defining features in Eastern Historic Core and should be collected and preserved.



Figure 5, Anchor in Building 83, photo: L. Midelfort, 2016

- Natural Landscape, nature has a core role in Navy Yard as an intact feature since it was just an island. The most significant natural characters in Eastern Historic Core include: waterfront, wild life such as deer habitat at the north side of building 611, or gold fishes in 624 basement, also different plant species even if there are not so many.



Figure 8, Deer at Eastern Historic Core, photo: C. Zemanian, 2016



Figure 7, gold fishes in basement of 624, photo: A. Harris, 2016



Figure 6, waterfront with ships view in distance. photo: T. Richardson, 2016

- Street grids, Navy Yard and its Eastern Historic Core deserve well-designed street grids that give it a nice neighborhood characteristic. Although the street grids are not historic features but still have a strong effect on the entire site.

SWOT Analysis

Below is the full list of SWOT characteristics that were brainstormed as a group:

Threats	Opportunities	Weaknesses	Strengths
<ul style="list-style-type: none"> ● Climate Change ● Development that prioritizes profit over preservation ● No transit increases ● Wealthy enclave ● Loss of green space ● Market changes ● Marshy/degraded land/no bedrock ● Demolition ● Fast-paced development ● Too many stakeholders ● Too few stakeholders ● Mixed use capacity ● Continued reliance on automobiles ● Residential development ● Military increase (takesy backsies) ● Competition ● Housing bubble burst ● No demand/lack of interest ● Target market ID'd ● Urban Outfitters moving ● Too much intervention ● One sided development (all rich people, lack of diversity) ● Construction delays ● Infrastructure investment ● Structural failure 	<ul style="list-style-type: none"> ● Access to Center City ● Development of existing open space ● Attractive and diverse retail ● Adaptive reuse ● Distinct cultural identity ● Residential development ● Food/lunchtime convenience ● Extension of wilderness ● Parking in structures ● Industrial development ● Potential expansion of Schuylkill River Trail ● Water recreation ● Spaces visually distinct from Philly ● Blank slate ● Mothballing of ships ● Mixed use capacity of individual buildings and whole place ● City investment ● Potential for temporary use ● Growing tax base ● Growth potential for physical environment/density ● Historic interpretation on national level ● Integration of new and exciting architecture ● Prototype for adaptation to climate change ● Open space inside buildings 	<ul style="list-style-type: none"> ● Lack of subway connectivity ● Boring, suburban feel ● Underutilization of waterfront ● Excess surface parking ● Few stakeholders ● PIDC provides services ● Location far from city ● Unknown place ● Water level ● Buffer on all sides ● Surface parking ● Previous demolitions ● Noise pollution ● Fast development ● Lack of natural light ● new/old separation ● Run-down buildings ● Reliance on pixie-dust ● No historic interpretation ● No residential population ● No food on weekends ● No evaluation of property values ● Land weakness (silty) 	<ul style="list-style-type: none"> ● Water proximity ● Historic buildings ● Green space ● Public and private investment ● Recreational space ● Few Stakeholders ● Wildness ● port/Aker shipyard ● PIDC ● Strong buildings ● Vacant buildings ● Potential for diversity in use ● Proximity to Center City ● Urban Outfitters ● Housing market ● Media attention ● Walkability ● General economic health of philadelphia ● Diverse building types/uses/styles ● Navy presence ● Ship graveyard ● "Industrial chic" aesthetic ● Stadium and airport access ● potential/room for growth ● Public amenities ● Restaurants and banks ● Highway proximity ● Tax credits ● Ongoing industrial use ● PIDC bus/SEPTA BSL

Strengths/Weaknesses

The biggest strengths of the Navy Yard can be broken down into categories: natural, historic, and economic. While Philadelphia began as a green city between two rivers, it has greatly outgrown its original footprint, and its connection to the waterfront has evolved over the years, especially with the introduction of I-95 and I-76. The Navy Yard, however, has always retained a constant connection to the water, which is its greatest environmental and economic asset. The very controlled development on the Navy Yard campus has also led to, first, the retention of green space, with the constant protection and use of the Marine Parade Grounds, as well as the creation of additional green space in recent years with the introduction of new parks. Additionally, temporary green space exists on the campus in the form of vacant lots, left after the PIDC-led demolitions of historic buildings. The result of this careful management is a historic core that will be developed with an eye to incorporating both the built environment and the natural environment (and one only needs look at Urban Outfitters to see a successful integration of the two; their campus is an oasis in the midst of a densely developed industrial core).

The large amount of green space at the Navy Yard, as well as the large, vacant warehouses, means that there is a large amount of space that could be adapted to recreational/event space used to promote the Navy Yard. At present, the parade ground has been used for such diverse activities as old-fashioned baseball, a food truck festival, and a cider festival. These activities function like brief pop-ups, imbuing the Navy Yard landscape with unique and changing recreational uses.

The green space and natural environment of the historic core is complemented by the built environment; new construction has not yet reached this area of the campus, and so the heritage buildings influence the feeling of the area. The heritage buildings in the Navy Yard's historic core are a unique mix of types—Admiral's Row and the marine living quarters (towards the north of the core) were constructed on a grand domestic scale, Buildings 624 and 83 are only two of a number of massive, industrial warehouses on the campus, and numerous tiny garages dot the site as well (including a decorative, gingerbread-style carriage house located directly across from the industrial chic warehouse, Building 611). These historic buildings contribute to the Navy Yard's eclectic sense of place—the differences in typology and scales makes the campus feel like it has the potential to be its own self-contained village.

These unique factors have made the Navy Yard an attractive area for investment, which owner PIDC carefully controls. The future development of the Navy Yard will be public/private in nature. PIDC has near-complete control of the development of the Navy Yard, meaning that they can undertake cohesive developmental campaigns within the Navy Yard with a minimum of intervention from and negotiation with possible interested parties. The developmental path will be determined by PIDC and the private corporations with which it chooses to align itself—meaning that all development will be carefully controlled to create a very specific site image. Until now, the Navy Yard and historic core have been closed to outsiders; however, the development of the space will benefit numerous entities, including PIDC, private companies, the City of Philadelphia, and Philadelphia citizens who will be able to take advantage of natural, residential, and recreational amenities offered by the historic core. The private/public nature of the development brings as much talent as possible into the planning of the site. While public/private partnerships are, by their very nature, more inclusive endeavors, it remains to be seen whether the final iteration of Navy Yard development will be truly open to the entire city of Philadelphia.

While the strengths of the Navy Yard Historic Core align with many of the site's values, its weaknesses are harder to neatly categorize. One of the most important features of the site's historic identity and development is its century-long development separate from the rest of Philadelphia. While this separation contributed in part to the unique use and architecture of the site, today this isolation is both an

asset and liability. The separation from Philadelphia's urban core is one of the reasons the Navy Yard still possesses environmental strengths such as wildness and green space. However, the separation also impedes future development at the site. The historic core's lack of subway connectivity with Center City and other areas of Philadelphia may prevent PIDC from attracting modern urban residents who desire immediate access to the Philadelphia shopping, nightlife, and culture that, at present, exists outside of and apart from the Navy Yard. Without a subway connection to the rest of Philadelphia, the Navy Yard cannot reach its full economic potential. The site's separation from Philadelphia also contributes to the boring, suburban feel of the historic core. New construction is spread out and heavily car-dependent, key features of the suburban lifestyle. While the historic core is more densely developed than many areas of the site, the suburban quality persists due to the prevalence of undeveloped lots (the sites of PIDC-led demolitions). There is a decided lack of pedestrian activity in the historic core due to the vacant buildings and lack of amenities. Surface parking also permeates the site, discouraging a pedestrian environment by decreasing the street interest and walkability of the site. While the Urban Outfitters campus hums with life, their offices exist at the edge of the historic core. The Urban Outfitters' site is also ringed with parking, a current necessity since the Navy Yard is not well connected to the city via public transportation.

As discussed above, one of the Navy Yard's biggest strengths, and the primary reason for its existence, is the site's connection to the water. While the historic core physically abuts the coast of the Delaware River, this connection to the waterfront is rather underwhelming. Unless one stands on Admiral's Row, looking out over the Delaware, the important, river-coast location of the historic core is not obvious, and the buildings and streets of the historic core could be anywhere. The site's important connection to the water—one of its defining characteristics—should be better emphasized to play up the uniqueness of this parcel of land. However, the water does make its presence known in a particularly unfortunate way. The saturated, silty ground of the Navy Yard is largely historic infill, added to the site to augment a coastal island. The water table in the historic core is very high (which explains, in part, why fish can successfully survive in the basement of Building 624). With oncoming climate change inspiring increasingly severe weather events, the water table at the Navy Yard may prove a danger to the foundations of its historic buildings and threaten new construction.

A final weakness, which doubles as a strength, is the lack of stakeholders on the site. While this lack provides PIDC with additional freedom to pursue their vision of site development, it means that there is a lack of diverse views on how best to develop the site to a variety of audiences and special interests. Additionally, few stakeholders could contribute to a lack of interest in the site; as few individuals feel invested in the site, it may be more difficult to attract visitors to the site in the interim period preceding residential development.

Opportunities/Threats

The biggest change that will likely come to the Navy Yard in the next ten years is the addition of residential development. While historically there have been residences attached to or associated with the Navy Yard (Mustin Homes, built in the 1960s and demolished in 2012; Capehart Housing), what will be developed going forward will likely be an adaptive reuse of buildings in the historic core; once serving as warehouse, manufacturing, and storage facilities, these spaces will be transformed into rentable dwellings, as well as retail, commercial, and office facilities.

With residents on the Navy Yard comes demand for services and amenities that simply do not exist in the Navy Yard's current primary function as an office park. While there are some restaurants, many do not have extended hours on weekdays and are closed on the weekends. Grocery stores, pharmacies, dry-cleaners, a post office, and other "lunchtime conveniences" will have to be brought to the Navy Yard to cater to this residential population. Pre-existing structures on the Navy Yard can be adaptively reused to accommodate these services. In addition, it is likely that the plans to adapt these buildings into residential units will combine dwellings and parking in some way, either with a core of parking on each floor surrounded by units with access to windows, or with a rooftop addition for apartments and parking below in the historic structure. The addition of attractive retail opportunities to the site—lunchtime conveniences and unique, diverse attractors meant to draw people from Center City—will doubtless increase foot traffic and interest in the site.

The Navy Yard is in fact, not far from Center City, with the Billy Penn statue atop City Hall visible down Broad Street as one exits the gates of the campus. Although currently there is no public transportation to the Navy Yard, the addition of bus routes, a light rail, or the extension of the Broad Street line could make the site a desirable location for both residential settlement and visitors. The opportunity to connect the Navy Yard to Center City is perhaps the most significant in terms of attracting people to the site and ensuring that future development flourishes.

PIDC's demolitions have created a number of large, open lots which the economic development agency has the freedom to develop. Some of these lots will doubtless become public space—perhaps incorporating the wildness that is so special to the Navy Yard. Other vacant lots will allow PIDC to incorporate new construction within the historic core of the Navy Yard. These areas of the Navy Yard are essentially a blank canvas onto which new uses can be grafted.

Ultimately, the combination of adaptive reuse, residential development, and sensitivity to the natural space across the Navy Yard's landscape could create a unique cultural identity for the site that is unlike anywhere else in Philadelphia. The Navy Yard would be special in its mix of residential space, office park work environments, industry, and natural features including the waterfront, green space, and diverse flora and fauna. The dormant Navy Yard infrastructure gives a feel of "industrial chic" in a maritime context; although many former industrial sites are being developed along waterfronts, this does not exist anywhere else in Philadelphia at either a local or national level. At the same time, parts of the site are still in use by the Navy, thus providing a living component to the history seen in the built environment.

Nature and natural elements also pose a threat to the Navy Yard. In particular, climate change is an issue which threatens the very existence of the site. According to students in a landscape architecture studio this semester exploring issues along the Delaware River waterfront, a Type 2 hurricane would destroy the island completely. Rising sea levels as a result of global warming/ice cap melting will flood the island.

According to the 1996 Environmental Impact Statement conducted as part of the Base Realignment and Closure (BRAC) program immediately preceding the Navy Yard's closure, approximately 90% of land on the Navy Yard is within the 100-year floodplain, defined as 9 feet above sea level. It is estimated, though, that the flood would rise 10 feet above sea level. Being within this floodplain produces a number of obstacles for development.

The Philadelphia Building Code maintains guidelines for construction in the 100-year floodplain (§14-1606. Flood Plain Controls).

- Construction of dwellings is permitted if the lowest floor elevation (including basements and cellars) is one foot above the Regulatory Flood Elevation.
- Construction of non-residential structures is permitted if the structure is floodproofed to one foot above the Regulatory Flood Elevation.

The code does not mention anything about the rehabilitation of existing structures within the floodplain.

In addition, the following building types are prohibited within the 100 year floodplain in either new or existing construction:

- Medical and surgical hospitals and medical centers, and sanitarium;
- Rest, old age, nursing or convalescent homes, and nurseries;
- Penal and correctional institutions;
- Mobile homes.

While some medical facilities are currently at the Navy Yard, expansion would have to be limited in order to accommodate to this section of the code. PIDC and other developers on the Navy Yard will have to remain sensitive to these building code requirements as they move forward with proposals for new dwellings, office, and retail.

The 100-year floodplain is not the only concern for development. The Navy Yard is within the Atlantic Coastal Plain physiographic region, which at the Navy Yard is made up of unconsolidated and partially consolidated sediments lying between 100-240 feet above crystalline bedrock. This surface is further overlain by man-made land types brought in from dredged islands elsewhere along the Delaware River. It would therefore be extremely difficult or unfeasible to lay building foundations as deep as the hardest bedrock type, so new structures would have to be engineered to accommodate this rather soft construction surface.

The Navy Yard is also comprised of 26 acres of wetland. According to federal law, if development occurs on 25+ acres of this wetland, a permit is required from both the U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection. To obtain a permit, a number of analyses are required, including floodplain management analysis, alternatives analysis, mitigation plans, impact analysis, surveyed wetland boundaries, and stormwater management analysis.

Due to the Navy Yard's southern and somewhat isolated location, a crucial amenity for residents-to-be of the Navy Yard is high-quality, dependable public transportation. Currently, the southernmost terminus of the Broad Street subway line is at AT&T Station. To get to the Navy Yard from this station is a 20 minute walk adjacent to busy highways. PIDC provides shuttle service from this station to the Navy Yard as well as from 10th and Filbert Streets in Center City Philadelphia. The bus from AT&T Station to the Navy Yard replaced a discontinued SEPTA bus route. There is also a bus route just limited to the Navy Yard grounds,

called the “Navy Yard loop.” Urban Outfitters also provides a private shuttle for employees.

An extension of the Broad Street Line to the Navy Yard has been a pipe dream of transit enthusiasts for years. With the new Mayoral administration and the upcoming presidential election, there may be a possibility that this project sees funding. However, it cannot be guaranteed, and if this project is shelved for a considerable amount of time, it may never happen. Without this vital, rapid-transit link to Center City, development at the Navy Yard will almost certainly not reach its full economic and cultural potential.

In addition, the current reliance on PIDC for mass transit at the Navy Yard, discussed as a weakness of the site earlier in this document, could have aftershock effects in 10 years’ time without any other transit alternatives. It poses the risk of keeping parking a priority for employees at the Navy Yard, and if above-ground parking garages are not constructed, parking lots take up valuable land area which could be used more profitably.

PIDC is eager to act quickly to develop land. Like any developer and landowner, making profits is both a concern and a priority. The years since PIDC acquired the Navy Yard has seen the most demolition at the Navy Yard, ever, historic structures included. Large vacant parcels where nationally significant warehouses once stood are open to developers for buildings of their design. Given the rapidity at which demolition is occurring and new companies are arriving to the Navy Yard, there is a risk of new construction valuing the profit-side of development rather than the quality of what is erected. If this becomes the case for development at the Navy Yard, there will not be any residential development that is sensitive to the needs and requirements of residents. However, if residential development proves to be successful and results in an increase in density at the Navy Yard (of people, buildings), there poses a risk of loss of green space as the environment is built out and up. The Navy Yard’s location, as well as historic and more recent green/open spaces, public areas, and parks could be lost in an effort to maximize profit and density on the site.

Another concern is that the development of the Philadelphia Navy Yard will create a wealthy enclave, affordable only to people of means. A waterfront site with space to grow and incredible heritage buildings is a rarity in an old-growth city. Interest in the site is high. If PIDC does not make it a stated goal to incorporate public space and inclusionary housing into the Navy Yard redevelopment, the site may well become a figurative (and literal) wealthy island within the City of Philadelphia.

Finally, any development risks market changes. Were another economic recession to occur, market interest in the Navy Yard could flag, delaying PIDC’s redevelopment of the site into the unforeseeable future.

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<ul style="list-style-type: none">• Water Proximity• Public and Private Investment• Strong, Historic Buildings• Recreational/Event Space• Few Stakeholders	<ul style="list-style-type: none">• Lack of Connectivity to Mainland Philadelphia• Suburban Feel• Underutilization of Waterfront• Excess Surface Parking• Few Stakeholders	<ul style="list-style-type: none">• Accessibility to Center City• Development of Existing Open Space• Attractive and Diverse Retail• Distinctive Cultural Identity• Adaptive Reuse• Residential Development	<ul style="list-style-type: none">• Climate Change• Development that Prioritizes Profit over Preservation• No Transit Increases• Becoming a Wealthy Enclave• Loss of Green Space• Market Changes

Comparables

1. The Yards



The Yards logo

The Yards on Washington DC's Anacostia River waterfront sits on 42 acres just to the west of the Washington Navy Yard and just to the east of Nationals Stadium. Originally an annex of the Washington Navy Yard, the Yards has since created for itself "a neighborhood offers wonderful riverfront views and exciting dining options with just a splash of attitude... fast becoming a home for trend setters and a hotbed of entertainment."¹ Awarded by the US General Services Administration to Forest City Washington, Inc. in 2004, the site has been redeveloped as the center of the Capitol Riverfront Business Improvement District. They have since created 2,800 new residential units and 2,200,000 square feet of office and retail space.²



Showing the Yards in its surrounding context

The Site has several points of similarity to the Philadelphia Navy Yard and our goals for the its future, beginning with its connectivity. The Yards are connected to DC's metro system via the Navy

1. <http://theyardsdc.com/>
2. *ibid.*

Yard-Ballpark Green Line Metro Station, which is 0.4 miles from the Yards Park, the name for the recreation development closest to the water. Here, the site's Marina and park create visually interesting relationships to the water, and create experiences that make the site a destination for the city of DC. They have effectively activated this part of the Anacostia, which was previously inaccessible and uninviting.



Innovative design adjacent the water generates interest



The active marina provides unique recreational opportunities

Much like our goals, the Yards have attempted to create a cohesive neighborhood, including residential and commercial uses, as well as great dining options and amenities like spas, dry cleaners, a gym, a Starbucks, and a pet store. In a relatively small space, residents have nearly everything they need to get by within a short metro commute from Capitol Hill. The key to success at the Yards is the site's ability to generate outside interest in the site, largely by their numerous events and their top-notch restaurants and breweries.

Creating this neighborhood relied heavily on aggressive, adaptive re-use of historic buildings not dissimilar from the Philadelphia Navy Yard's buildings 83 or 624, and has relied on the addition of large, glass additions above as PIDC plans to do on our site. As the approach has been to modernize the buildings, interiors were near completely gutted and the exteriors of the buildings prioritized income above historic integrity, and most projects seem too altered to have used historic rehabilitation tax credits.



The Foundry Loft Apartments



The Foundry Loft Apartments with part of the Yards Park in the foreground and other development behind



Arris Apartments, Robert A. M. Stern Architects

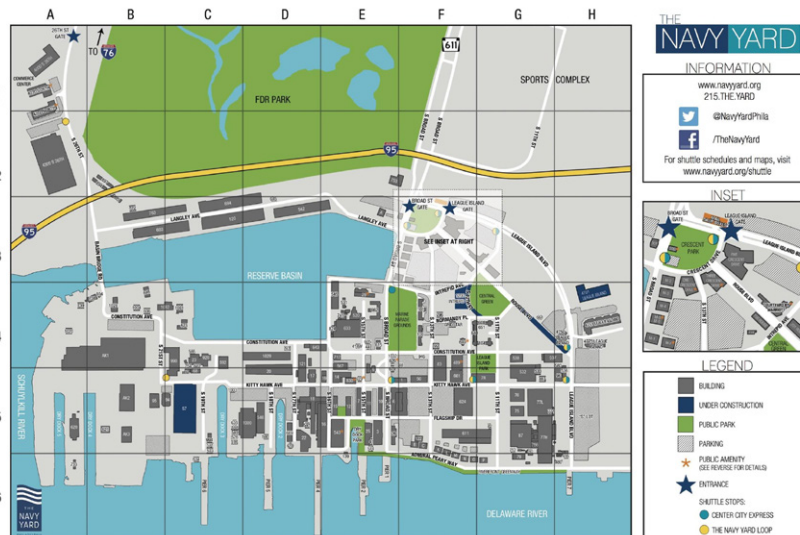
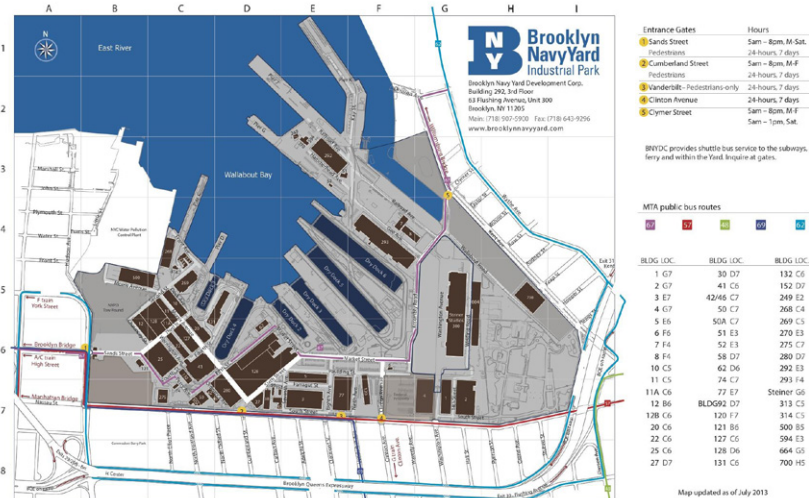
The Yards, while considerably smaller and in a more competitive economic environment than the Philadelphia Navy Yard is a good comparison for its economic success, adaptive re-use of buildings, creation of residential living experiences and an inviting environment for the city at large.

2. Brooklyn Navy Yard

The Brooklyn Navy Yard was in operation from 1806-1966. Upon closure, the Commerce Labor Industry Corporation of Kings (CLICK) was founded and managed the site as an industrial park. In 1981, the Brooklyn Navy Yard Development Corporation (BNYDC) took over operations from CLICK. Over the next twenty years, BNYDC worked to diversify their labor base and are currently undergoing its largest expansion since World War II. Today the Brooklyn Navy Yard boasts 330 tenants and over 7,000 employees. While the Philadelphia Navy Yard has fewer tenants than the Brooklyn Navy Yard - at about 150 - employment is nearly double, at 12,000.

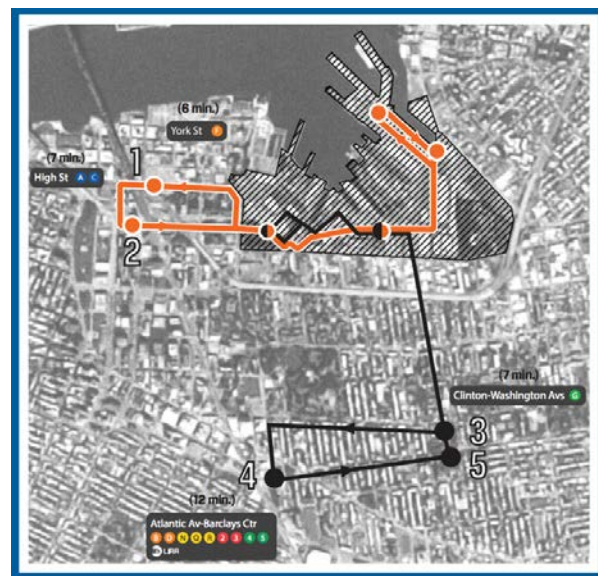
BNYDC, like PIDC, operates as a public-private partnership. According to their website, BNYDC is a non-profit corporation which “serves as the real estate developer and property manager of the Yard on behalf of its owner, the City of New York.” Similarly, PIDC is a public-private partnership with the city of Philadelphia; specifically, the Philadelphia Authority for Industrial Development (PAID) is a subset of PIDC which manages PIDC’s portfolio of commercial and industrial space.

Their sitings are both similar and different: Brooklyn Navy Yard is within the borough of Brooklyn at the confluence of Wallabout Bay and the East River, technically at the easternmost point of Long Island; on the other hand, the Philadelphia Navy Yard is on League Island, a historic land mass at the confluence of the Delaware and Schuylkill Rivers which has been artificially filled to double its area. It is connected to Philadelphia by a series of bridges with automobile and pedestrian access.

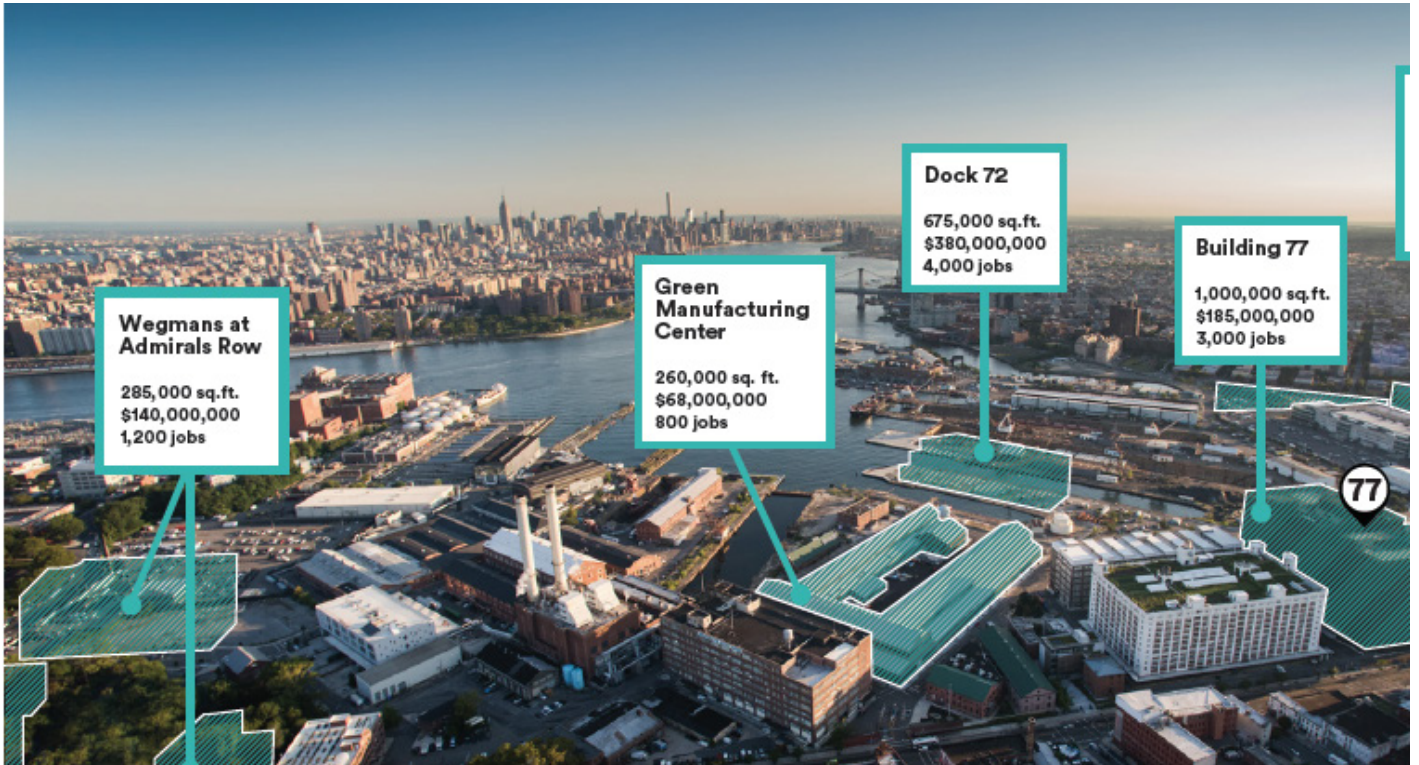


The Brooklyn Navy Yard advertises its space as an industrial park and as such the majority of its tenants are in the industry and manufacturing fields. Outliers include Steiner Studios, one of the most state-of-the-art film studios outside of Hollywood. Their current redevelopment projects include a new Wegman's supermarket and other retail. The Philadelphia Navy Yard has a number of industries on site, including medical/pharmaceutical, fashion, law, food, and education, and some shipbuilding and repair operations still occur on the western portion of the Navy Yard outside the Historic Core.

The operations of Brooklyn Navy Yard and Philadelphia Navy Yard are similar for a number of reasons, including its history and current support of industrial activity, and their office/industrial park development models. Operations in common include an in-house shuttle which has routes within the Navy Yard and to neighboring transportation hubs:



While BNYDC, unlike PIDC, has no interest in residential development on the site, a mix of industrial and commercial development projects are underway.



The Brooklyn Navy Yard’s new development plans tie into their commitment to sustainability as set forth in their mission. They hope for the entire campus to be a model for sustainable industrial parks, with new construction abiding by LEED standards, and historic industrial structures reused for industrial purposes.

The Green Manufacturing Center is one such current development project with similar design constraints as seen in our studio. Building 128, occupied by New Lab, was rehabilitated by Marvel Architects. Its open, bi-level floorplan and steel structure mimic Building 611 at the Philadelphia Navy Yard.



New Lab Section Perspective

At left: Building 128 at Brooklyn Navy Yard; at right, interior of building 611 at Philadelphia Navy Yard.

BNYDC’s interpretation plan is clear and aligns with values set forth in their mission and vision. With sustainability ideals in mind, the adaptive reuse of historic structures is a core tenet of their goal toward

environmental stewardship and the interpretation of the site as a past and current industrial hub. This is further realized by the Brooklyn Navy Yard Center at BLDG 92 - a historic building converted to serve as a museum about the Navy Yard's past, present, and future. The Philadelphia Navy Yard has a historic walking tour, but there are few if any other interpretive schemes for the site.



The Brooklyn Navy Yard was listed as a National Register Historic District in 2014. The district contains 98 contributing and 83 non-contributing resources. The Philadelphia Navy Yard was designated in 1999 and its National Register status has facilitated a number of historic rehabilitation tax credit development projects, most notably the Urban Outfitters corporate campus.

3. Fort Monroe

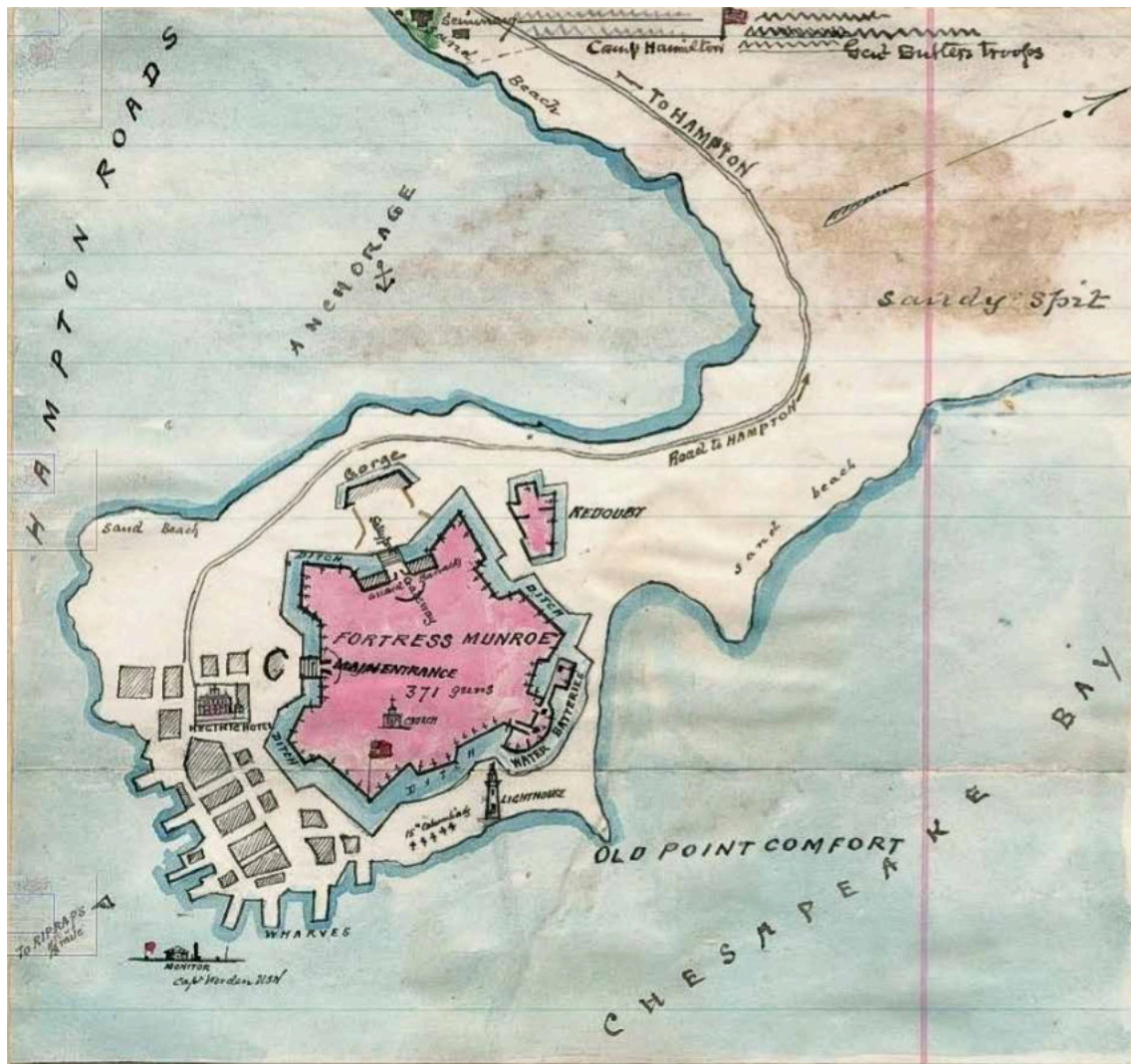
As the largest stone fort built in the United States, Fort Monroe, named in honor of President James Monroe, is located at the southern tip of the Virginia Peninsula approximately 2.8 miles east of the downtown area of the City of Hampton.¹



Compared to the Philadelphia Navy Yard, originally known as Old Point Comfort, Fort Monroe's history is much longer. Archeological evidence shows that American Indians lived on this land for no less than 10,000 years before the arrival of Europeans.² As one of the earliest settlements in the new world, its history of fortification that dates back to the early 1600's. Under the recommendation of Marquis de Lafayette and designed by General Simon Bernard, the construction of Fort Monroe began in 1819. Being a strategic military site, Fort Monroe played an important role in the American Civil War. It also accommodated the Coast Artillery School, Continental Army Command (CONARC), the United States Army Training and Doctrine Command (TRADOC) until it was fully decommissioned in 2011.

1. "Fort Monroe Land Use Plan", accessed Nov.2, 2016, [http:// www.hampton.gov/planning](http://www.hampton.gov/planning).

2. "Foundation Document", National Park Service, accessed Nov.2, 2016, https://www.nps.gov/fomr/learn/management/upload/FOMR_FD_2015.pdf



PLAN OF FORTRESS MUNROE VA 1862.

Area of outside walls 65 acres. Granite walls 35 ft. high. Embrasures intended for 42 64
 Ditch 75 to 150 ft wide. Tide ebbs and flows in Ditch 8 to 15 ft daily. 42 embrasures
 Near garrison - 2450 men Cost \$ 2,400,000 30 of Guns 1862 371

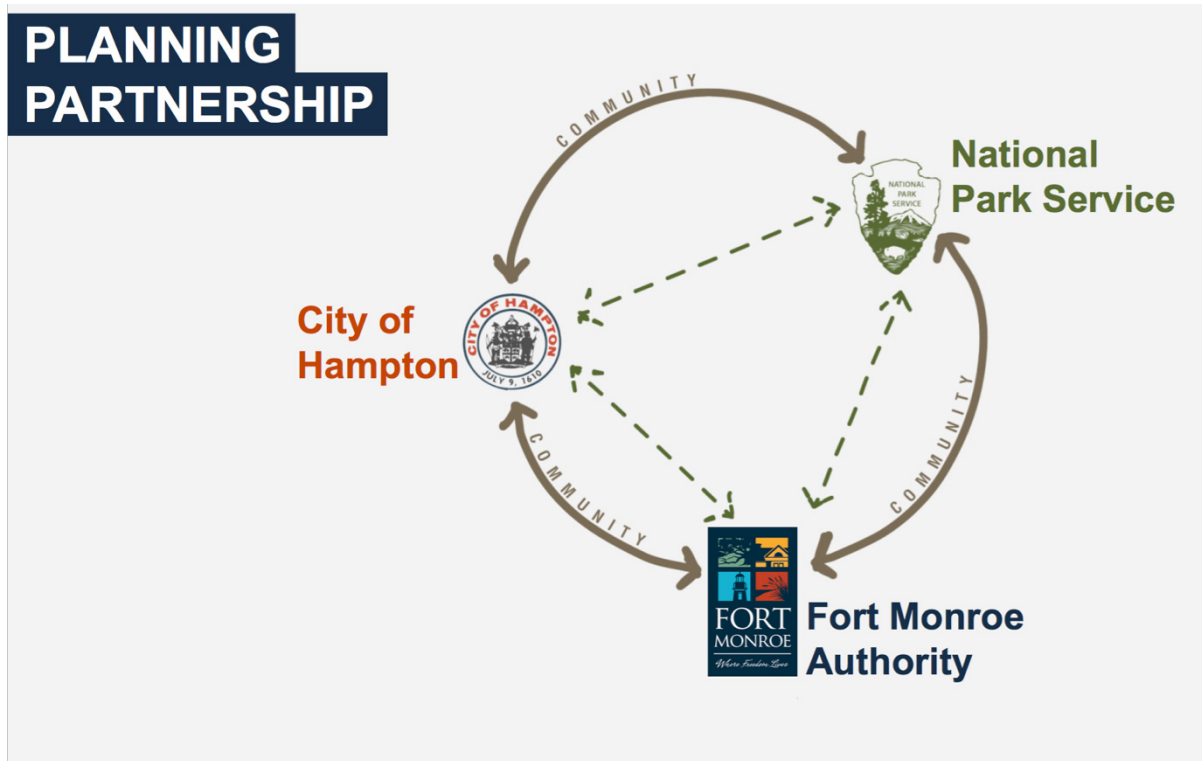
Many Embrasures were enlarged and heavier guns mounted (some 200 lbs Parrots) in 1862

The fort was planned by Genl Simin Bernard Corps of Engineers formerly and Officer of French Army under Napoleon
 The foundation of the Fort were laid in March 1819. under Maj Charles Bratton. The fort was first
 occupied by Battery C. 3rd US Artillery June 1823. Capt M. P. Lomax Commanding US.
 The site was occupied by a small Fort as early as 1608.

Genl. Benj F. Butler Commanded all the U.S. Troops at Hampton to Fort Munroe
 with Head Qrs at the Fort. April 1861 to July 1862.

A slightly different with the Philadelphia Navy Yard, where PIDC is almost fully in charge, ownership and management of Fort Monroe falls under a few different entities. Portions of Fort Monroe were transferred to the National Park Service with the establishment by Presidential proclamation in 2011 to create the Fort Monroe National Monument. The Park Service is currently engaged in a planning process for this recent addition to the national park system. Most of the remaining property at Fort Monroe is now controlled by the Fort Monroe Authority (FMA), a political subdivision of the Commonwealth of Virginia. The FMA was created to manage the base closure and reuse process which will eventually result in the transfer of some of the Commonwealth's Fort Monroe property into private ownership. The expected

transfer of land to private ownership will make portions of Fort Monroe subject to the requirements of the City of Hampton's comprehensive planning and zoning authority under the Code of Virginia.



The development of two sites are both have their own strengths and weaknesses. On the one hand, the Navy Yard seems be good at market developing: it has attracted as much as more than 152 companies and organizations, including prominent companies, such as Aker Shipyard, Urban Outfitters, etc. While there are just less than 30 tenants in Fort Monroe and little top companies is in the list. However Fort Monroe dramatically outperforms the Navy Yard in tourism. Also, unlike the Navy Yard, Fort Monroe reserved 27 buildings totaling 292,000 square feet for their major tenant, Virginia STEAM Academy, a boarding high school.³

3. "Making the case for Fort Monroe", accessed Nov.2, 2017, http://pilotonline.com/opinion/editorial/making-the-case-for-fort-monroe/article_7336f5e7-bf54-54e8-8b18-abf1f3f9b2d5.html



While both sites encourage adaptive reuse of historic buildings through historic tax credits, Fort Monroe has paid more attention on mixed use: as shown on the planning map, which is divided into several zones including commercial and residential.



Fort Monroe has intentionally preserved its environmental assets. Within its 565 acres, there are nearly 200 acres of natural resources, including 8 miles of waterfront, 3.2 miles of beaches on the

Chesapeake Bay, 110 acres of submerged lands and 85 acres of wetlands. It has a 332-slip marina and shallow water inlet access to Mill Creek, suitable for small watercraft.⁴ Accordingly, the environmental planning promotes this kind of strength, for example, the green space was activated by linking two parts of the NPS.



4. "Environment", accessed Nov.2, 2017, <http://www.fmauthority.com/about/fort-monroe/>

Tolerance for Change



In the above graphic, “change” means an adaptation in appearance and use. A low tolerance for change means a building or site feature should retain a similar appearance and use. A ‘medium’ rating means the building or site feature should retain either its appearance or use, with alterations permitted in the alternate category. A ‘high’ rating means that the building or site feature’s present appearance and use can change.

This tolerance map was designed with one limiting factor in mind. Concerning the site, our team felt that none of the changes should diminish the character of the Eastern Core as defined by the character-defining features list. We applied the same limiting factor to the buildings—while some changes to the historic fabric will necessary to ensure the buildings are appropriately adapted to modern residential users, no alterations should diminish the overall integrity of the historic district. All of the alterations we considered were limited by these two considerations.

We have further evaluated the tolerance for change of site features and specific building features in the following pages.

Site Features

Wild Lot: The existing, natural high grasses of the wild lot next to Building 611 should be retained. The site can be minimally improved with a narrow wooden boardwalk sensitively inserted across the site. Installation of the boardwalk should not damage native grasses and should only be done to limit the extent of human interaction with the site, converting this existing resource into a carefully managed amenity. No fencing should be installed to keep the lot connected to the remainder of the site.

Empty lots/parking lots: The open field and parking lot flanking Building 624 once possessed three buildings, all demolished within the last 15 years by PIDC. We believe that the restoration of density to the Eastern Historic Core would be in keeping with the Navy Yard’s historic character. Therefore the lots

have a high tolerance for change from their existing vacant use and appearance.

Roads: The current street grid at the Navy Yard is not the site's historic grid, but instead a layout introduced by PIDC. In keeping with the current master plan, existing street configuration should be retained. However, we believe that some alterations to the streets should be considered. Specifically, the conversion of South 13th Street should be considered. The street could be dug out to a depth of approximately 10 feet and connected to the Delaware River. The canal normally would remain empty. However, in storm events, water that might otherwise flood the Navy Yard would drain into the canal and down to the existing Reserve Basin, protecting the site and buildings from water damage. The canal could dually function as a street, with a permeable surface—such as a metal grid—run overtop of the trench. Such a treatment would allow the street to retain its use, if not its appearance, and would also add an attractive and interesting modern feature to the site.

Admirals' Row: The existing row of historic, single-family residences overlooking the Delaware River should be retained. We have not made plans specific to the preservation and restoration of these buildings, instead considering two alternatives: the construction and implementation of a higher (and possibly permanent) seawall or the elevation of the buildings and the land around them. This second option would require a significant and expensive intervention, but would retain the historic relationship of the houses to the land underneath them (and there is a history of the creation and elevation of land at the Navy Yard, as the site was historically an island expanded with infill in numerous campaigns).

The houses are presently used as offices. We do not believe the buildings' use or appearance should change at this time, and have therefore marked them "low tolerance for change". In the future, as flooding becomes a real and present concern at the Navy Yard, additional consideration should be given to planning for Admirals' Row.

Broad Street Pier: The existing pier should be retained and stabilized. The same type of structural materials—wood and concrete—should be used to remediate this feature. The pier's existing pavement can be built up, if necessary, to combat future flooding. This structure should be converted to a public park; however, as a historic, industrial feature, no vegetation should be introduced as a part of the design scheme.

Waterfront: As noted in the phased schemes, the waterfront can either remain as is or a temporary or permanent seawall can be installed to combat sea rise.

Buildings

Building 624	
Exterior	Interior
Low Exterior Walls Upper Floor Windows Loading Dock Exterior Doors	Low Interior Doors Stairs Finishes
Medium Masonry Coatings Ground Floor Windows Loading Doors	Medium Systems Fixtures Elevator Floor
High Roof	High Layout

Exterior Tolerance for Change:

- The building possesses a reinforced concrete system with masonry infill. The exterior walls should be retained and restored as necessary.
- Upper floor windows should be retained and refurbished. Any units damaged beyond repair should be replaced in kind. If block glass windows are non-historic, these should be removed and replaced to match historic window configuration.
- The existing concrete loading dock should be retained and restored. If used as productive outdoor space, contemporary compatible, ADA-compliant metal railings can be installed.
- The building's pedestrian doors should be retained or replaced in kind.
- The use of water-repellant masonry coatings should be explored for the ground floor exterior walls.
- Ground floors window units can be removed, as per the suggestion of consulting engineers, as an adaptation to site flooding/storm surge. In major flooding events, water would then flow unobstructed in and out of the building's first floor.
- Modern loading doors can be replaced with glass infill or a storefront door system that provides increased security and natural light but retains the open feel and appearance of the entrances.
- The building's modern tar and gravel roof can be retained or replaced, as necessary, to make the feature more accessible to residents. Appropriate replacement materials include EPDM (rubber) to retain the flat slope of the feature. A low, glass addition can be explored for a location at the center of the roof. Any new addition should not be visible from the public right of way, so as to maintain the historic appearance of the warehouse.

Interior Tolerance for Change:

- Historic interior doors should be retained and refurbished. Modern doors can be replaced. New doors should be contemporary compatible in design.
- Historic stairs should be retained and refurbished to evoke historic circulation patterns.
- Finishes: Any remaining lead paint should be abated; walls should be repainted and concrete should

remain exposed.

- New mechanical systems should be primarily exposed. Spiral HVAC should be pulled at least 10' back from windows. To conceal plumbing, ceilings can be dropped only over kitchens and bathrooms. Ceilings should not be dropped in front of windows. Because of the unyielding concrete structure of the building, electrical wires can be concealed within new baseboards.
- New fixtures (hardware, lighting, etc.) should be contemporary compatible in nature.
- Removal of existing freight elevators is permitted. New passenger elevators should be inserted in a different location. If possible, freight elevator shaft walls should be retained; however, if this is economically infeasible, floor openings at the location of the former shaft should be infilled with concrete a different color than historic concrete to mark the deletion of the historic elevators.
- Up to 20% of the historic concrete floor can be removed to accommodate new parking ramps. The remaining concrete should remain exposed in parking garages, retail space, and residential units. If necessary, the concrete can receive a clear sealant.
- The existing layout of the building should be altered to accommodate retail on the ground floor, a core of parking, and apartments around the outer edge of the building. New walls should be strung between large columns. The large core of parking at the center of the building will convey the historic openness of the warehouse.

Building 83	
Exterior	Interior
Low Exterior Walls Upper Floor Windows Awning Loading Dock Exterior Doors	Low Interior Doors Stairs Finishes
Medium Masonry Coatings Ground Floor Windows Loading Doors	Medium Systems Fixtures Elevator Floor
High Roof Lightwell	High Layout

Exterior Tolerance for Change:

- The building possesses a reinforced concrete system with masonry infill. The exterior walls should be retained and restored as necessary.
- Upper floor windows should be retained and refurbished. Any units damaged beyond repair should be replaced in kind.
- The existing metal awning should be retained, restored, or replaced in kind.
- The existing concrete loading dock should be retained and restored. If used as productive outdoor space, contemporary compatible, ADA compliant metal railings can be installed.
- The building's pedestrian doors should be retained or replaced in kind.
- The use of water-repellant masonry coatings should be explored for the ground floor exterior walls
- Ground floors window units can be removed, as per the suggestion of consulting engineers, as an adapta-

tion to site flooding/storm surge. In major flooding events, water would then flow unobstructed in and out of the building's first floor.

- Modern loading doors can be replaced with glass infill or a storefront door system that provides increased security and natural light but retains the open feel and appearance of the entrances.
- The building's modern, flat, built up roof with a slag surface can be retained or replaced, as necessary, to make the feature more accessible to residents. Appropriate replacement materials include EPDM (rubber) to retain the feature's flat slope. A lightwell can be sunk into the center of the building to facilitate the edifice's transition to residential use, providing natural light to interior apartments. The lightwell will not be visible from the street and we believe is essential to the successful reuse of this building.

Interior Tolerance for Change:

- Historic interior doors should be retained and refurbished. Modern doors can be replaced. New doors should be contemporary compatible in design.
- Historic stairs should be retained and refurbished to evoke historic circulation patterns.
- Finishes: Any remaining lead paint should be abated; walls should be repainted and concrete should remain exposed.
- New mechanical systems should be primarily exposed. Spiral HVAC should be pulled at least 10' back from windows. To conceal plumbing, ceilings can be dropped only over kitchens and bathrooms. Ceilings should not be dropped in front of windows. Because of the unyielding concrete structure of the building, electrical wires can be concealed within new baseboards.
- New fixtures (hardware, lighting, etc.) should be contemporary compatible in nature.
- Removal of the existing freight elevators is permitted. New passenger elevators should be inserted in a different location. If possible, freight elevator shaft walls should be retained; however, if this is economically infeasible, floor openings at the location of the former shaft should be infilled with concrete a different color than historic concrete to mark the deletion of the historic elevators.
- Up to 20% of the historic concrete floor can be removed to accommodate new parking ramps. The remaining concrete should remain exposed in parking garages, retail space, and residential units. If necessary, the concrete can receive a clear sealant.
- The existing layout of the building should be altered to accommodate retail on the ground floor and apartments on upper floors, surrounding the new lightwell. New walls should be strung between large columns.

Building 611	
Exterior	Interior
Low Roof Windows	Low Open Layout Finishes Floor Mezzanine
Medium Exterior Walls Exterior Doors	Medium Systems Fixtures

Exterior Tolerance for Change:

- The roof should be retained and repaired. If beyond repair, the roof should be replaced in kind. Gutters and downspouts can be replaced in kind as necessary.
- Windows should be retained and refurbished. Any units beyond repair should be replaced in kind.
- Modern loading doors can be replaced with glass infill or a storefront door system that provides increased security and natural light but retains the open feel and appearance of the entrances.
- Exterior walls on the south side of the building only can be perforated with new openings to facilitate movement between the building and the park planned for the southern lot adjacent to Building 611. The wall material removed to accommodate these openings can be mounted on the exterior walls, adjacent to the openings, or repurposed as sliding doors to cover the new passages. Any locations of wall failure should be mended with in-kind material. Unnecessary conduit should be removed.

Interior Tolerance for Change:

- The open interior layout should be retained. The insertion of reversible or temporary walls is permitted in the bays to sides of the central aisle.
- Insulation can be inserted behind the walls for increased weatherization; existing finishes should be retained and restored.
- The concrete floor should remain exposed. If necessary, it can be sealed with clear sealant.
- The mezzanine should remain open to below; railings should be retained and restored. Any new walls should be set back from the railing. If railings do not meet code, the existing feature can be augmented.
- New mechanical systems should be exposed. Spiral HVAC should be pulled at least 10' back from windows.
- Fixtures: Any new lights should be hanging and contemporary compatible industrial in nature. New hardware should also be of contemporary compatible design.

Building 79	
Exterior	Interior
Low Roof Windows Masonry	Low Ceiling height Finishes
Medium Exterior Doors	Medium Systems Fixtures Flooring Layout

Exterior Tolerance for Change:

- The building possesses a reinforced concrete system with masonry infill. The exterior walls should be retained and restored as necessary.
- Upper floor windows should be retained and refurbished. Any units damaged beyond repair should be replaced in kind. If block glass windows are non-historic, these should be removed and replaced to match historic window configuration.
- The building’s pedestrian doors should be retained or replaced in kind.
- The use of water-repellant masonry coatings should be explored for the ground floor exterior walls.
- Ground floors window units can be removed, as per the suggestion of consulting engineers, as an adaptation to site flooding/storm surge. In major flooding events, water would then flow unobstructed in and out of the building’s first floor.
- Modern loading doors can be replaced with glass infill or a storefront door system that provides increased security and natural light but retains the open feel and appearance of the entrances.

Interior Tolerance for Change:

- Historic interior doors should be retained and refurbished. Modern doors can be replaced. New doors should be contemporary compatible in design.
- Historic stairs should be retained and refurbished to evoke historic circulation patterns.
- Finishes: Any remaining lead paint should be abated; exposed brick walls should be repointed if necessary; and exposed metal beams and structural elements should remain exposed.
- Ceilings should not be dropped, and existing drop ceilings should be removed. The full height of the monumental second story should not be obstructed.
- New mechanical systems should be as high and as hidden as possible.
- New fixtures (hardware, lighting, etc.) should be contemporary compatible in nature.
- Removal of existing elevators, and relocation of new elevators, is permitted. New passenger elevators should be inserted in a different location to accommodate ADA accessibility to exhibition space.
- Carpeting should be removed from the floor and replaced with contemporary compatible finishes.
- The existing layout of the building should be altered as little as possible. The majority of the space on the ground floor will be an open office floor plan, and the second floor will be exhibition space. A blackbox theater will be constructed on the second story and atop it will be more exhibition space. The placement of this theater should take into account the location of the ADA-accessible elevators, the layout of the exhibition, and try to avoid the obstruction of historic features.

Preservation Approach

Challenges and Opportunities

Our group’s task has been to study the incorporation of residential uses into the Navy Yard, while addressing the unique challenges and opportunities facing the site in the future. At present, the Navy Yard remains disconnected from Philadelphia via public transportation, with workers accessing the site via shuttles run to the northern office park and Urban Outfitters, as well as personal cars. The nearest subway stop is a fifteen to twenty minute walk north of the Navy Yard, north of the football and baseball stadiums. While the site’s isolation drove its initial settlement and development, a lack of connectivity threatens the future success of the Navy Yard as an urban neighborhood. Some level increased connectivity—from bike lanes to buses up to a Broad Street line metro stop—is crucial to the success of the site’s residential redevelopment.

The largest challenge facing the site going forward will be climate change. Based on the National Climate Assessment sea level rise scenario, Climate Central, a nonprofit news organization which studies climate change, has projected 4.5 feet of water rise locally by 2100, using the year 1992 as a baseline. Their analysis translates this to 33 percent multi-year risk of at least one flood exceeding 4 feet from 2016 to 2030, and 87 percent risk from 2016 to mid-century, and a 100 percent risk by 2100. They predict a 100 percent risk of at least one flood exceeding 7 feet by the end of the century. Given these alarming statistics, PIDC must plan for the responsible incorporation of residential units into the Navy Yard. Adaptation of the site and historic buildings, as well as the careful design and insertion of new buildings, must be accomplished with a plan to combat flooding.

Another unique challenge is the interpretation of the Navy Yard as a historic site. While the Navy remains on the eastern end of the site, they no longer occupy the majority of the campus. Additionally, PIDC’s demolition of buildings within the historic district has created a vastly different environment than existed historically; the vast, empty lots and suburban atmosphere are a far cry from the densely populated campus of the 20th century. These two major intervening events—the retreat of the Navy and the demolitions—have effectively decontextualized the historic core. Several individual projects, as described below, propose ways to interpret this lost history.

Opportunities include the chance to create a thriving, economically diverse, dense, and mixed-use neighborhood popular with locals and tourists alike. The Urban Outfitters campus has already made the Navy Yard an “industrial chic” attraction; new additions to the campus—rehabilitations, new construction, landscaping, and art—will help shape the cultural identity of the Navy Yard going forward. Additionally, and as discussed previously, the site’s ‘wildness’ distinguishes it from much of Philadelphia. Landscaping must be carefully considered to embrace the natural elements of the Eastern Historic Core; playing up nature and wildness within the site can only benefit the site’s users—both residents, locals, and tourists. The insertion of up to 25% inclusionary housing in new construction will help ensure that the Navy Yard maintains a healthy level of economic diversity, making the site more accessible to a broader swath of Philadelphia’s citizens and combating the possibility of the area becoming a wealthy playground. Although not at present connected by public transit to the rest of Philadelphia, the Navy Yard is close to Center City. With targeted investments in infrastructure, the Navy Yard is advantageously situated to attract both diverse residents and retailers who desire convenience to the center of Philadelphia.

This introduction of residential housing onto the Navy Yard campus will increase the number of stakeholders— which at present includes the few occupants of the Navy Yard, such as Urban Outfitters and Liberty Property Trust, PIDC and the City of Philadelphia, and the U.S. Navy. Additionally, the Navy Yard’s waterfront has not been effectively activated; while Urban Outfitters’ public park brims with activity, the space in

front of Admirals' Row is effectively dead. PIDC has the unique opportunity of using landscape design and programming to extend the vibrancy of the outdoor URBAN space east, bringing life to the Eastern Historic Core—a space that will soon be populated by occupants who desire interesting public space.

To address the aforementioned challenges and opportunities, we have created a targeted preservation approach framework outlining our overall goals for the Eastern Historic Core. Many of these goals can also be applied to the Navy Yard as a whole.

Preservation Approach, Rationale, and Application

Preservation Approach:

1. Plan with climate change in mind, designing for natural sea level rise and increased frequency and intensity of storm surges.
2. Reinstate historic density on the sites of demolished buildings to create an economically diverse neighborhood that incorporates new mixed-use development with residential, retail, and neighborhood services.
3. Aggressive adaptive reuse of heritage buildings using federal historic rehabilitation tax credits if possible, incorporating permanent and temporary mixed uses into buildings.
4. Create an interpretive scheme that reconciles the Navy Yard's history with modern residential uses while maintaining historic maritime and industrial elements.
5. Integrate water ecologically and visually and retain the unintentional wildness that is now a significant part of the Navy Yard's ecosystem.

This framework approaches the preservation of the Navy Yard from a values-centered viewpoint. The treatment of the Eastern Historic Core should be approached “with the primary purpose of protecting the significance of the place” from the viewpoint of professionals and stakeholders. Our understanding of the site's significance, comprised of the Navy Yard's natural, use, heritage, newness, and cultural values, has guided both our written preservation approach and our proposed redevelopment schemes.

The preservation approach should be centered around maintaining (and expanding where appropriate) these values. In areas of the Navy Yard with a dominant heritage value (like the Eastern Historic Core), care should be taken to preserve that heritage value, and in areas with strong natural value (like the waterfront public space), care should be taken to preserve that natural value. Of course individual areas often hold multiple values; in those situations, the preservation approach should attempt to respond to each of those values in turn.

For example, new construction in the Eastern Historic Core of the Navy Yard should respond to the dominant industrial heritage value of the area by being simultaneously distinguishable from and respectful of existing historic buildings. An effort should also be taken to interpret the history of the site for visitors and new residents, so that the history of the area can be understood by people passing through.

With regard to the waterfront, that area currently provides excellent water views and views of New Jersey across the river, and is also accessible to the public (on a site originally developed and paid for by public money), so efforts to redevelop the waterfront should take care to maintain or even enhance the existing

natural value, as well as maintain public access to the waterfront.

In light of maintaining and expanding the Navy Yard's values, our individual projects propose:

- developing strong principles for new development in the Eastern Historic Core,
- coming up with vibrant public use ideas for Building 611,
- constructing a wetland park surrounding Building 611,
- planning a park with public access on the roof of Building 624,
- opening a museum of Philadelphia's industrial history adjacent to the Historic Core with video interpretation of the Navy Yard's ship construction history, and
- establishing a public art park on the projecting pier that extends from the southernmost point of Broad Street.

By using a values-centered approach, a suitable preservation approach can be derived that respectfully responds to the existing values of a place. In the Eastern Historic Core of the Navy Yard, the previously described preservation approach does just that; it aims to maintain its heritage, natural, and cultural values, while also taking care to cultivate newness and use values. The end result, if executed well, will be a truly vibrant neighborhood.

Practical Challenges

Due to PIDC's relative autonomy in planning for and implementing the redevelopment of the Eastern Historic core of the Navy Yard, few logistical issues are present. Funding is largely not an issue due to the current level of fees being collected by property owners at the Navy Yard, and the lack of zoning means that for the moment, plans for preservation and redevelopment of the Navy Yard may essentially be implemented without difficulty, assuming developers want to take on a Navy Yard project. A lack of city services and electric grid connectivity prompted PIDC to set up their own services and electricity generation, which operate separately from the City of Philadelphia successfully. One small current practical hurdle lies in lifting a deed restriction that forbids residential development at the Navy Yard, but the process has been initiated and it is not expected that the deed restriction will be in place for long. Given these relatively few practical challenges in implementing a sound redevelopment plan for the Eastern Historic Core, one must instead focus on the longer term.

One of the biggest logistical challenges that face the Navy Yard as it undergoes redevelopment is the issue of connectivity to Center City Philadelphia. The Navy Yard is presently only accessible via privately run shuttle, and if residential development is to be successful, it will be of the utmost importance that transit options be extended to the Navy Yard that allow both the Philadelphia public to access the Navy Yard and Navy Yard residents to access Philadelphia's City Center easily. The exact form for that connectivity could take the form of underground SEPTA access, above-ground light rail access, or significant bus service; however, the more the form can integrate seamlessly with Philadelphia's dominant SEPTA system (with SEPTA subway service being the most expensive and most integrating approach), the better. Success of the redevelopment of the Navy Yard will depend on this connectivity.

Another large logistical challenge is the eventual transfer of Navy Yard administration/management from PIDC to the City of Philadelphia. A number of questions will arise when that process begins:

- When is the appropriate time for PIDC to hand management of the Navy Yard over to the City?
- What entity will oversee development projects at the Navy Yard at that time? If it is the City Planning Commission, will there be sufficient staff to monitor changes to the Navy Yard and do what it can to ensure that the area is maintained as a viable neighborhood?
- What zoning ordinances will apply to the Navy Yard? Will they change what development is possi-

ble, and be a positive influence on future projects?

- How will Navy Yard public space be managed, and will it be managed in a cohesive manner alongside the management of the built environment, or entirely separately?
- Will electricity generation continue to operate separately from the Philadelphia electric grid, or will it be integrated?

The broad scope of these questions leave much to be determined about the future of Navy Yard at the point at which PIDC hands over the management to the City. The result of that process will dictate much about what will or will not be possible at the Navy Yard, as well as how closely the area will be monitored for future change.

Final Scheme and Schedule

ADAPTIVE REUSE OF BUILDINGS 83, 611, AND 624:

Building 83: We propose to adapt Building 83 primarily for residential use. Lightwells will be necessary at the center to let in light in such a wide building. The ground floor should be mixed use, with ideally restaurants around the perimeter which will be able to take advantage of the historic awnings that surround the building.

For **Building 624**, we propose that upper floors primarily be residential around the perimeter of the building. Since Building 624 is quite wide and natural light will not reach the interior core, we propose that 624 have parking at the core. This solution will reduce the need for non-surface parking in a robust building where residences would lack natural light. Retail would be on the ground floor.

For **Building 611**, we propose temporary uses for the first few years, followed by a public use such as a market or food hall.

PHASED REDEVELOPMENT OF THE EASTERN HISTORIC CORE:

In exploring the possibilities for redevelopment of the Eastern Historic Core, much depends not only on the reuse of Buildings 83, 624, and 611, but also on the use of the spaces between the buildings and the relationship the area is to have with the waterfront. This plan should be revisited every five years.

Outlined below are four stages of redevelopment of the Eastern Historic Core:

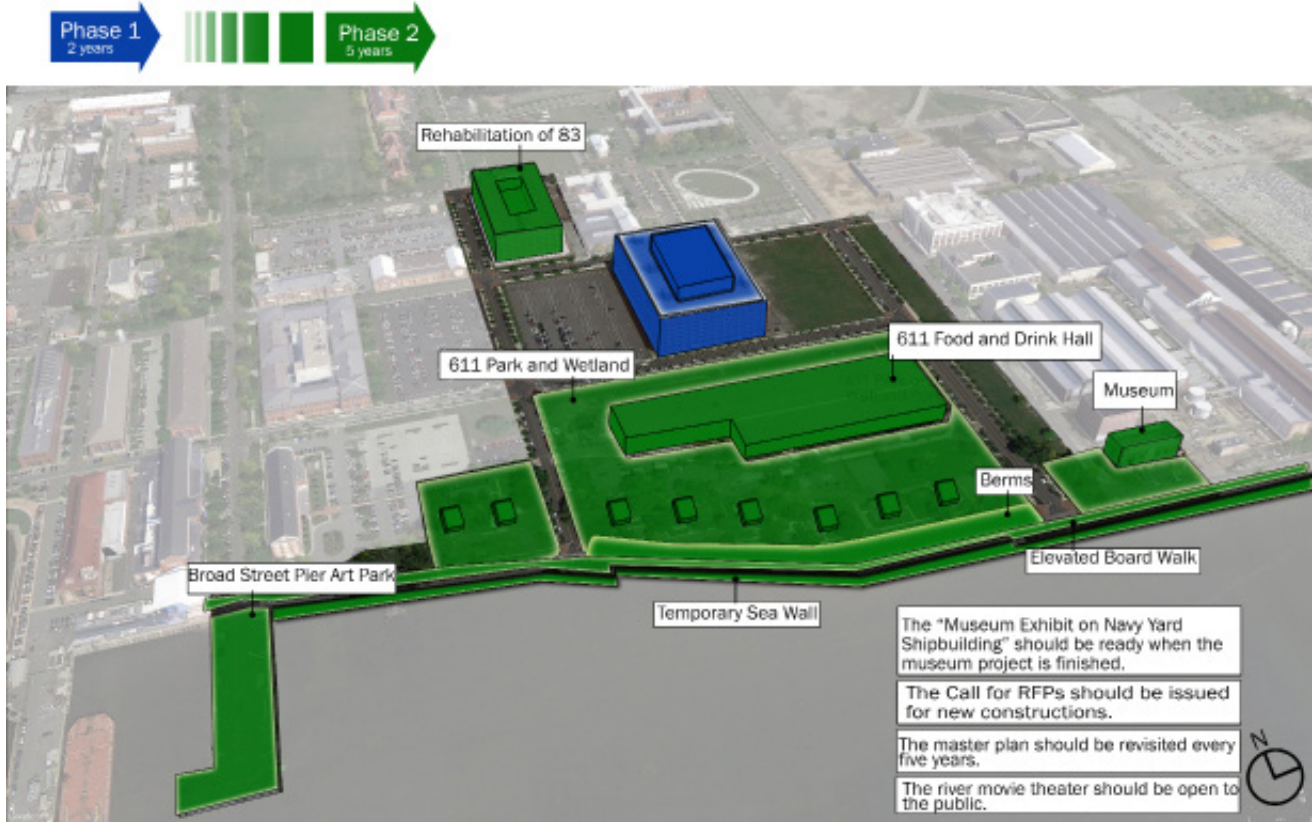
Phase 1: Two Years

Within the next two years, we propose that the rehabilitation of Building 624 be complete, with residential use being reintroduced to the Navy Yard within that timeline. Within this timeframe, we believe that park development should also be complete on the roof of Building 624 and surrounding Building 611.



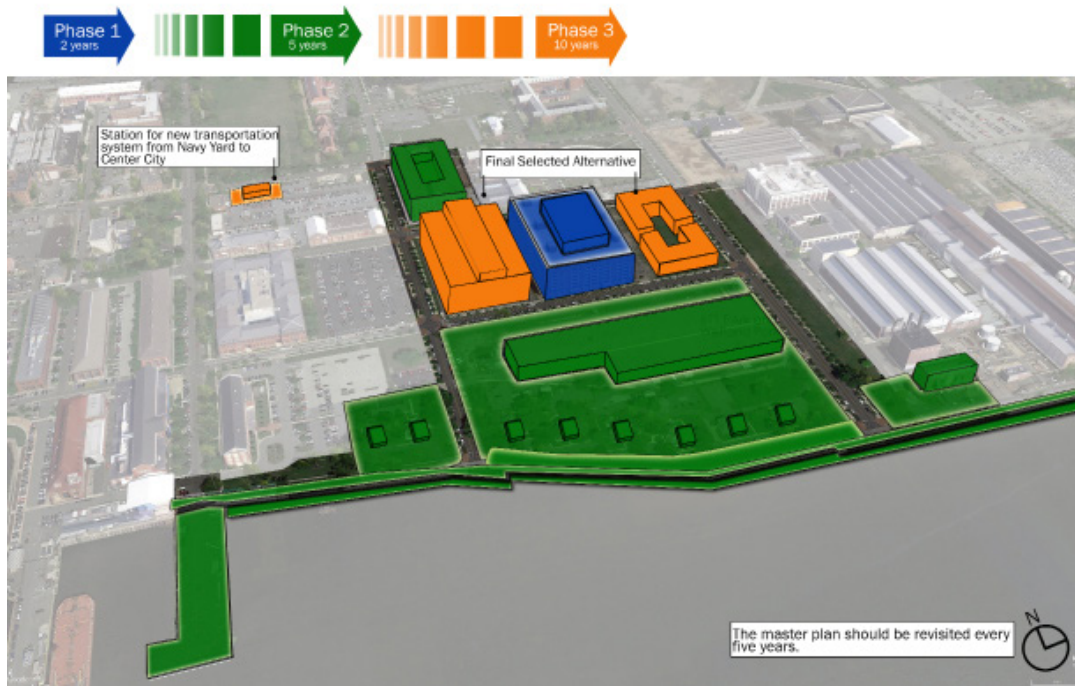
Phase 2: Five Years

Before five years have elapsed, we propose that rehabilitation be complete for Buildings 83 and 611. Additionally, by this time ideally a deployable sea wall should be ready in case of dangerous flooding events, and berms should be installed behind the wall (with an elevated boardwalk) as well in order to prepare for future flood events. Lastly, we hope for the Museum of Philadelphia Industry and the Broad Street Pier Art Park should be open.



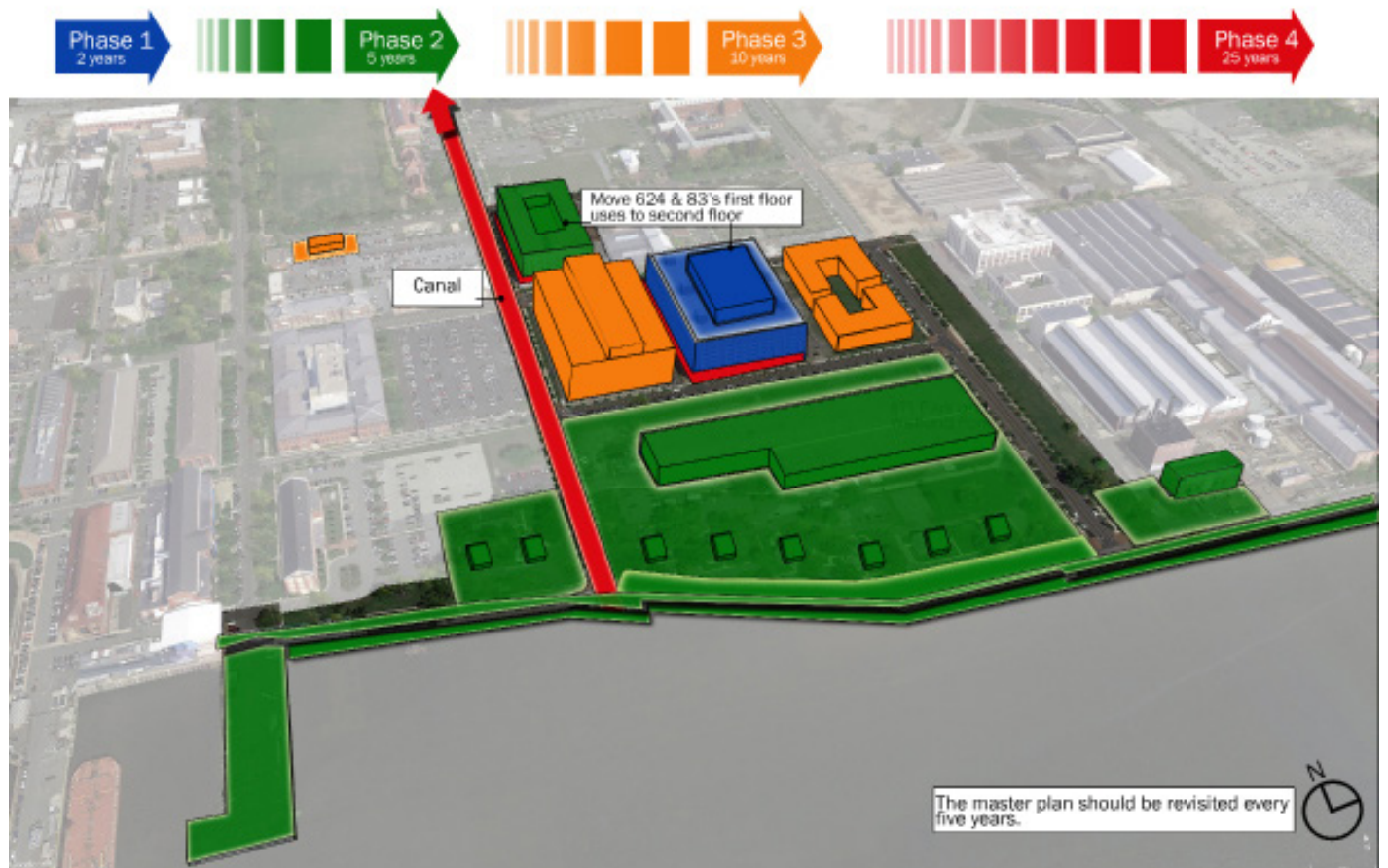
Phase 3: Ten Years

Within the next ten years, new construction in empty lots next to Building 624 should be complete. Additionally, transit access should be extended from AT&T Park to the Navy Yard at this stage.



Phase 4: Twenty-Five Years

Within 25 years, we expect first floor use of existing buildings to be potentially at risk of frequent flooding. Ground floor uses may need to move up to the 2nd floor in order to protect from frequent flood damage. By this point, we also propose channeling increased water through a canal under Broad Street to the reserve basin. Existing street circulation would be maintained, with permeable surfaces allowing water to flow in the canals below.



Feasibility Study

DEFENSIVE LANDSCAPING/CLIMATE CHANGE

The Wall

The Navy Yard has a 30,650 foot long shoreline, and temporary walls have proven successful when a storm occurs with reasonable notice. Aquafence is a brand of deployable, non-permanent fencing, that cost between \$300 and \$700 per linear foot and are 6 feet tall. They can be reused up to 60 times and can be set up much more rapidly than many other temporary wall structures. In the case of the Navy Yard, estimating \$500/foot the fencing would cost approximately \$15.5 million. More permanent flood walls can be better built into the landscape, but can be difficult in denser setting such as the Navy Yard. The cost of building more permanent flood walls of 6 feet in height is approximately \$195 per linear foot, and requires extensive maintenance and careful landscaping.

Canals

Building a canal underneath Broad street connecting to the reserve basin would help as a backup for when the site is inevitably flooded during its lifetime. There are few comparables of a road being turned into a canal covered in a road, but key costs would include excavation, canal construction and retaining walls, and permeable road surfacing that could bear the weight of vehicles. We were unable to calculate an estimate for the Navy Yard in this instance.

Skybridges are estimated to cost between \$3 and \$6 million.

- University of Alaska, Anchorage - \$6 million for 1 skybridge
- Davenport Skybridge, Iowa - \$7 million (575 feet)
- University of Texas Moody College Skybridge - \$3 million

REHABILITATION OF HISTORIC STRUCTURES

The cost estimates for the rehabilitation of Buildings 83, 624 and 611 come from CaVA Architects' studies for the Navy Yard, which were provided to this studio group. CaVA Architects provided us with square foot cost estimates for different types of uses for each building, as well as overall stabilization and remediation costs. With these numbers, we were able to calculate the development cost on a per-floor as well as a building-wide level.

Buildings 83 and 624 are envisioned with retail on the ground floor, and a "residential wrap" containing parking at the core and apartments surrounding it, on upper floors. If the developer does not wish to pursue historic tax credits, a two-story addition can be comfortable built on the roof, adding more apartments or other amenities. With these design parameters, Building 83 will be expected to cost at least \$120,000,000. Building 624 will cost at least \$200,000,000.

Since Building 611 is a different building type and in much worse condition than Buildings 83 and 624, its development costs will be much higher at around \$200-\$300/square foot. With these calculations, it is expected that its stabilization and rehabilitation will cost at least \$49,000,000.

The cost in creating an industrial history museum at the Navy Yard can also be estimated through comparables. Bldg 92 at the Brooklyn Navy Yard is an immediate comparison, as the site and building types are very similar. At 32,000 square feet, the building project cost \$19.4 million. The National Museum of Industrial History in Bethlehem, PA was a longer undertaking but cost significantly less at \$7.5 million. It would be unsurprising for the rehabilitation of Building 79 to cost somewhere between these values.

Solar Panels

Adding solar panels to the roofs of buildings 83 and in smaller measure to the roof of building 624 would be a worthwhile investment as the Navy Yard is on its own grid. By creating a green system that the city will eventually take over, it helps set a precedent for the use of green energy in the city as a whole. Buildings 83 and 624 have roofs that are well-suited and well-situated for solar power, and their heights should make it possible to add panels without changing historic profiles or jeopardizing the use of Historic Preservation Tax Credits. To cover building 83 in panels would cost from 1-3 million dollars, and to add panels to the central additions to building 624 would cost 1-2 million dollars. The long-term payoff is difficult to calculate, but it seems likely that the payoff would be worthwhile.

LANDSCAPING/INTERPRETATION

Elevated Parks

Two comparables have been found in the feasibility study of elevated parks that act as buffers against sea level rise. The first is the USS Monitor Park in Brooklyn New York. The size and scale of the park is similar to what would be designed and installed within the Eastern Historic Core. The total cost of designing and building the park is currently undecided but ranges from \$599,000 and up. The second example of an elevated park is Yanweizhou Park in China. The total cost to build the park was 70 euros (\$74.63) per square meter. The scale of the park is much larger and complex than what would be installed at the Navy Yard but certain features of the design would be useful and aesthetically pleasing for the eastern historic core.

Wetland Park - Ty's Individual Project

Two comparables have been found in predicting the feasibility of constructing a wetland park for my individual project. Bfenvironmental.com estimates that a typical wetland costs between \$30,000-60,000 to design and build. An additional cost estimate comes from stromwatercenter.net showing that a typical storm water wetland will cost close to \$57,000 per acre to build. An additional comparable is the Navy Yard Central Green designed by James Corner Field Operation that is located a block for the proposed Wetland Park. The estimated budget for this park was \$7.4 million and encompasses 5 acres of what was previously a wetland.

Rooftop Park- Mikayla's Individual Project

Creating a neighborhood park integrating historical interpretation on top of building 624 would involve a large amount of engineering and moving of earth that makes it difficult to compare to a traditional neighborhood park. It is also more complex than most green roof projects, which typically do not allow public access and serve primarily aesthetic and environmental purposes. Cira Green is the closest existing comparable, and is 1.2 acres, which is similar in size to the space that will be left to landscaping after the building of additions on the roof of 624. Cira Green cost \$12 million to build, and seems less intentionally programmed than the rooftop proposal here. I am estimating a cost of more like \$15 million for this construction.

Courtyards

Three comparables have been found for public courtyards design and construction cost estimates. The first is Dilworth Plaza in Philadelphia, PA. The cost of renovating the public space into its current status cost around \$50 million dollars. Breaking it down 42 million was used for construction costs, 3 million for construction management, 2 million for public and digital art and 4 million for the bidding process. The second plaza example is Campus Martius Park in Detroit, Michigan. The Park is 1.6 acres and cost \$20 Million to build in 2004. The space currently hosts around 200 events per year and has several water feature. Market Square in Fallbrook, California is the third example public plaza example for the

feasibility study. The square is 6,000 square ft. and cost \$150,000 to redevelop as a pop up market space. The space is owned and maintained by the city of Fallbrook.

Elevated Boardwalks

Three examples of elevated boardwalks are being used for this feasibility study. The first cost estimate comes from Prematrak.com stating that precast concrete piers for an elevated public boardwalk is the most cost effective decision. The price of the installation would be \$40-60 per square ft. Other options are available however for varying price amounts. The second example is by custommfginc.com stating that an 8 ft. wide elevated boardwalk made with pretreated lumber would cost between \$40-80 per square ft. The last example of a public boardwalk cost estimate comes from the Ipswich River Boardwalk in Reading, MA. A feasibility study was conducted for a .87 mile stretch of the boardwalk and found that the .87 mile section of the boardwalk could be built for \$536,319.66 using pressure treated support lumber and composite decking.

Placemaking

For recreational place making I have found three comparables for an inflatable movie screen to be used along the river's edge. The first is a 16x9 screen priced at \$4,595.00 on Outdoormovies.com. The second is a 14ft wide screen priced at \$399.00 on birando.com. The third and last comparable is another 16x9 movie screen priced at \$4,499.00 found on focusedtechnology.com.

Broad Street Pier - Carolyn's project

The Broad Street Pier art project costs consist of repairs and stabilization of the pier, and the curation of permanent and temporary artwork. The cost of pier repairs are estimated between \$4-5 million. Permanent, large-scale artwork, with 8 permanent pieces averaging at \$125,000 apiece will come to a total of \$1 million. 8 temporary pieces at \$100,000 apiece will cost \$800,000; this cost would then be re-incurred every few years in order to bring new temporary artwork to the pier. The total feasibility cost for this project, then, will range between \$5.8- \$6.8 million.

TRANSPORTATION

Broad Street Line Extension

Reports estimate the cost of the Broad Street Line extension to be between \$300 and \$500 million.

Light Rail Shuttle

Based on comparable projects, a shuttle train running approximately 1 mile between AT&T station and the new proposed station on the Navy Yard will cost approximately \$200 million.

- DC's H Street Streetcar running along H Street NE to Union Station: \$200 million
- Norfolk shuttle: \$128 million
- Hawaii HART: \$8 billion
- Chicago - Airport Transit System: \$127 million

EXPECTED INCOME

Residential rents at the Navy Yard are estimated to cost about \$2.25/square foot – cheaper than Center City rents and more comparable to units in Mayaunk. Building 624 could be designed to have 379 units, 408 parking spaces, and Building 624 could have 240 units and 240 parking spaces. If the average apartment size will be 1,800 square feet, that will amount to a yearly rental income of approximately \$11.5 million. For Building 83, yearly income will be around \$9,720,000.

Bibliography

Dorwart, Jeffery M. *The Philadelphia Navy Yard: From the Birth of the Nation to the Nuclear Age*. Philadelphia: University of Pennsylvania Press, 2001.

“Environment.” Fort Monroe, 2015. Accessed Nov.2, 2017, <http://www.fmauthority.com/about/fort-monroe/>

“For Monroe Land Use Plan,” April 13, 2016. Accessed Nov.2, 2016, <http://www.hampton.gov/planning>.

Kauffman, James Laurence. *Philadelphia’s Navy Yards (1801-1948)*. New York: The Newcomen Society, 1948.

Laws of the General Assembly of the Commonwealth of Pennsylvania, Passed at the Session of 1836-37, in the Sixty-First Year of Independence. Harrisburg: Theo Fenn, 1837.

Letters and Documents Relative to the Application to Connect League Island, With the Main Land. Harrisburg: Printed at the office of the Keystone, 1837.

McVarish, Douglas, et. al. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania, Volume 1*. West Chester, PA: John Milner Associates, 1994.

McVarish, Douglas C, “Philadelphia Naval Shipyard Historic District.” National Register of Historic Places Registration Form. United States Department of Interior: National Park Service. 1999.

Merriam-Webster, s.v., “Culture” accessed September 23, 2016. <http://www.merriam-webster.com/dictionary/culture>.

PIDC, The Navy Yard: Philadelphia. “About the Campus: Master Plan,” 2018. <http://www.navyyard.org/about-the-campus/master-plan/>

Robert A. M. Stern Architects, *The Navy Yard Master Plan 2013 Update*, 2013.

“The Navy Yard.” Building 83. PIDC, 2016. <http://www.navyyard.org/flash/history/architecture.swf>.

“The Navy Yard Walking Tour and Visitors Guide.” *The Navy Yard Today*. 2015. http://www.pidcphila.com/images/uploads/resource_library/The_Navy_Yard_Walking_Tour_and_Visitors_Guide_2015_Io.pdf

U.S. Department of the Interior: National Park Service. “Foundation Document: Fort Monroe National Monument, Virginia.” July 2015. Accessed Nov.2, 2016, https://www.nps.gov/fomr/learn/management/upload/FOMR_FD_2015.pdf

The Virginian Pilot. “Making the case for Fort Monroe.” Editorial. January 16, 2009. Accessed Nov.2, 2017, http://pilotonline.com/opinion/editorial/making-the-case-for-fort-monroe/article_7336f5e7-bf54-54e8-8b18-abf1f3f9b2d5.html

Woodward, Colin. “The Coolest Shipyard in America,” *Politico Magazine*, July 21, 2016. Accessed September 23, 2016, <http://www.politico.com/magazine/story/2016/07/philadelphia-what-works-navy-yard-214072>.

“The Yards.” *The Yards*, 2016. <http://theyardsdc.com/>

Appendix A: Individual Projects





Principles for New Construction
EASTERN HISTORIC CORE, THE NAVY YARD

PHILADELPHIA, PENNSYLVANIA

Lucy Midelfort | Historic Preservation Studio | November 21, 2016

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Introduction

THE NAVY YARD

The Philadelphia Navy Yard is, at its heart, a well-established military and industrial site, and the buildings and vessels remaining on the site convey this identity. Its industrial maritime uses continue into the present, with an active shipyard occupying the southern end of the site, and a planned seaport intended for the northern end. Heritage buildings on the site include both former houses (Admiral’s Row) and industrial edifices such as warehouses. The Philadelphia Naval Shipyard was listed as a historic district in the National Register of Historic Places in 1999.



Fig. 1. PIDC Master Plan.¹

THE HISTORIC DISTRICT AND EASTERN HISTORIC CORE

The Historic Core district is the geographical heart and center of the Navy Yard. Within the Historic District lie a large number of historic buildings, including the Receiving Station, Quarters M-1 and M-7, the houses along Admirals Row, and the Urban Outfitters Headquarters buildings. Many of the buildings within the district are currently in use, though a number of key buildings in the eastern portion of the district remain largely vacant (with the exception of some light storage). The district contains large areas of open land including the Marine Parade Grounds, large lawns surrounding Admirals Row, and several other large grassy areas (some of which used to be occupied by buildings). Rows of deciduous trees line the sidewalks.

¹ Fig. 1. Figure courtesy of PIDC.

The Philadelphia Industrial Development Corporation (PIDC) has been tasked with the Navy Yard’s redevelopment, and aims to bring residential development to the Eastern Historic Core of the site. The following principles and guidelines aim to shape future development in the Eastern Historic Core to create a vibrant neighborhood at the Navy Yard, while honoring the military and industrial character of the site.

NEW CONSTRUCTION AND THE CREATION A NEIGHBORHOOD

The new construction that takes place at the Eastern Historic Core of the Navy Yard has the potential to create a truly vibrant, functional neighborhood, if executed carefully and with the following principles in mind:

- a) **Mixed use development:** It is of the utmost importance that new development at the Navy Yard include everyday amenities such as a pharmacy, restaurants, dry cleaners, and childcare in addition to residential development. With these retail amenities on or near the ground floor of new construction, a walkable neighborhood will draw new residents to the area.
- b) **Pedestrian friendliness:** It is not enough to simply offer amenities; those amenities need to be accessible and central in the neighborhood. Retail amenities on the ground floor of taller buildings should open onto the street so as to serve visitors, residents of nearby buildings, as well as those living on upper floors. Pedestrian pathways should also encourage circulation around the neighborhood and to the waterfront.
- c) **Appropriate density:** If residential development is to be successful at the Navy Yard, the level of density in the new neighborhood must be great enough to create a vibrant place (often defined as 15-20 housing units per acre). New development is encouraged to incorporate parking structures and avoid surface parking, and housing should generally be apartment/condo-style, as opposed to single-family homes. New construction should not, however, overshadow existing buildings. It should be in scale with those buildings already there, and take care to not block water or city views from nearby structures.
- d) **Diverse housing options:** A truly vibrant neighborhood is not home to a single type of resident. Offering housing options with a wide variety of floor plans and price points to suit families as well as young professionals or seniors, as well as residents of a variety of economic means, will create a diverse and vibrant community that can appeal to a wide variety of Philadelphians.
- e) **Gathering places:** Public space is key to creating an enjoyable community. New development at the Navy Yard should intentionally create gathering places and public space designed to connect buildings rather than isolate them.
- f) **Special character:** The Navy Yard’s distinct industrial and military heritage could not be recreated, and can give a newly developing neighborhood a strong sense of character that would be difficult to create on its own. New development that honors and respects the naval and industrial heritage of the area will contribute to creating a neighborhood with a strong sense of place.

Character of the Eastern Historic Core

The primary character elements of the Eastern Historic Core of the Navy Yard are outlined below. New construction and development at the Navy Yard should strengthen these already existing elements:

1. **Factory Campus:** The Eastern Historic Core of the Navy Yard can be described as a “factory campus”: it has multiple utilitarian buildings arranged amid an open streetscape and green spaces, with a small number of administrators’ residences placed amid the green space (Admiral’s Row, along the water). The end result is not unlike a college campus, though with a decidedly industrial feel. New construction and development at the Navy Yard should strengthen this balance of utilitarian feel and open space.

2. Economy of Materials: The existing buildings have clearly expressed steel or concrete structure, with utilitarian cladding, typically unpainted.
3. Adaptability: The buildings in the Eastern Historic Core of the Navy Yard have a decidedly utilitarian and adaptable parti. These buildings were designed to be very strong, but also easy to repurpose and reuse, and designers of new construction in the area should keep this essence of adaptability in mind.
4. Intentional Open Space: Despite the strongly industrial and utilitarian character of the buildings in the Eastern Historic Core, the open streetscape environment and greenways lend a campus-like character to the area.
- g) Public Purpose: The Navy Yard was originally developed with public money, and was used to benefit the public throughout its period of significance as a Naval site. In its redevelopment, those developing the area should devote considerable effort to providing for public access, particularly to open space and the waterfront.
5. Connection to Water: The Navy Yard's water front offers impressive views of the Delaware river and a largely wooded New Jersey opposite shoreline, decidedly different from the urban feel of Philadelphia and the industrial feel of the Navy Yard's built environment. This juxtaposition of industrial structures with a strong connection to green space and water creates a special character in the Eastern Historic Core, truly unlike other places in the Philadelphia area. New construction and redevelopment of the Eastern Historic Core should focus on maintaining and ideally enhancing this juxtaposition: the special character of utilitarian structures combined with a strong connection to the water.

ARCHITECTURAL STYLES AND KEY FEATURES

BUILDING TYPE I – INDUSTRIAL SHED:

- Form: Primary volume is a raised central gable with flanking shed wings.
- Fenestration: ribbon windows create strong horizontal impression.



Fig 1. Type I, Building 611. Photo by author.

BUILDING TYPE II – MIDHEIGHT WAREHOUSE:

- Form: Primary volume is a simple rectangle, 8 story, flat slab construction building.
- Flat roof with a simple projecting cornice and parapet wall.
- On building 624, pilasters divide the form into 20 bays and create a vertical impression.
- On building 83, form is divided into 9 bays



Fig. 4. Type II, Building 83. Photo by author.



Fig. 5. Type II, Building 624. Photo by author.



Fig. 6. Type II, Buildings bordering the Eastern Historic Core to the East. Photo by Arielle Harris.

BUILDING TYPE III – EARLY 20TH CENTURY UTILITARIAN:

- Form: Primary volume is a simple rectangle with repetitive bays.
- Flat roof a gable or gable-like ornamentation on either end.
- Brick veneer over steel/concrete structure.



Fig. 7. Type III, Building 79, Photo by Arielle Harris.



Fig. 8. Type III, Building 56, Photo by Carolyn Zemanian

Principles for New Construction

The following principles have been developed with the aim of honoring the existing character of the Eastern Historic Core of the Navy Yard and at the same time creating a vibrant neighborhood where there was none before: creating a neighborhood that draws upon and responds to the history of the place. The original industrial character of the area and strong connection to the water should be treated as a historic precedent and enhanced where possible.

Responding to this precedent should yield new construction that is contemporary and appropriate for the creation of a neighborhood where previously there was none. At the same time, it should also respond to the key features noted earlier in this document.

The end result should be new construction that can be easily interpreted as distinguishable from the historic structures, yet respectful and responsive to what was originally there.

HOW SHOULD USES BE MIXED?

New construction should be mixed-use. Residential development should provide for diverse housing options, with a wide variety of forms and price points available and incorporating a level of inclusionary housing. Diverse retail amenities should take up lower floors. Ground floor storefronts should be relatively narrow to ensure for diverse walking experiences at ground level and should provide everyday commercial conveniences to visitors and residences.



Figs 9-10. Successful mixed use developments in historic settings.²³

2. Fig. 9: Jeffrey Jacobs. 2010. Digital Image. Available from: http://www.hbginc.com/projects/adaptivereuse/peabody-place-historic-redevelopment/#.WEEmb_blrKUK (accessed December 1, 2016).

3. Fig. 10: Photographer unknown. Digital image. Available from: <http://www.brownstoner.com/interiors-renovation/architect-ariel-aufgang-on-adaptive-reuse-and-converting-a-1950s-factory-in-dumbo/> (accessed December 13, 2016).

HOW SHOULD BUILDINGS AND OPEN SPACES RELATE?

Historically, buildings in the Eastern Historic Core were built using the same orientation as the street grid, and generally filled their entire lots. New construction should not be limited to the orientation of the street grid so as to allow the creation of smaller public spaces between buildings that could help build the Navy Yard's neighborhood feel. One way to create more pedestrian-friendly new construction could be to have new structures fill the size of the lot, but have open internal areas (ideally open to the public) that create open space on a pedestrian scale and allow natural light to reach building interiors.

The existing street grid, though slightly different from the historic grid, should not be drastically changed with the introduction of residential use. The grid itself provides a metaphorical connection to Philadelphia, a city built around a rigid street grid from the start, and the building forms in the area (larger utilitarian blocks) lend themselves to a regular street grid (as opposed to other residential street types such as cul de sacs).



Fig. 11. An industrial building in Danville, VA, built to the lot line.⁴



Fig. 12. An interior public courtyard in Boston, MA.⁵

4. Fig. 11: Photographer unknown. Digital image. Available from: <http://www.solexarchitecture.com/renovation-adaptive-reuse> (accessed December 4, 2016).

5 Fig. 12: Photographer unknown. Digital image. Available from: <http://www.universalhub.com/2016/developer-files-plans-double-branded-hotel-marine>. (accessed December 13, 2016).

HOW SHOULD BUILDINGS RESPOND TO THEIR CONTEXT?

New buildings in the Eastern Historic Core should reference the traditional massing of the historic industrial buildings in the area, without overshadowing what already exists. New single-family homes, despite appearing in Admiral's Row at the Navy Yard, should be avoided so as to create a sense of public space and access to the water for all.

Buildings should maintain the general design character of existing buildings, with predominantly rectangular structures and repetitive bays. Design elements such as diagonals and chamfers are generally discouraged in new construction.

Views of the nearby water are important, and therefore views from new construction should be maximized, potentially by creating varied roof levels (higher further from the water).

Roofs should be either flat roofs or shed roofs. Since open and public spaces are important in creating a vibrant neighborhood, where possible roofs should be used for gathering spaces like parks, bars, or pools.



Fig. 13. A proposed development in Boston, MA with a stepped roof providing for greater views of the water.⁶



Fig. 14. Repetitive bays on a modern rectangular building. Madrid, Spain.⁷

6. Fig. 13: Photographer unknown. Digital image. Available from: <http://thebostondaybook.com/2013/08/07/concerts-in-the-courtyard-2/> (accessed December 4, 2016).

7. Fig. 14: Photographer unknown. Digital image. Available from: <http://waaaat.welovead.com/en/top/detail/311wjmjqCh.html> (accessed December 13, 2016).

HOW SHOULD BUILDINGS PERFORM?

New construction should be as environmentally sustainable as possible, with LEED certification and high energy efficiency. Beyond that, however, new buildings should be floodproof to account for the location of the Eastern Historic Core so close to the water, where sea level rise and increased storm surge due to climate change will put buildings at significant threat for flood damage.



Fig. 15. LEED Certified building at the Phipps Center for Sustainable Landscape, Pittsburgh, PA.⁸



Fig. 16. Flood-proof residential development, Amsterdam.⁹

8. Fig. 15: Photographer unknown. Digital image. Available from: <http://inhabitat.com/hipps-center-for-sustainable-landscapes-achieves-leed-platinum-certification/> (accessed December 13, 2016).

9. Fig. 16: Photographer unknown. Digital image. Available from: <http://www.bbc.com/news/world-europe-26302176> (accessed December 13, 2016).

HOW SHOULD PEOPLE AND VEHICLES MOVE AROUND?

Pedestrian-specific circulation should be emphasized, with paths leading to and from pedestrian centers such as the SEPTA transit stop and the waterfront.

Cars, buses, and trucks should circulate using the existing street grid. Curb cuts should be kept to a minimum, especially near pedestrian entrances. As much as possible, curb cuts should be focused toward the back of buildings or opposite sides from pedestrian entrances.



Fig. 17. Pedestrian-friendly walkways, Indianapolis, IN.¹⁰



Fig. 18. Discrete vehicle loading dock, University of Pennsylvania.

¹⁰ Fig. 17: Dan O'Connor, 2012. Digital image. Available from Flickr, accessed December 6, 2016.

HOW SHOULD PARKING BE INTEGRATED?

To create an enjoyable neighborhood for walking, surface parking should be avoided. Where necessary, parking structures should be integrated into new construction to allow for higher density development and a more walkable neighborhood.



Fig. 19-20. High density parking that respond to their historic contexts. Staunton, VA and Fort Myers, FL.¹¹¹²

11 Fig. 19: Jason Hottel. Digital image. Available from: <http://www.archnewsnow.com/features/Feature107.htm> (accessed December 13, 2016).

12 Fig. 20: Photographer unknown. Digital image. Available from: <http://www.myriverdistrict.com/p/215> (accessed December 13, 2016).

WHAT QUALITIES SHOULD PUBLIC SPACE HAVE?

A flourishing neighborhood relies on gathering places. New construction should be paired with the creation of public spaces on a pedestrian scale.

As much as possible, public spaces should connect buildings to other buildings and the nearby water, rather than isolate them.



Fig. 21. Pedestrian-scale open space with outdoor seating, Berlin, Germany.¹³



Fig. 22. Walkways along the water, Washington, DC.¹⁴

¹³ Fig. 21: Photographer unknown. Digital image. Available from: <http://markusansra.blogspot.com/2016/01/beer-garden.html> (accessed December 7, 2016).

¹⁴ Fig. 22: Photographer unknown. Digital image. Available from: <http://www.walkofthetowndc.com/waterfront-walk.html> (accessed December 13, 2016).

WHAT QUALITIES SHOULD THE LANDSCAPE HAVE?

Landscape development of small outdoor use/public spaces is encouraged, and will help create a vibrant neighborhood feel. Prior to development at the Navy Yard, the land was colonized by plants native to low-lying areas such as reeds and other plants that do well in wet soils. New landscape treatments should respond to that history, using wetland species that will flourish in wet soils and enhance the connection of the Eastern Historic Core to the nearby river. Deciduous trees already exist at the Navy Yard and could definitely be used in new landscape design.



08 The banded pattern of the wetland plant community demonstrates the filtering process of the wetland at the entrance of the park

Fig. 23. Wetland park design, Houtan Park, Shanghai.¹⁵



Fig. 24. Elevated boardwalks, Wilmington, North Carolina.¹⁶

¹⁵ Fig. 23: Photographer unknown. Digital image. Available from: <https://www.asla.org/2010awards/006.html> (accessed December 13, 2016).

¹⁶ Fig. 24: Photographer unknown. Digital image. Available from: <http://www.americantrails.org/photoGalleries/cool/24-Low-Boardwalk-ADA-Accessible-Trail.html> (accessed December 13, 2016).

WHAT KINDS OF MATERIALS SHOULD BE USED?

Historically, buildings at the Navy Yard were constructed primarily of simple materials: red brick, unpainted reinforced concrete, and metal siding. Similarly simple materials should dominate the exteriors of newly constructed buildings. No painted surfaces appear on historic buildings in the Eastern Historic Core, so painted surfaces should similarly be avoided in new construction.



Figs. 25 – 27: Unpainted economical materials: concrete, brick, and metal sheet.¹⁷

Image Credits

Cover: Photo by author.

Fig. 1: Courtesy of PIDC.

Fig. 2: Photo by author.

Fig. 3: Photo by author.

Fig. 4: Photo by author.

Fig. 5: Photo by author.

Fig. 6: Photo by Arielle Harris.

Fig. 7: Photo by Arielle Harris.

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Fig. 12: Photographer unknown. Digital image. Available from: <http://www.universalhub.com/2016/developer-files-plans-double-branded-hotel-marine>. (accessed December 13, 2016).

Fig. 13: Photographer unknown. Digital image. Available from: <http://thebostondaybook.com/2013/08/07/concerts-in-the-courtyard-2/> (accessed December 4, 2016).

Fig. 14: Photographer unknown. Digital image. Available from: <http://waaaat.welovead.com/en/top/detail/311wjmQCh.html> (accessed December 13, 2016).

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Figs. 25-27: Photographers unknown. Digital image. Available from Shutterfly, accessed Dec. 1, 2016.

¹⁷ Figs. 25-27: Photographers unknown. Digital image. Available from Shutterfly, accessed Dec. 1, 2016.

INTRODUCTION

The Navy Yard is characterized by its number of largely un-designed and underutilized green spaces. In attempting to create a cohesive neighborhood from the Eastern Historic Core, green spaces will take on an increasing important role and serve an increasingly important purpose. My project proposes the addition of a neighborhood rooftop park to building 624. Our preservation plan includes a central, 2-story addition to the building and filling the building with parking at its core with apartment units around the outside. The space is very unique for a variety of reasons, and offers a unique interpretative opportunity on the site.

The project fits into our larger preservation plan, whose 5 points are listed below (emphasis in blue and commentary added):

1. Plan with resilience to **climate change** in mind, designing for sea-level rise and increased frequency and intensity of storm surges.

Preparing for climate change includes planning for more effective storm water retention and processing, which are often inherent in green roof structures.

2. Reinstate historic density on the sites of demolished buildings to create an economically diverse neighborhood that incorporates **new mixed-use development** with residential, retail, and **neighborhood services**.

The addition of this neighborhood park creates another usage for this historic asset, while providing services not just for the neighborhood but for the larger public.

3. **Aggressive adaptive reuse** of heritage buildings using federal historic rehabilitation tax credits if possible, incorporating permanent and temporary mixed uses into buildings.

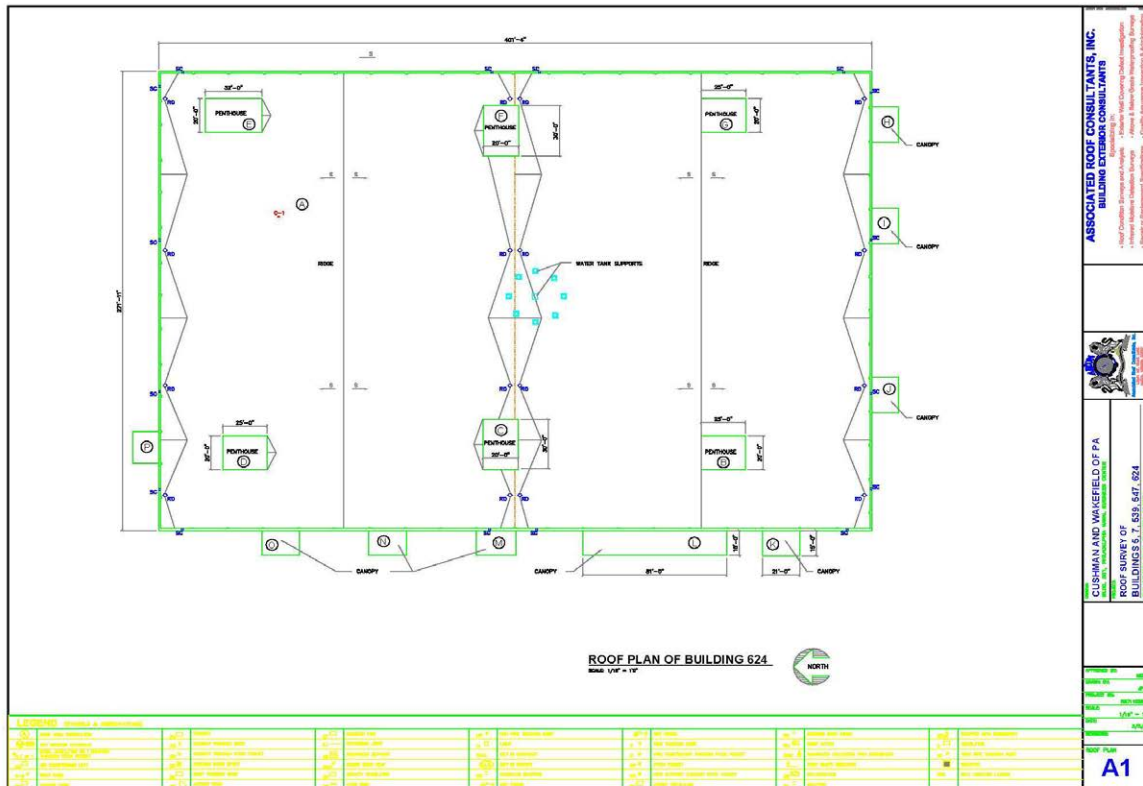
There are very few (if any) heritage buildings that currently have accessible neighborhood parks on their roofs. This project has the capacity to launch preservation and particularly preservation of large, white elephant industrial buildings into a more eco-friendly and innovative sphere.

4. Create an [interpretative scheme that reconciles the Navy Yard's history with modern residential uses](#) while maintaining historic maritime and industrial elements.

In creating this park, there are two key audiences that we are trying to attract and educate on the history of the Navy Yard: the residents, and the public at large. By creating an understated but informative interpretative scheme in a space with these two types of audiences, it offers another type of interpretation.

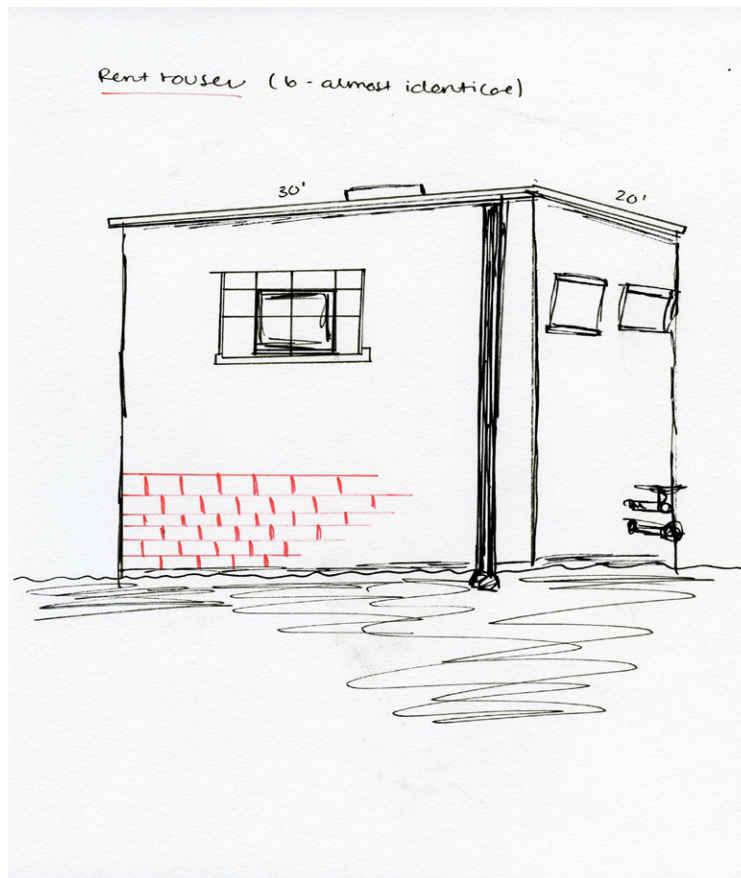
5. Integrate water ecologically and visually and [retain the unintentional wildness](#) that is now a significant part of the Navy Yard's ecosystem.

In an effort to create a design that is cohesive with the rest of the Navy Yard, an effort will be made to integrate the key elements of what we have referred to as the site's "wildness," which include tall native grasses that have taken over under-maintained portions of the site.

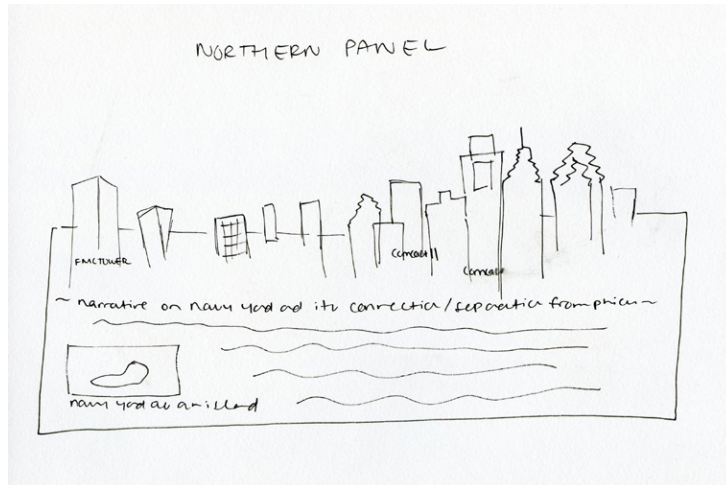


EXISTING CONDITIONS

Above is a current roof plan of building 624, which shows its dimensions, the placement of key structural elements including drainage, a central water tower, and the location of 6 elevator penthouses, as sketched below.



The entire roof area is approximately 2.5 acres, and has an approximately 5 foot wall around the exterior perimeter. What makes it especially interesting as an interpretative opportunity is its views. Along the 4 sides of the perimeter of the building 4 different views at each cardinal direction tell very different stories of the history and present state of the Navy Yard. The views and what type of interpretation they offer are listed more at length below.



The view north provides not only a view of other contributing buildings in the historic core, but a view across the stadiums to center city. The site's history of connection and separation to/from the city of Philadelphia offers an interesting interpretative narrative. From this view, this separation is visible. Below the panorama is a sketch of what a panel that interprets this story may look like. By integrating it into the landscape, and by including the Philadelphia Skyline as seen from this direction, this interpretation adds to rather than distracts from the park's neighborhood use.



The view west offers a look at Urban Outfitters current campus, as well as of the many mothballed and still functional ships. From this vantage point, it's not difficult to imagine the Navy Yard as a bustling industrial entity.



The view South offers a unique view of building 611, which we expect to take on a variety of temporary uses that engage the public and bring interest to the yard as a whole. It also offers a view over what will become part of the wetland park as proposed by Ty's individual project, the future museum as proposed by Arielle's project, and of admiral's row. The view across the water to a forested portion of Camden offers interpretative potential as a physical reminder of the site's connection to the water.



To the east is a view of the part of the Navy Yard that is still used by the Navy. It also offers a view to the airport, and planes fly over frequently. This experience is particularly striking from the roof, and as building 624 was used as a warehouse for the Naval Aircraft Factory it may be an interesting place to make that connection.

USERS AND PROGRAM

The design comes from a consideration of what types of people would enjoy using the park, and what types of programming they would most enjoy or benefit from. As building 624 will eventually be filled by residents, it is easy to assume that the building's roof will primarily exist to serve them. As a real estate asset, especially as many of these apartment dwellers will be expecting or seeking amenities present in center city apartments, such as a playground for children, a dog run, and an event space. As the Navy Yard has historically and will continue to provide to the public, it seems necessary that the park be open to the public and accessed via the elevators that run up to the penthouses. The historical plaques and path around the perimeter will serve primarily to appeal to this group.

The program is defined and prioritized as such:

1. A neighborhood park, providing amenities including a playground and dog run.
2. Public access to take advantage of views and historical interpretation.
3. Ecological function, storm water retention.
4. Innovative event space.
5. Customizable space to fit a variety of uses in a relatively small, segmented space, including moveable tables and chairs.
6. Brand the space: 624 rooftop park.

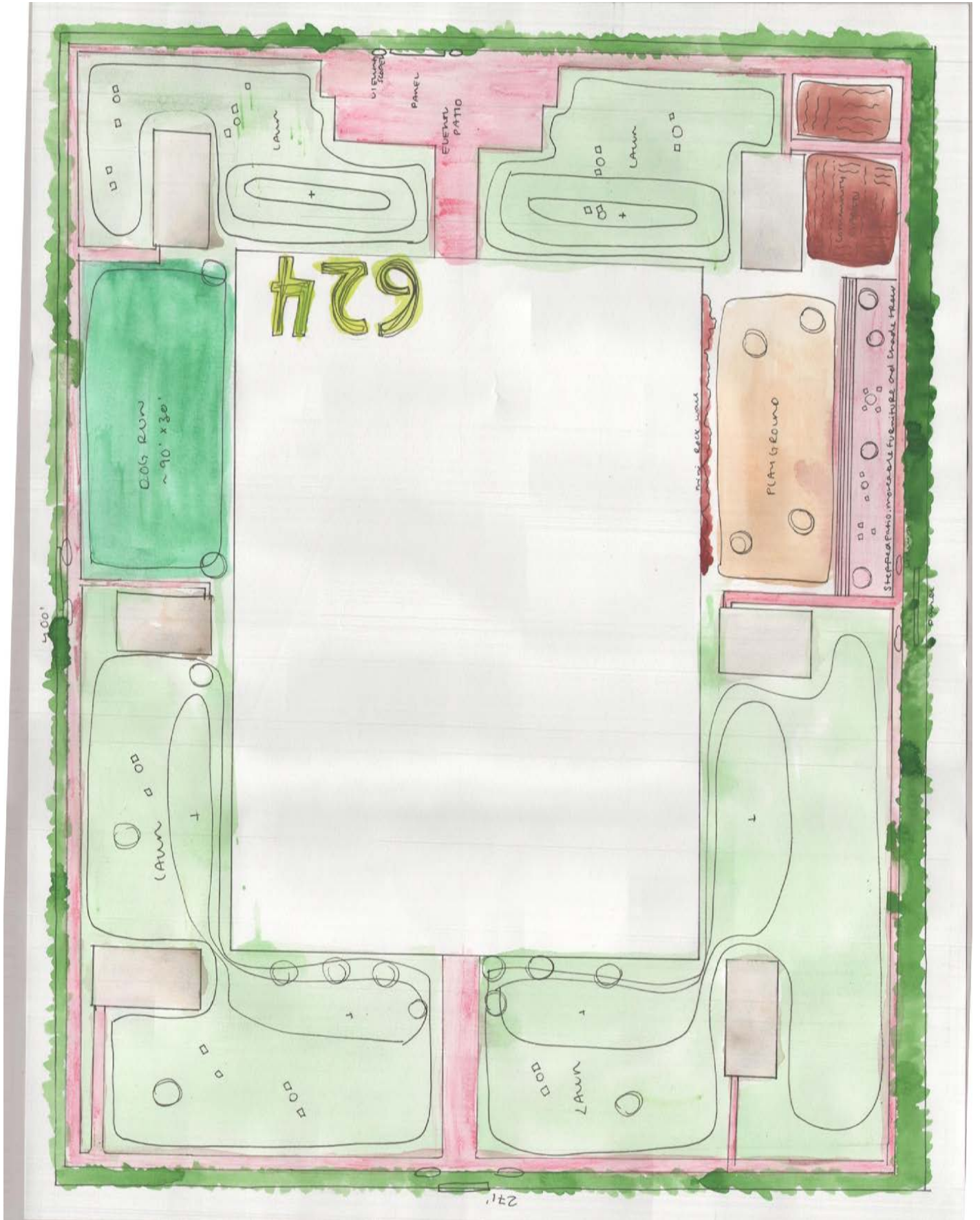
DESIGN: TRUST THE PROCESS

The design was worked out over a series of iterations, using the current roof plan as the base of study. After this process done in consideration of the preservation plan, a few key design features were decided upon, including:

1. Divide the space into quadrants, organizing the park and its historical interpretation to the four cardinal directions and the views that correspond with each.
2. The use of humble, modest materials found elsewhere at the Navy yard, including recycled materials when possible.
3. Create a pop-up atmosphere.
4. Integrate elevator penthouses as historic structures

5. Integrate “wildness” found elsewhere in the Navy Yard and its landscaping.

The resulting plan creates a four-part organization which is further subdivided by the historic penthouses, which feed into the brick path encircling the roof. The edge of the roof is softened by a herbaceous border, in the kinds of wild grasses found in other parts of the Navy Yard, particularly behind building 611. This creates a boundary for safety reasons while helping to visually integrate the park within its surroundings. It is also within the confines of this boundary that the historical panels would be placed, with accompanying viewing scopes to help visitors see details that might be difficult with the naked eye. For flexibility of use, the site is characterized by large, open lawns with a slight tilt towards the outside edges of the park, creating another way to partake in the views the roof offers. These lawns are punctuated with moveable tables and chairs, allowing users to create their own groupings and find their own uses for the lawn spaces. For kids, a playground sits sheltered from the elements between two penthouses, and includes a miniature rock wall and a stepped patio for parents to use and enjoy while watching their kids. This patio is strategically placed nearer the edge and facing away from the edge in an attempt to minimize risks associated with a playground on top of a roof. Adjacent is a small community garden for residents to cultivate their own fruits and veggies. The space isn't large, and could be expanded to include more of the roof, but a lot can be done within a relatively small space when it comes to community gardens. To the west is a dog run, large enough for small to large dogs. To the north is an entertainment patio, privileging views of center city. This would be an interesting space to install a lit sign visible from center city branding the building as 624 using materials like corrugated metal as the background. Integrating shade trees into the landscape can be difficult on the roof, as trees require approximately 6 feet of soil and would need substantial tree pits. Conditions up on a roof are often also alternately dryer or wetter and windier than on the ground. Use of native species is preferred, but they would need to be hearty in variable conditions.



Ty Richardson

December 19, 2016

Studio

Individual Project

611 Park and Wetland

Project Description

My individual project is an environmentally sustainable wetland design that cultivates the unintentional wildness that is now a significant part of the Navy Yard's ecosystem and creates a recreational space for future residents of the eastern historic core. This project informs 3 different points within the preservation approach. For point 2 within the current preservation approach by creating a recreational space for future residents of Building 624 and any new residential buildings that will be planned in order to reinstate density in the Navy Yard. It is also a direct response to point 5 where water and native plant species that thrive around wetlands will be integrated into the design of the area to retain the unintentional wildness of the Navy Yard. Furthermore by creating an environmentally sustainable design by using water the design will be a response to point 1 that plans for climate change and flooding in mind.

The wetland park design will provide recreational space for future residents of the eastern historic core while also providing a habitat for native plant and animal species to thrive in. Plant species to be used in the park design include: Purple Loosestrife, Soft Rush, Common Reed, Alder Trees, Red Maple Trees, and Cottonwood Trees. A separate lawn area will be created along Flagship Drive and South 13th Street which will give residents and other visitors a place sit and relax or enjoy a picnic. Most, if not all, of the existing trees around the site will either remain or be incorporated into the parks design. These trees are important to the site providing shade, aesthetic beauty, and water absorption. Another aesthetic that would further tie in the park to the Navy Yard's history is the anchor from Building 83, which may be used as signage for the park. The park will be accessible in several different locations, including through Building 611, which will give users of the park the opportunity to access the vendors inside the building before or after visiting the park. Additionally the park will be a buffer to the threat of climate change. If flooding

occurs, the wetland will absorb large amounts of the water and disperse it elsewhere to storm drains, or absorb the water through a trench drain system. The park will be a standout destination within the eastern historic core, but it should also connect with other destinations within the Navy Yard giving the area a neighborhood feeling and providing a clear path for visitors to travel from one attraction to another.

My deliverables for the project consist of a printed 24x36 AutoCAD drawing of the design in aerial view, an additional 24x36 drawing in perspective view and a hand drawn section of the park. In order to show the changes that will be made to the site's existing conditions an existing conditions photo will be provided. Furthermore a list of vegetative species that includes existing and new species will be a necessary deliverable.

Vegetation

All vegetative species to be used in the wetland are found within the Navy Yard and can thrive in a wetland environment.

Phragmites australis – Common Reed

Lythrum salicaria – Purple Loosestrife

Juncus effusus – Soft Rush

Populus deltoids – Cottonwood

Acer rubrum – Red Maple

Alnus glutinosa – Alder

Images

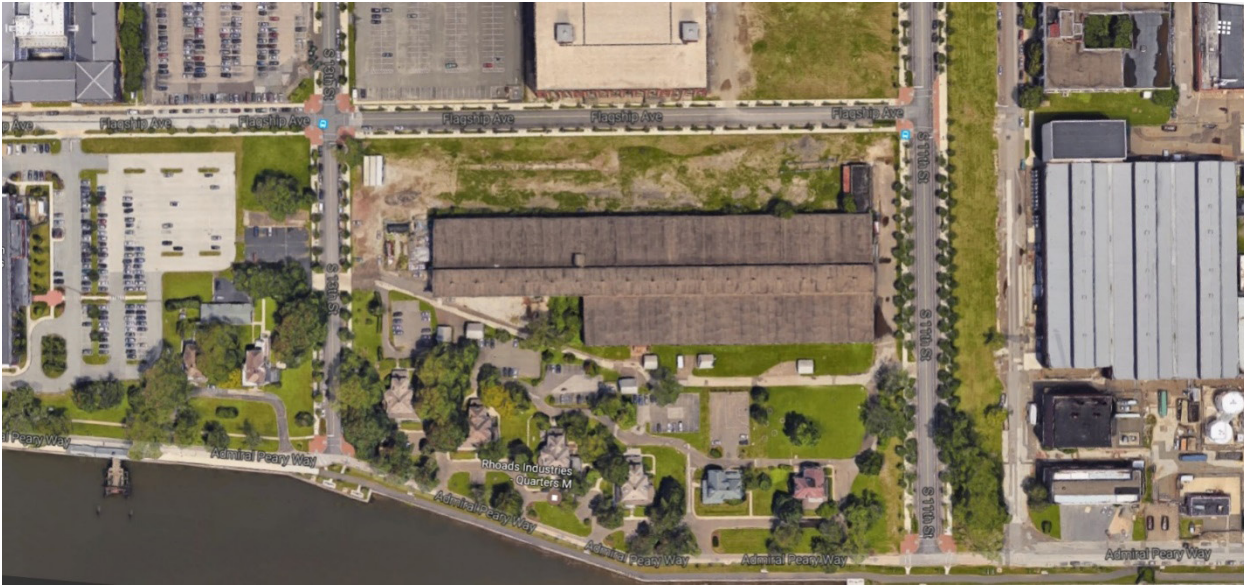


Image 1. Existing Conditions of Landscape around Building 611. ¹



Image 2. Alder Tree ²

¹ "Google Maps", Last Updated 2016, Gathered December 2, 2016, <https://www.google.com/maps/@39.8882457,-75.1717705,389m/data=!3m1!1e3?hl=en>.

² "Alder Tree", Gathered December 2, 2016, https://commons.wikimedia.org/wiki/File:Alnus_cordata_alder_tree.jpg.



Image 3. Cottonwood Tree ³



Image 4. Reed Maple Tree ⁴



Image 5. Common Reed ⁵

3 “Cotton Wood Tree”, Gathered December 2, 2016, <http://www.wooddomain.com/trees/cottonwood-tree>.

4 “Red Maple Tree”, Gathered December 2, 2016, <http://www.publicdomainpictures.net/hledej.php?hleda=red+ma-ple+tree>.

5 “Common Reed”, Gathered December 2, 2016, <http://archive.jsonline.com/news/wisconsin/volunteers-stalking-invasive-plant-species-nf62vld-162481386.html>.



Image 6. Purple Loosestrife ⁶



Image 7. Soft Rush ⁷

6 “Purple Loosestrife”, Gathered December 2, 2016, <https://mdc.mo.gov/trees-plants/problem-plant-control/invasive-plants/purple-loosestrife-control>.

7 “Soft Rush”, Gathered December 2, 2016, <http://www.plantsrescue.com/tag/soft-rush/>.

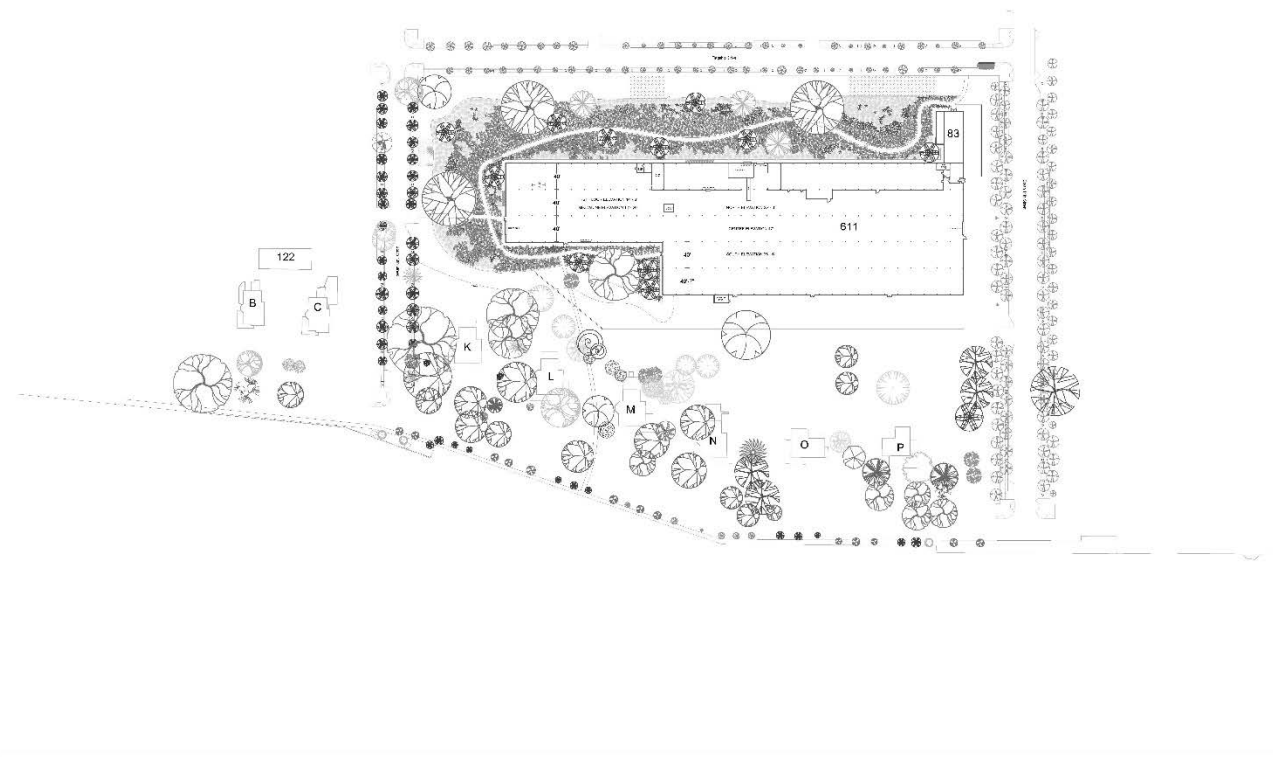


Image 8. Plan Drawing of Proposed 611 Park and Wetland ⁸

⁸ "2016 Tree Survey Map", Provided by CBRE.



Image 9. Perspective Drawing of proposed 611 Park and Wetland.

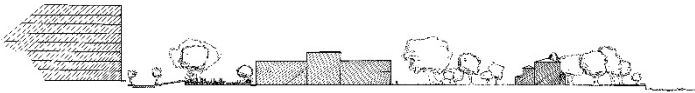


Image 10. Hand Drawn Section of proposed 611 Park and Wetland.

Sources

Red Maple Tree, Gathered December 2, 2016, <http://www.publicdomainpictures.net/hledej.php?hleda=red+maple+tree>

Alder Tree, Gathered December 2, 2016, https://commons.wikimedia.org/wiki/File:Alnus_cordata_alder_tree.jpg

Cotton Wood Tree, Gathered December 2, 2016, <http://www.wooddomain.com/trees/cottonwood-tree>

Soft Rush, Gathered December 2, 2016, <http://www.plantsrescue.com/tag/soft-rush/>

Purple Loosestrife, Gathered December 2, 2016, <https://mdc.mo.gov/trees-plants/problem-plant-control/invasive-plants/purple-loosestrife-control>

Common Reed, Gathered December 2, 2016, <http://archive.jsonline.com/news/wisconsin/volunteers-stalking-invasive-plant-species-nf62vld-162481386.html>

“Google Maps”, Last Updated 2016, Gathered December 2, 2016, <https://www.google.com/maps/@39.8882457,-75.1717705,389m/data=!3m1!1e3?hl=en>

“2016 Tree Survey Map”, Provided by CBRE.

611 Food and Drink Hall/Garden

Introduction:

Building 611, located at the southern part of the Eastern Historic core in the Philadelphia Navy Yard, is a two story warehouse constructed in 1942-43, during World War II. It was originally built by civil engineers, who oversaw construction in the eastern part of the Historic Core in the early 20th century. The primary use for this building was: Storehouse, Naval Air Material Center, and Bulk material warehouse.

This industrial historic warehouse is 702 feet long by 202 feet wide by 47 feet high. Its 215,800 square foot area is divided unequally in two stories. It includes 177 metal columns and is a wholly metal structure generally in a good condition. The building is combined of two rectangular shape, horizontally attached together. An industrial open floor building. Designed in one vast ground floor space with side mezzanine levels built in both horizontal sides of building. A central, tall, monitor-roofed block with lower, flanking, shed-roofed blocks. Building 611 is among the contributing buildings listed in the historic district of Navy Yard, registered in the National Register of Historic Places. Navy Yard was registered in NRHP at 04/12/1999 as a historic district.

Currently this building is owned by PIDC. The west part is temporary used for “Philadelphia Horticultural Society” events. Urban Outfitters Clothing Company, has a lease agreement with PIDC for the eastern side of building and the mezzanine for its storage.

Building 611 located in neighborhood of Admiral Peary way (built between 1900-1906), a row of “Naval Officers” quarters and registered in National Historic Places register, also being so close to the waterfront, bring up a great opportunity for redevelopment purposes. Based on this fact, transformation of this building has a high sensitivity and should be considered as a powerful engine, and a catalyst for changing Navy Yard to a real city neighborhood.

Regarding to these issues, in preservation approaches for building 611I am looking to:

First: to match the preservation approaches defined in our Navy Yard Studio, and with having it in hand to:

- Empower the economic impacts of this project
- Preserve the integrity of historic site
- Respect to the admiral Peary way, national registered houses characteristics
- Consider the climate change factors
- Make a logical and dependable connection to water front.

Proposed Plan: Food and Drink Hall/Garden

According to previous discussion, I Propose to transform this metal structure warehouse to an International food and drink hall. The plan is designed for building 611, its entire natural landscape at the southern side and in collaboration with the Admiral's Peary Row. Based on this plan, building 611 will be a place for a wide variety of international restaurants, and bars. A place for hanging out and have a different experience of different daily eating and drinking habits around the world. This Food and Drink Hall will offer many different kinds of seasonal drinks and Foods in a global range and will host people 24/7 days, inside and outside of the entire building. The Food and Drink Hall/Garden will be a place where one can explore the American beer, Japanese tea ceremonies, Persian "Sharbat", French or Turkish Coffee, Russian Vodka, or tropical smoothies, beside their food. The place also will offer fresh and organic groceries. Considering that buildings 624 and 83 are turning to mixed use of residential/retail reuse and knowing that other new residential constructions are planned to be added to this district within the next ten years, the need for having a place like 611 Food and Drink Hall is clear and important.

This plan in connection with other parts of Navy Yard Studio Project (The Broad Street public art park, 624 rooftop park, the museum and the 611 park and wetland) is aiming to invite a big community of local people and tourists to Navy Yard. Many of these local people can be Navy Yard residents, also in a bigger scope, I am considering Admiral's Peary Row as a part of my transformation plan, to change them to Bed & Breakfast with restaurants at front floors. So in this way all the block will be attached and work together successfully. The other part of this plan is related to the small garages, that originally belonged to Admiral's Row quarters. All these garages will be saved and turn to food/drink based places. The existing green landscape between Building 611 and Admiral's row will also be working as the semi-private garden for this complex.

For the Food and Drink Hall/Garden I am considering some major partners as well as secondary resources. The targeted partners in this project are: Reading Terminal Market, and Restaurants and Companies at Navy Yard such as: Vetri Family, Tasty Baking Company, Mercer Cafe at The Navy Yard, Galley Cafe/Nourish & Nosh, Dinic's Oven Roasted Beef & Pork. Beside that there are also some local international potentials for this project, for instance: French restaurants: Parc Brasserie , Le Cheri. Italian restaurants: La Viola, Persians: Persian Grill, Indians: Indebblue, and Chinese: Buddakan

Structural conservation and Alterations:

Base on the previous studies done on this building, such as "Environmental Baseline Survey, 1998", and some general assessments I did in this building, the structure is in a very good condition, building had no alteration since it was constructed. Reports shows that building 611 have been checked and cleared up from any kind of asbestos by 1990's. A quick assessment shows the following conditions that need to be considered for conservation plans:

- Heavily Peeling paint at the exterior walls. This issue is also reported in "Environmental Baseline Survey", 1998.

- Potential for lead-based paint. This issue is also reported in “Environmental Baseline Survey”, 1998.
- Northern side of building is filled with weeds and marsh grass

The most significant problem with this building is related to its exterior façade which needs a major treatment with corrosion inhibitors or probably some minor replacements for damaged metal sheets.

It is important to notice that any kind of alterations, interventions and repairs in this building should match the “Secretary of Interior Standards”.

Regarding to the proposed plan for this building, some new equipment such, lighting, air conditioners, restrooms, cable and internet access and other similar amenities are needed. Also the existing entrances and doors, should be repaired and replaced as is needed.

The West side of this building is functioning as the main entrance, and the east side will be service door. The other small doors located at the southern side are considered as secondary exits, access to garden, Admiral’s Row and waterfront. Because of the big size of this building and due to the potential of high capacity of people, addition of bigger openings to invite more fresh air inside this building is highly recommended. So this plan is seeking to change some parts of the current metal sheets walls on the southern side to moving walls, so they can be opened during the day and be replaced on their original place when the Hall is closed. This design is completely reversible and the walls can be turned to their original situation whenever It’s needed.

The other proposed changes are shown in drawings and sketches.

Feature recommendations:

As it was mentioned earlier the 611 Food and Drink Hall/Garden, includes of different parts. The current project mostly focuses on the ground floor of Building 611 and its function, but in the bigger perspective my feature recommendations are to reopen the mezzanine, and then expanding project to the southern side do Admiral’s Peary Way houses and waterfront.



Figure 3, Admiral’s Row, photo: sh. Torkzaban, 2016

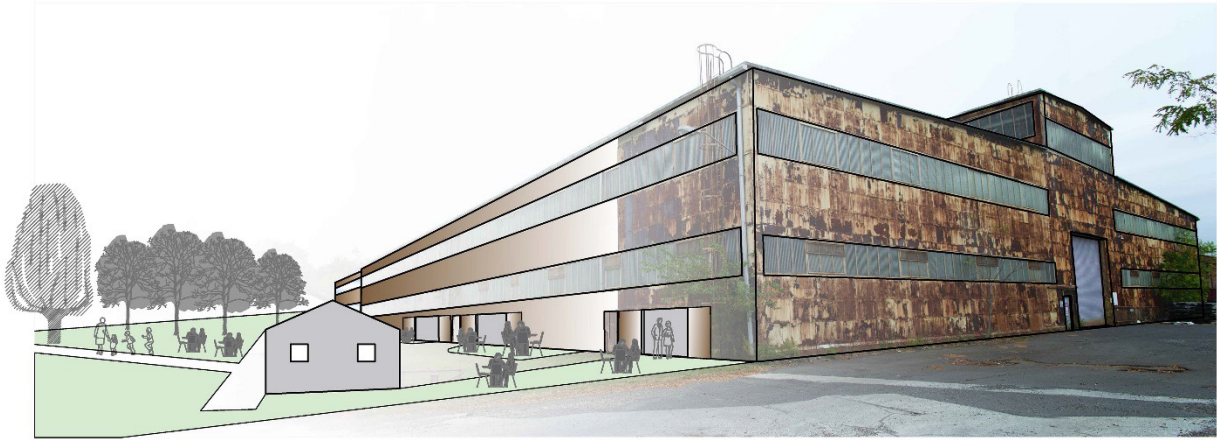


Figure 1, Freehand sketch of proposed plan for 611 and its private garden, photo: Sh.Torkzaban, 2016



Figure 5, Natural light inside 611, photo: Sh. Torkzaban, 2016



Figure 4, A general view of inside of the 611, photo: Sh. Torkzaban, 2016

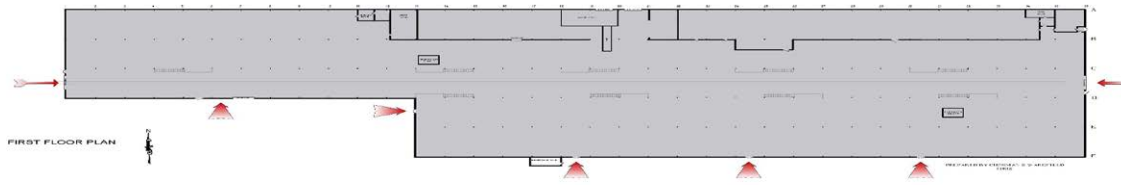


Figure 6, First floor plan, Base drawing: Cushman & Wakefield (TRD), Editions: Sh. Torkzaban, 2016

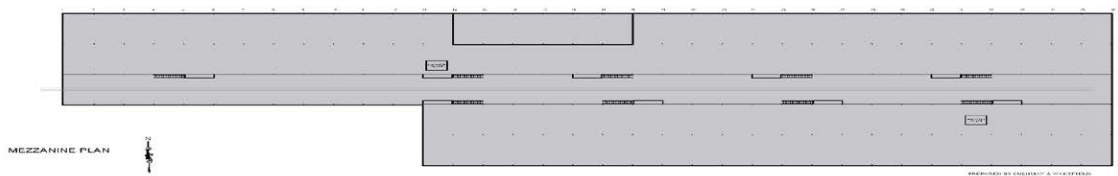


Figure 7, Mezzanine plan, Base drawing: Cushman & Wakefield (TRD), editions: Sh. Torkzaban, 2016

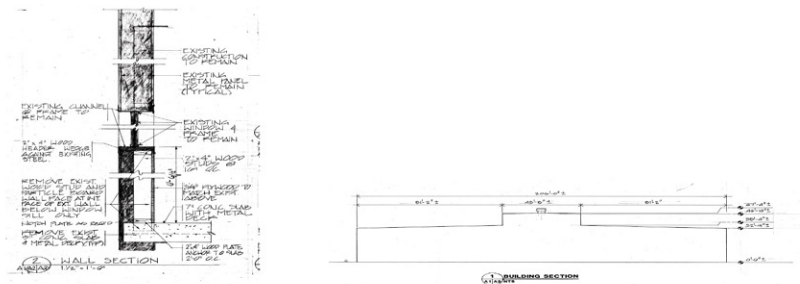


Figure 8, Building 611 section, source: PIDC archive



Figure 10, Building 611 section, photo: sh. Torkzaban, 2016

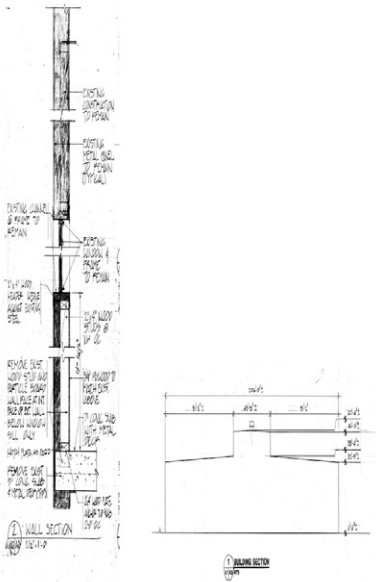


Figure 9, Building 611 wall section, source: PIDC archive



Figure 11, Exterior view, one of the small doors located at south side of 611, photo: Sh. Torkzaban, 2016



Figure 12, Interior view, one of the small doors located at south side of 611, photo: Sh. Torkzaban, 2016

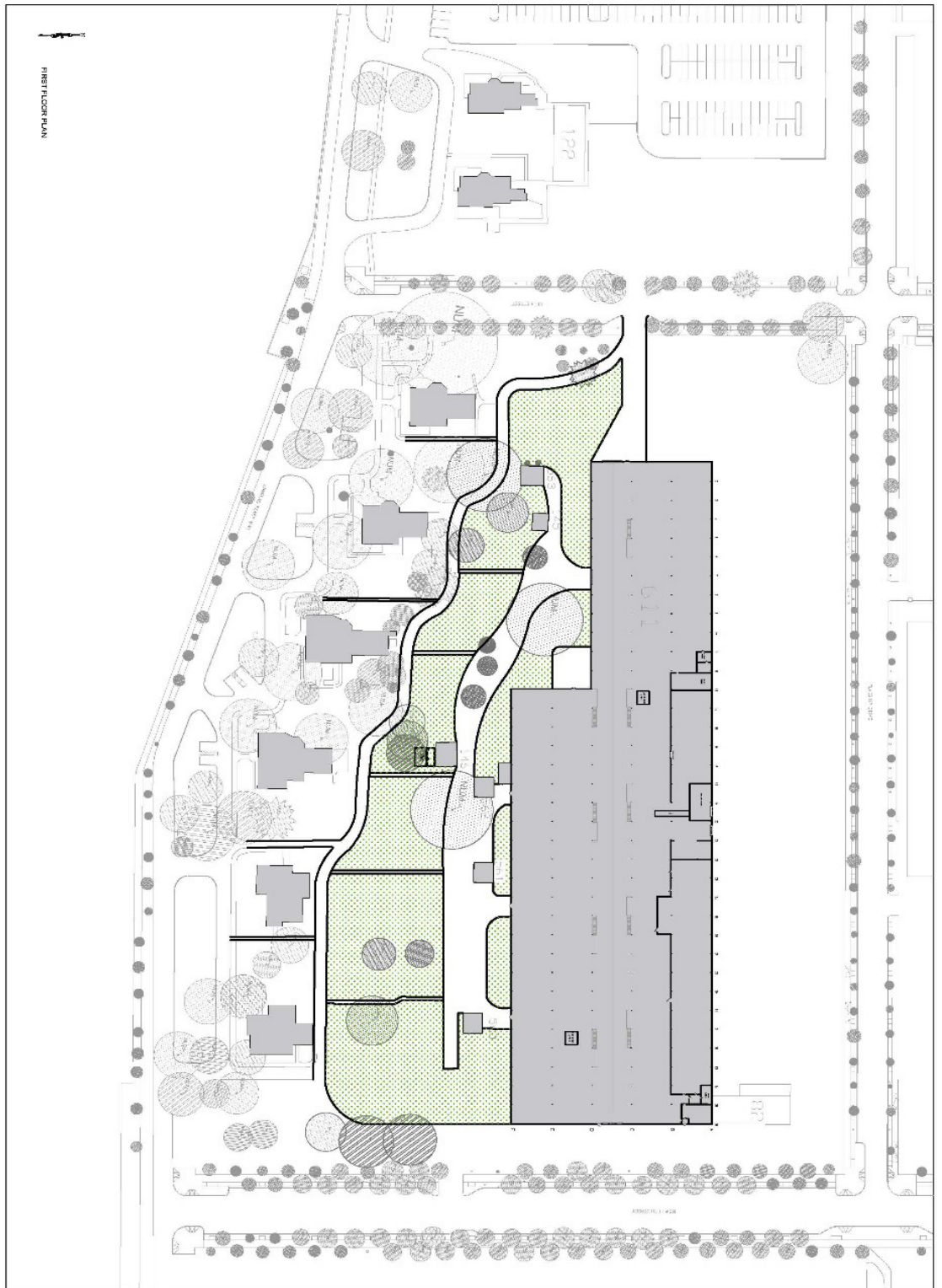


Figure 14, Proposed plan for 611, Base drawing: CBRE, Edition and design: Sh. Torkzaban

Broad Street Pier Public Art Park

Carolyn Zemanian

The goal of the Broad Street Pier Public Art Park is to contribute to the Navy Yard in two ways: by providing usable, appealing public space and giving a sense of history to the site.

Broad Street is one of Philadelphia's most significant thoroughfares. Drawn by William Penn as the one of the two streets intersecting with the central square (which eventually became the site of City Hall), Broad Street extends from Broad Street Pier in the Delaware River up to the top of North Philadelphia.¹ The pier was constructed in 1891 based on a design by Robert Peary, a naval engineer, Philadelphia resident, and famous polar explorer.² The structure is significant within the Navy Yard as the first pier constructed on the site, and within Philadelphia as the last finger of the crucial Broad Street artery that serves as a main axis of the city.

The Broad Street Pier's conversion to a public art park would be a major contribution to the public realm of the Navy Yard, serving as an attention-grabbing, vibrant space that draws people across the site and serving as a link in a waterfront chain of nature and culture stretching from the Urban Outfitters dry-dock, to the wetlands park, to the international food hall, to the Industrial History Museum, and to Building 624's rooftop park. At present, the history of the Navy Yard is woefully under-interpreted. Although Aker shipyard continues the shipbuilding tradition on the site, this use is isolated to the western portion of the Navy Yard. The Eastern Historic Core, by contrast, retains large, historic warehouses, but without much industrial context to explain their original use and association with the Navy and Philadelphia industry. For the most part, the waterfront of the Eastern Historic Core remains dormant; however, Broad Street Pier, an incredible extant historic structure, offers the perfect scaffolding for activating this area of the Navy Yard and acknowledging the historic naval and industrial uses that once pervaded much of the site.

The design of the park will be focused around five main concepts:

Vistas: The views from the Broad Street Pier are unparalleled, even within the Navy Yard. To the west is the U.S.S. Kennedy, a retired aircraft carrier that PIDC may convert to a museum. This behemoth

¹ Penn, William. "Gridiron System of the William Penn Plan, 1682." Featured in "Special Report on the City Plan by the City Parks Association of Philadelphia (1902). Transcription by Annie Cheng and Natalia Broz, PWD PubED interns, 2004. Philly H2O, 2010. http://www.phillyh2o.org/backpages/CPA/1902_HolmePlan.jpg

² McVarish, Douglas C., Thomas M. Johnson, Richard Meyer, & John P. McCarthy of John Milner Associates, Inc. *A Cultural Resources Survey of the Naval Complex Philadelphia, Philadelphia, Pennsylvania*. V2. Pennsylvania: The U.S. Department of the Navy. 1994.

vessel fills the western skyline of the Broad Street Pier. To the south is the coast of Camden, New Jersey, which actually appears forested and lush when viewed from the Philadelphia Navy Yard. A variety of boats often sail past the pier's southern end, offering a unique and immediate vantage point for watching ships. To the east stretches the Philadelphia coastline, punctured only by the remains of a nearby wooden dock on which geese often roost. Finally, to the north, Broad Street begins its 13-mile journey through City Hall to the edge of Philadelphia.



Figure 1: The U.S.S. Kennedy with the overgrown Broad Street pier in the foreground. Photograph by T. Richardson, 2016.



Figure 2: View of the waterfront, east from the Broad Street Pier. Photograph taken by C. Zemanian.



Figure 3: View north down Broad Street. Photograph taken by C. Zemanian.

Philadelphia-specific and maritime and industrial symbology: The Broad Street Pier is significant not only in its position as the last finger of one of Philadelphia's major historic arteries, but also because of its connection to City Hall, centered several miles north on this same artery. The postcard below, dating from circa 1897, shows naval activity at the shipyard. The soaring derrick (a type of crane) on the end of the Broad Street pier mirrors the spire of Philadelphia's City Hall, acting as a commanding southern counterpoint to the heart of the city visible in the distance.



Figure 4: An 1897 view of the Philadelphia Navy Yard.³

Permanent public art pieces should reflect this connection to Philadelphia, as well as evoke the industrial and maritime history of the site. Art should be a combination of actual artifacts and of interpretive elements. Elements might include anchors, plane art, crane sculptures, and sculptures comprised of industrial tools and shipbuilding components once found at the yard.

Verticality of form: The coastline of the Philadelphia Navy Yard has, from its early days, been marked by enormous ships and looming cranes. In times of intense productivity, the waterfront was cluttered with these vertical forms. Productivity at the Navy Yard has slowed from historic, wartime highs, and with it, the presence of ships and machinery has ebbed, too. With the exception of the docked USS Kennedy, the historic core lacks the dominating vertical elements that once pervaded this area of the site. Therefore, all public art should have a commanding vertical orientation, in re-creation of this diminished vertical emphasis of the historic waterscape. People visiting the historic core should be able to sight the art park from a distance, and individuals viewing the waterfront from the rooftop deck atop Building 624 should have the sense of looking down on ships masts and machinery.

³ Webster & Hunter. "League Island U.S. Navy Yard Philadelphia." Philadelphia: Webster & Hunter, c 1897. Image. U.S. Library of Congress. <https://www.loc.gov/item/2006625070/>



Figure 5: Cranes at the Navy Yard: an example of historic verticality. Photograph taken November 22, 1918. Original Photographer Unknown. In the online collection of the Naval History and Heritage Command.⁴

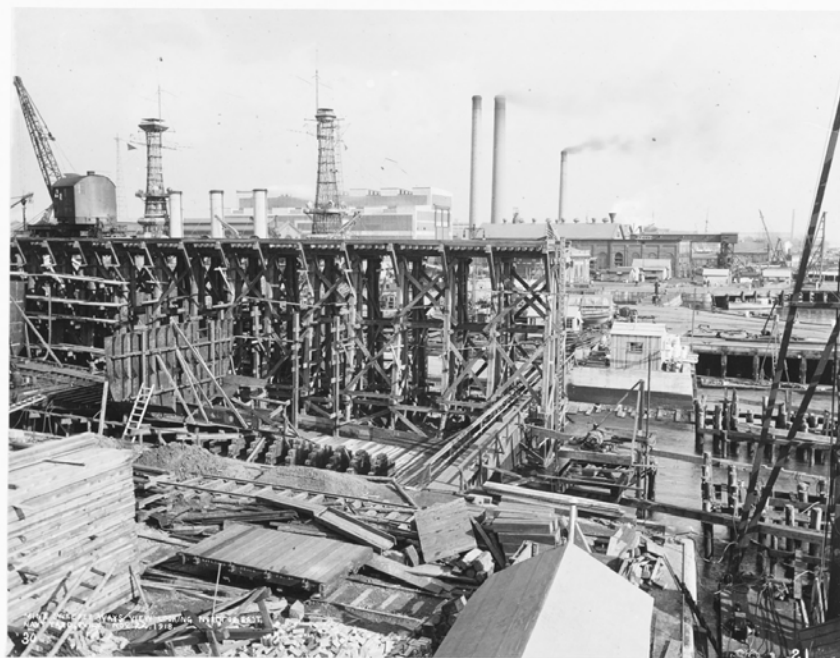


Figure 6: Ship masts and scaffolding at the Navy Yard: an example of historic verticality. Photograph taken November 22, 1918. Original Photographer unknown. In the online collection of the Naval History and Heritage Command.⁵

Metal as the predominant art construction material: All of the permanent public art on the

4 “Philadelphia Navy Yard: mine sweeper ways, view looking northwest. Shipways Number 1 in the background.” Original Photographer Unknown. November 22, 1918. Black and white photo. Catalog # NH 118124. Naval History and Heritage Command. <https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/nhhc-series/nh-series/NH-118000/NH-118124.html>

5 “Philadelphia Navy Yard: mine sweeper ways, view looking northeast.” Original Photographer Unknown. November 22, 1918. Black and white photo. Catalog # NH 118125. Naval History and Heritage Command. <https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/nhhc-series/nh-series/NH-118000/NH-118125.html>

Broad Street pier should be metal. In 1868, the Navy selected League Island because of metal: their administration felt that the fresh water of the Delaware would better prevent the rust and corrosion of a new fleet of the steel ships constructed to expand the nation's navy. The material also speaks to the industrial nature and historic machinery of the site. There should be no vegetation on the pier (which, at present, is somewhat overgrown), as there would have been none historically, and the use of vegetation belies the industrial feel of the park.

Temporary exhibitions and programmatic uses: while the art park should have several large permanent installations (some examples are discussed in further detail below) an effort should be made to incorporate temporary exhibitions (perhaps from local artists) and interesting programmatic uses, such as potentially the extension of the Night Markets onto part of the pier.

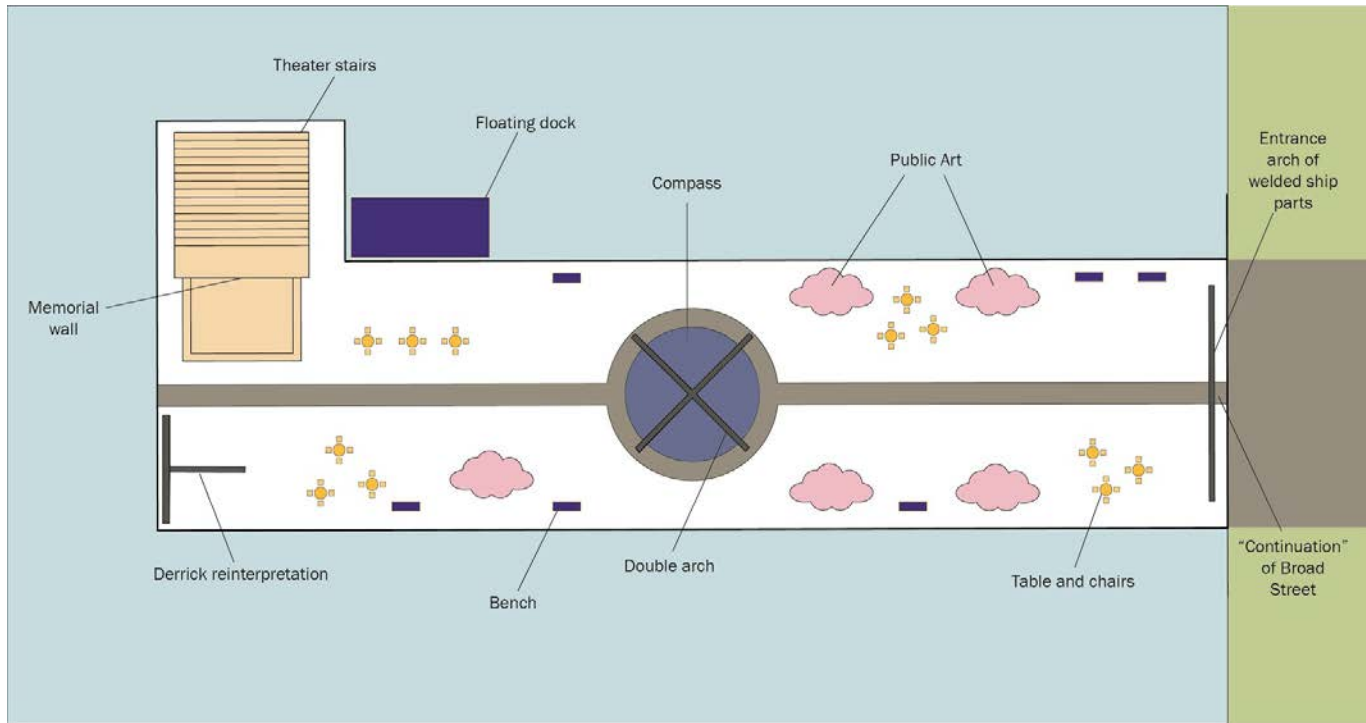
The introduction of a public art park at the Navy Yard would also further tie the campus to Philadelphia, which has a pervasive tradition of public art throughout the city—both in the form of sculptures and through the City's well-known mural arts program. The City of Philadelphia website has a page dedicated solely to the exploration of its public art collection, noting, "Philadelphia is widely believed to have one of the largest public art collections in the country."⁶ Outside of the prominent display of an unidentifiable, uninterpreted industrial artifact in the Urban Outfitters campus, there has been no attempt yet to incorporate public art in the Navy Yard site.

At present the Broad Street Pier is in degraded condition, with access to the site restricted for fear of the pier's instability. The concrete and wood foundation of the structure has highly diminished integrity, visibly crumbling. The structure needs to be remediated and possibly rebuilt prior to any installation of public space.

Proposed layout:

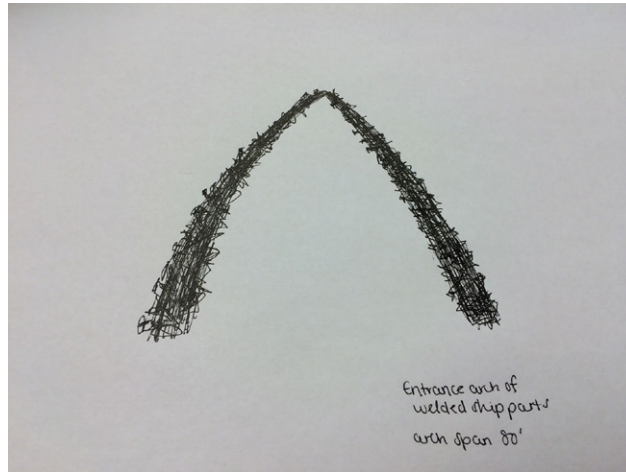
The proposed layout below shows one possible scheme for accomplishing the above-referenced goals of reactivating the waterfront and providing usable public space in the form of a large art park.

⁶ Visit Philadelphia. "Public Art." 2016. <http://www.visitphilly.com/music-art/public-art/#sm.000018hw8udxh5eyutyx6f0uhauep>

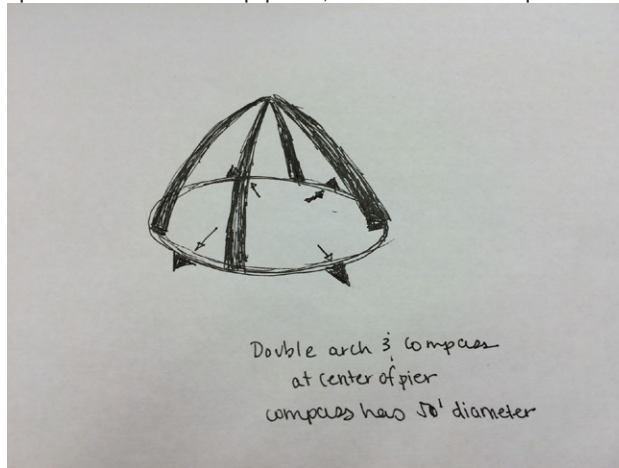


Possible layout of the Broad Street Pier Art Park. AutoCAD & Illustrator drawing by C. Zemanian, 2016.

At the entrance to the park should be a large black, metal arch, sculpted from ship parts. This feature should be visible from multiple locations in the site. At the end of the pier should be an artist's reinterpretation of the derrick appearing in the 1897 postcard. At the center of the site should be a third, permanent element—a double arch located atop a compass that recalls the compass at the center of City Hall, several miles north of the pier. The double arch will frame the four directional vistas of the Navy Yard, providing a literal frame for the views north, south, east, and west of the pier. This feature will imitate the way views are framed from the center of the compass at City Hall. Individuals standing at the core of the City Hall courtyard can turn in each direction and look down Broad Street and Market Street into a clear infinity, unblocked by buildings, as was the intent of William Penn's original grid layout. At the Navy Yard, viewers too will be treated to a different vista with each turn within the double arch and compass.



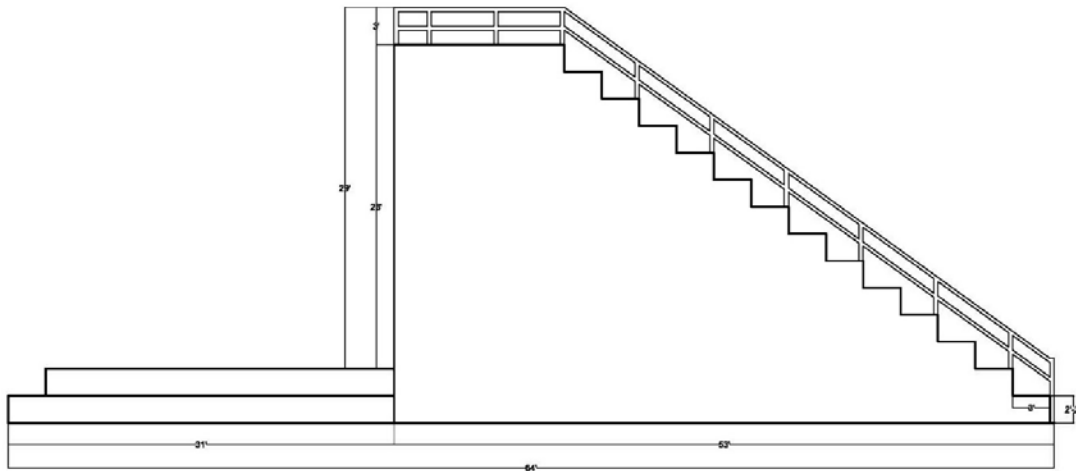
Entrance arch design: comprised of welded ship parts, with an 80 foot span. Sketch by C. Zemanian, 2016.



The double arch and compass, with a 50 foot diameter. Sketch by C. Zemanian, 2016.

To make the pier park an inviting space, there should be ample seating—benches and moveable tables and chairs should be integrated throughout. At the very end of the site, large stone bleachers should be installed, as depicted in the plan above and the section below. We believe that the Navy Yard should deploy a large, floating movie screen to attract members of the public to the site at nighttime; with the Navy Yard’s current use as an office park, the site remains underutilized and somewhat desolate at night. The stone bleachers would provide seating for evening moviegoers, and the backdrop of the temporary movie screen would be the setting sun and the incredible vista of the U.S.S. Kennedy. At times when the movie screen was not in use, it could be deflated and removed from the site. Visitors could then use the seating to watch ships pass by, admire the U.S.S. Kennedy, and watch the sunset. At the very top of the theater seating would be a wide walk, which would allow visitors to better view the surrounding vistas and to look north towards the City Hall Tower’s Billy Penn statue (hopefully visible from this high spot, as it is from many locations along Broad Street). The stone bleachers’ on the hook of

the L-shaped pier would ensure that the feature does not block the pier's views south across the water.



A section of the proposed theater seating and memorial wall. AutoCAD drawing by C. Zemanian, 2016.

The back of this theater seating could be a memorial wall, recalling the numerous wars which men and women of the Navy Yard served in and supported.



A sketch panorama of possible large art,⁷ the double arch, and compass. Background panorama & Photoshop by C. Zemanian, 2016.

Conclusion:

As the last finger of Broad Street, this pier presents an incredible opportunity to create a public park significant not only within the Navy Yard but to Philadelphia as well. The site's prominent location on the edge of the Eastern Core, adjacent to the Urban Outfitters' Drydock Park, provides an opportunity for the extension of an already vibrant public space to one of the most historic waterfront features of the

⁷ "Royalty Free Stock Photo: Propeller. Baloncici, Dreamstime.com. 2016. https://www.google.com/url?sa=i&rct=j&q=&es-rc=s&source=images&cd=&ved=0ahUKEWj48MyI_rnQAhXHOCYKHZk8CZkQjhwIBQ&url=https%3A%2F%2Fwww.dreamstime.com%2Froyalty-free-stock-photo-propeller-big-red-four-blades-ship-image36426685&bvm=bv.142059868,d.cGw&psig=AFQjCNGKZfdXfytPw-RaIKjpx0tKz5DJJw&ust=1482000214474344; Vernet, Bernar. "5 Arcs x 5" at the Fields Sculpture Park in Omi, New York. Featured in the article, "Five Art Park Retreats to Beat the City Heat," by Artspace Editors, July 11, 2014. Artspace LLC. 2016. http://www.artspace.com/magazine/art_101/art_market/art_parks_papress-51296

Navy Yard. The first pier constructed at the Navy Yard—and the final extension of Broad Street—would be the perfect location for interpretation of the site’s missing history. The message of the park should be an acknowledgement of the former industrial and naval history of the park (through the designs of the large art and the memorial), and its connection to Philadelphia. This project aligns with our stated preservation goals of “creat[ing] an interpretive scheme that reconciles the Navy Yard’s history with modern residential uses while maintaining historic maritime and industrial elements.”

Philadelphia Museum of Industry
Arielle Harris

The Philadelphia Museum of Industry contributes to the preservation approach of our studio in a number of ways, if not every way. Climate change is acknowledged in that the first floor of the museum is planned to ultimately become obsolete due to sea level rise. The museum will also contribute to the historic density of the site by remaining intact and becoming part of the diverse, mixed-use development of the Navy Yard. The museum can be financed through historic preservation tax credits, since it is a contributing building in the Navy Yard national register historic district, and in doing so, contributes to the interpretation of the site. Finally, its location adjacent to the water will allow for opportunities to integrate museum programming with activities at the waterfront. In addition, its proximity to Building 611 and Ty's interpretive landscaping will allow a connection to the wildness that we are seeking to preserve.

I have produced floorplans and mock-up visualizations for the permanent exhibition of Building 79, and a rough website for the museum which will include the museum's vision, mission, and programming.

Layout/Exhibits. The current plans for the museum design include the use of Building 79, the former Naval Aircraft Factory Power House. Built in 1917, this two-story brick and steel building (15560 square feet) has a second floor with a large, open floorplan and high ceilings, ideal for creating a flexible exhibition environment. The building is of high integrity, only having been more recently used as office space in the 1990s.



View of north and west elevations. Photo: Arielle Harris



Panorama of west and southern elevations, and street adjacent to waterfront. Photo: Arielle Harris

We intend to use the monumental second story as the primary exhibition space and the first floor for office and administrative space (until approximately 2040, when the floodplain is expected to reach the site). Exposed brick walls and structural steel elements add an industrial feeling to the space, as seen in the below images of the interior:

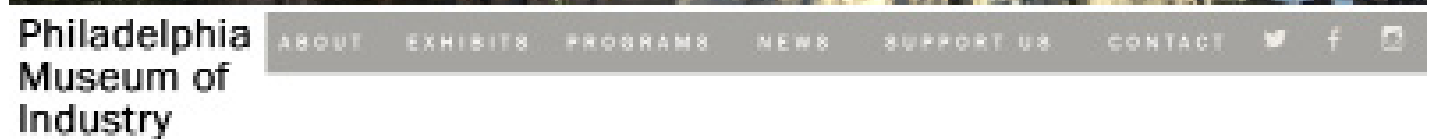
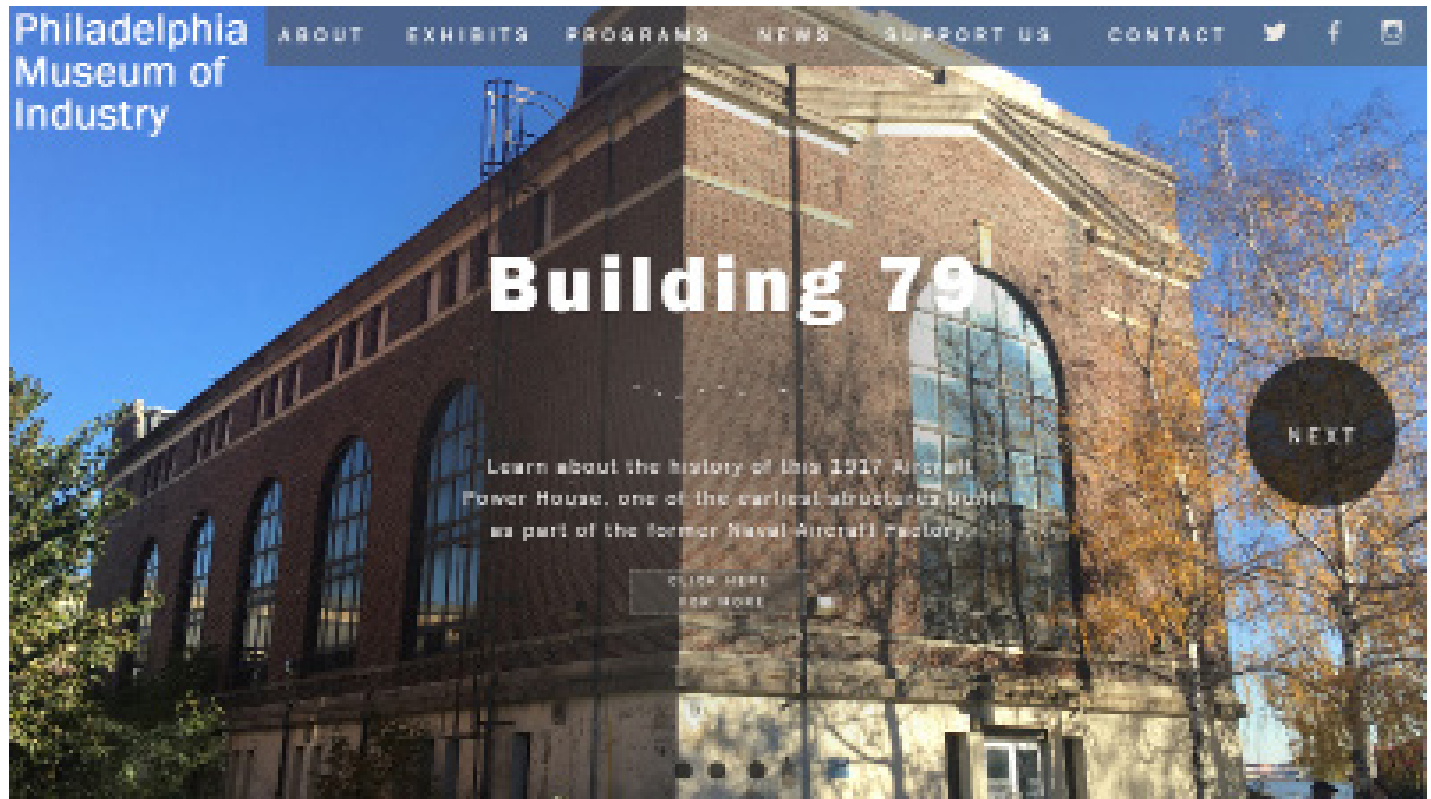


A variety of display cases, panels, and audiovisual material will display and interpret the history of industry over time in Philadelphia, starting with the earliest mills and will incorporate a number of different trades, including but not limited to textiles, brick, glass, food, rail, and metals. Machinery, vehicles and airplanes can easily fit in the space and we intend to find period or authentic vehicles from Philadelphia to place in the exhibit, including but not limited to Naval Aircraft Factory airplanes and Tastykake Model-T delivery vehicles. An elevated platform space, supported by the steel structural columns throughout the floor, will hold the collections specifically focused on the Philadelphia Navy Yard.

Future Expansion to Building 752. Building 752, an oil boiler house built directly next to Building 79, also provides opportunity for expansion – not just of museum exhibition and education space, but also room for more traditional museum amenities, such as a restaurant/café, gift shop, and movie theater space. Depending on the success of the museum and the impact of climate change on the Navy Yard as a whole, an expansion could occur sooner rather than later.



View looking south from the roof of Building 624, showing proximity of Building 79, 752 and the waterfront. Photo: Shay Torkzaban



About Us

Vision

To preserve the industrial heritage of Philadelphia, with a special focus on the Philadelphia Naval Shipyard.

Mission

We hope to tell the story of Philadelphia as the "Workshop of the World" by relying on the extraordinary and numerous of historic industrial artifacts and ephemera from manufacturing in the Philadelphia area. Special emphasis will be placed on the Philadelphia Naval Shipyard (1876-1954) as a quintessential example of this type of activity in Philadelphia.

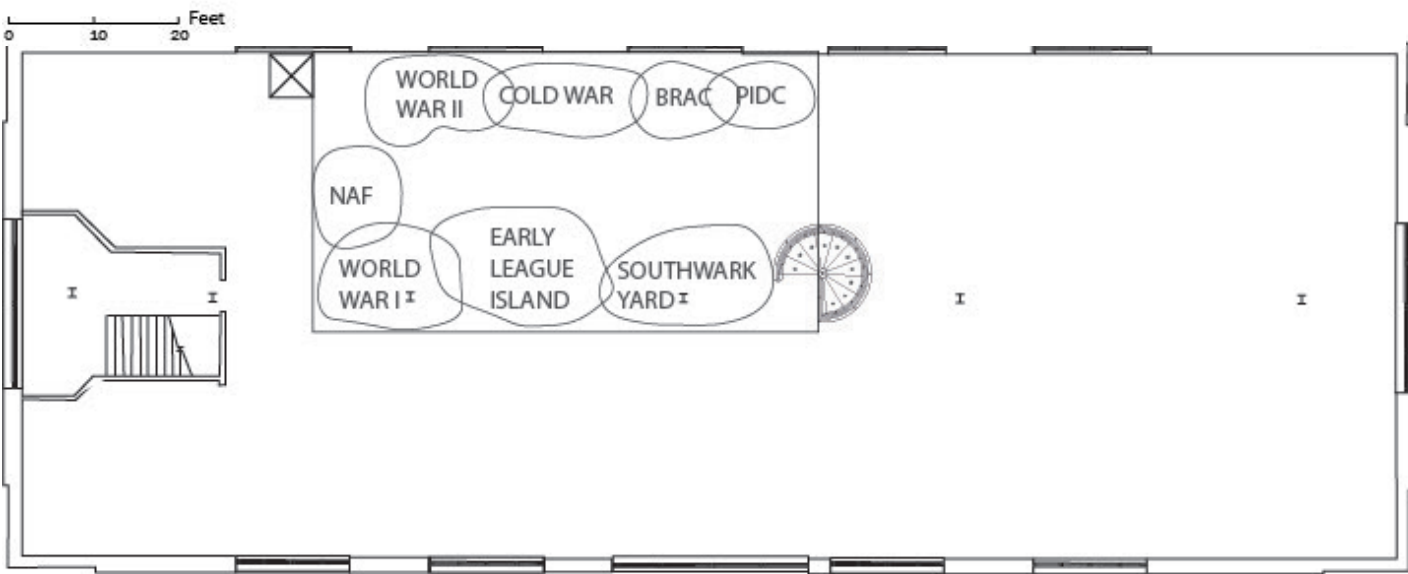
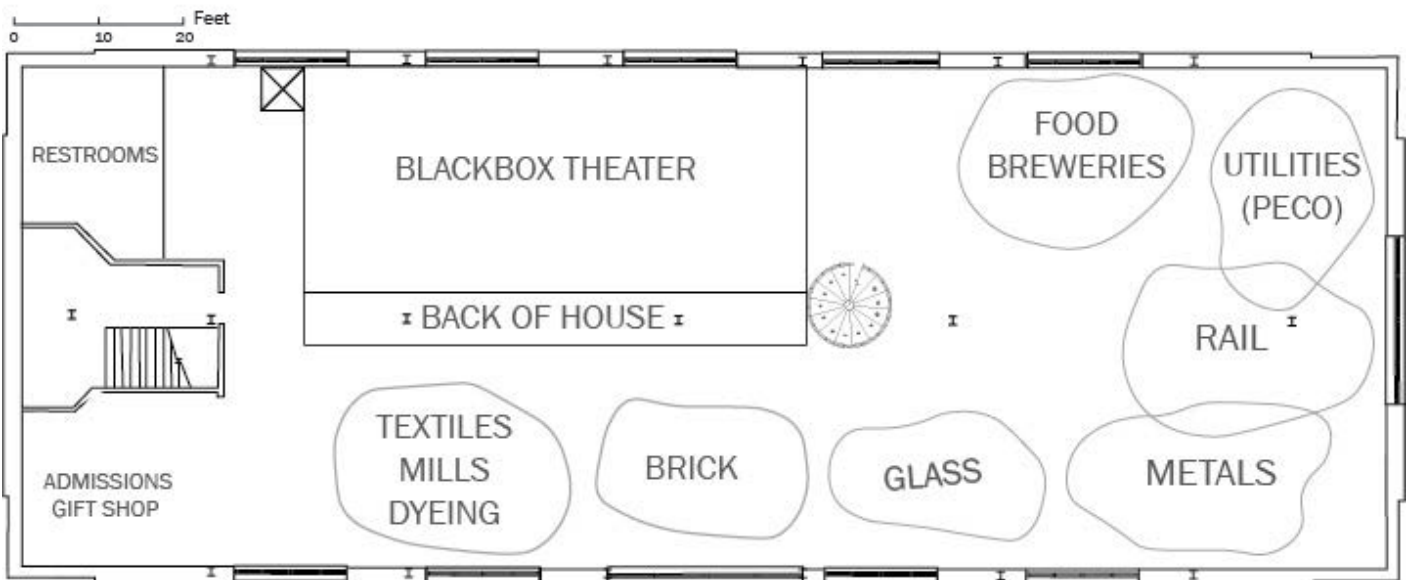
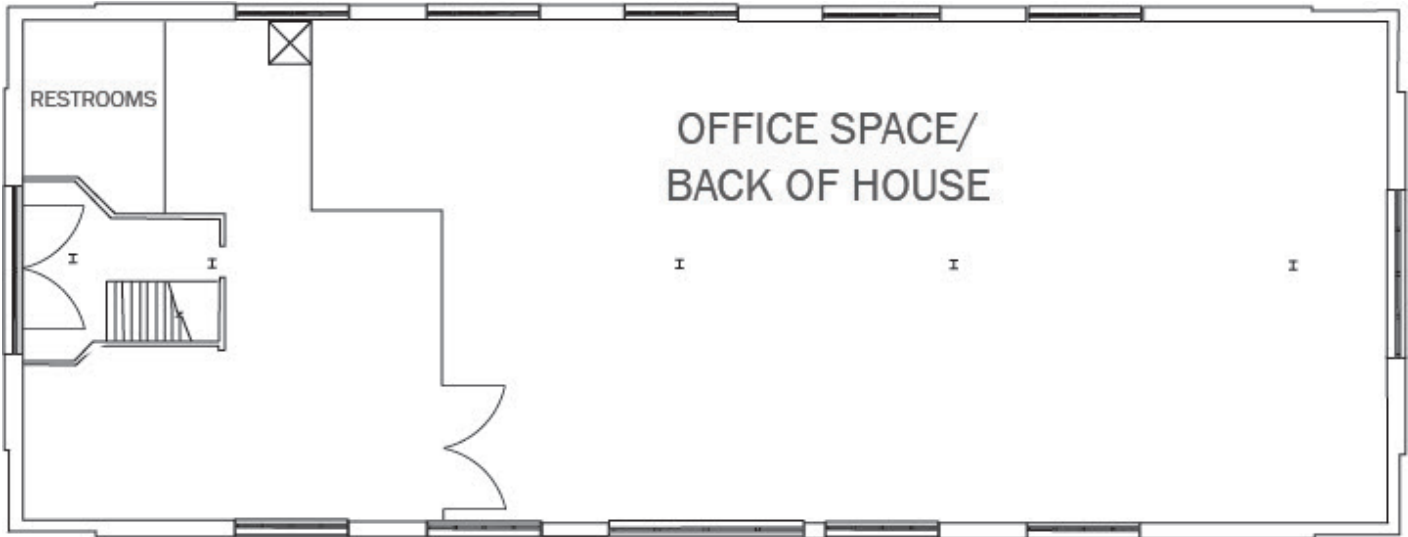
Values

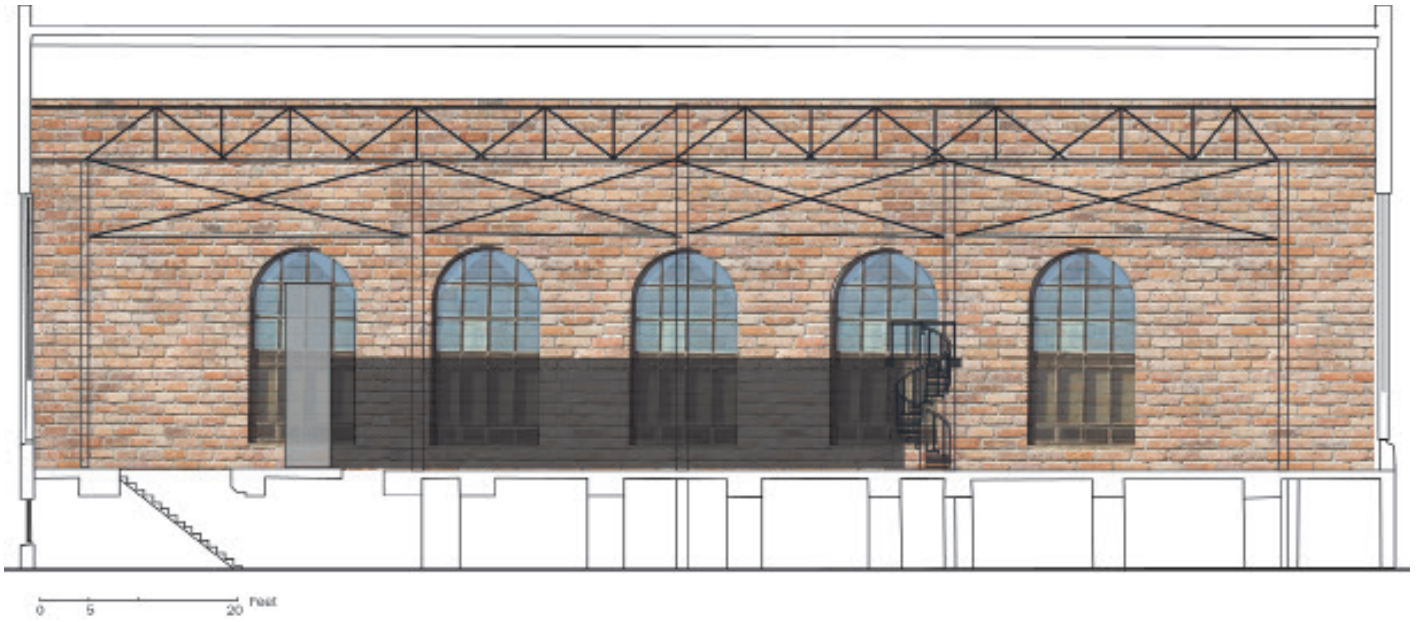
- We believe that the history of manufacturing and industry in Philadelphia is vital to understanding the history and development of Philadelphia as a whole.
- We acknowledge that Philadelphia's past as an industrial hub laid the foundation for the city's current vibrant and diverse economy.
- We value our place in the diverse museum and culture community in Philadelphia and hope to collaborate with such institutions as a means of enriching our programs.
- The use of Building 79 at the Philadelphia Navy Yard is crucial for presenting the city's industrial history and preserving part of the history of the Navy Yard as the site continues to evolve.

Programs



Click [here](#) for a calendar of events.





This project is related with Arielle's Museum project. It is constituted by two parts: one is a poster for the warship-building history, the other is a documentary of the Navy Yard. Both could be displayed in the museum, recalling the historical character and the significance of the Navy Yard.

The poster was designed in the form of a photo gallery, intending to put the representative warships built in the Navy Yard together, and show the warships change over time. Six periods were defined based on the warship-building history and key points of the US history, through which not only the warship-building history could be revealed, but also the significance of warship-building as part of the US history was rendered.

Last for about 3 minutes, the narration of the documentary could be understood as three parts. First is the evolution of the Navy Yard, showing how the form of the league island and the constructions of Navy Yard change over time. Second is the industry history of the Navy Yar, both warship-building and airplane-building. Taken the USS Wisconsin as an example, review the history of this warship and tell how the warships built in the Navy Yard contributed to the history of the US. Third is dedicated to the people who once worked or lived in the Navy Yard. Through the form of a vintage album, moments of people's past were displayed.

Taking advantage of the visual effects, the poster and documentary work together to stress the history of the Navy Yard, meanwhile, as part of the museum exhibition, they are designed to remind the public of Navy Yard's historical significance and prompt the preservation for this historical place.

Reference:

The poster:

Dorwart, Jeffery M., and Jean K. Wolf. *The Philadelphia Navy Yard: From the Birth of the US Navy to the Nuclear Age*. University of Pennsylvania Press, 2001.

Dulin, Robert O., William H. Garzke, and Robert F. Sumrall. *Battleships: United States Battleships in World War II*. Vol. 1. US Naval Institute Press, 1976.

United States Department of the Interior, National Park Service, NPS Form 10-900 (Oct. 1990), National Register of Historic Places Nomination Form (NRHP), for the Philadelphia Naval Shipyard Historic District.

Images courtesy of:

Wikipedia items

NavSource Naval History

<http://www.navsource.org/>

The documentary:

Footages:

Launching of the USS Wisconsin (BB-64) at Philadelphia Navy Yard, December 7, 1943., Christened by Mrs. Walter S. Goodland

http://www.criticalpast.com/video/65675031535_USS-Wisconsin_christening-by-Mrs-Walter-S-Goodland

A huge thirty passenger amphibious plane tested in Navy Yard of Philadelphia, Pennsylvania.

http://www.criticalpast.com/video/65675052209_German-amphibious-plane_men-assist-in-flight-operations_test-flight

Background music:

Letters from the Past

<https://www.audionetwork.com/track/searchkeyword?keyword=letters+from+the+past&sort=9>

Deep Thoughts

https://audiojungle.net/item/deep-thoughts/14881335?s_rank=2

Footage Courtesy of

Jonathan Young, USS Wisconsin Documentary, <https://www.youtube.com/watch?v=OymbDND83w0>

Images Courtesy of

Library Congress

Temple University Urban Archives

Texts Courtesy of

NRHP Form

Philadelphia Navy Yard Diorama:

<http://www.pnydiorama.com/>

Federal Street Yard

One of the first major yards in the United States (established in 1803)

50 years were built, and another 50 years, including the largest wooden ship, USS Pennsylvania (1837)

First steel-hulled warship built (1855)



Warship Industry in Philadelphia Navy Yard

World War I

Submarine built

First U.S. submarine: Haddock

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper



After World War I

Large ship built during the 1920s and 1930s

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper



World War II

53 ships were built, including the battleship, destroyer, and other types

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper



After WW II

Over 100 ships were built, including the battleship, destroyer, and other types

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper



Final 25 Years

Understanding the past, we build a better future

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

First U.S. submarine: Biper

