

National Park Service
U.S. Department of the Interior

Boston National Historical Park
Charlestown Navy Yard



CHARLESTOWN NAVY YARD MASTER DEVELOPMENT STRATEGY PHASE I



ENVIRONMENTAL ASSESSMENT

NATIONAL PARK SERVICE

JANUARY 2023

CONTENTS

1.0	PURPOSE AND NEED	1-1
1.1	Introduction	1-1
1.1.1	Park Purpose and Significance	1-2
1.1.2	Project Area	1-3
1.2	Purpose of and Need for Action	1-4
1.3	Master Development Strategy – Transforming the Navy Yard	1-5
1.3.1	Visitor Experience Plan	1-6
1.3.2	Memorandum of Understanding	1-7
1.3.3	2018 Workplace Recommendation Report	1-7
1.3.4	Program Development Study	1-8
1.3.5	Hoosac Stores Feasibility Study	1-8
1.4	Impact Topics for Detailed Analysis	1-9
1.5	Issues and Impact Topics Dismissed from Detailed Analysis	1-9
1.5.1	Air Quality	1-10
1.5.2	Water Resources	1-10
1.5.3	Disruption to Neighbors	1-10
1.5.4	Climate Change and Floodplains	1-11
1.5.5	Land Use	1-12
1.5.6	Socioeconomics and Environmental Justice	1-12
2.0	ALTERNATIVES	2-1
2.1	No-Action Alternative	2-1
2.2	Proposed Action and NPS Preferred Alternative: Demolition of Hoosac Stores and Construction of a New Gateway Center	2-2
2.2.1	Demolition of Hoosac Stores Building and Construction of Gateway Center	2-4
2.2.2	Demolition of Building 109 and Replacement with Open Frame Structure	2-5
2.3	Action Alternative 2: Reuse of Hoosac Stores as the new Gateway Center	2-6
2.3.1	Reuse of Hoosac Stores Building as the Gateway Center	2-6
2.3.2	Demolition of Building 109 and Replacement with Open Frame Structure	2-8
2.4	Mitigation Measures	2-8
2.5	Alternatives Considered But Dismissed From Further Consideration	2-9
3.0	AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	3-1
3.1	Visitor Use and Experience	3-1
3.1.1	Affected Environment	3-1
3.1.1.1	Visitor Use	3-2
3.1.1.2	Visitor Experience	3-3
3.1.2	Environmental Consequences	3-7
3.1.2.1	No-Action Alternative	3-7
3.1.2.2	Proposed Action/Preferred Alternative: Demolition of Hoosac Stores and Construction of a Gateway Center	3-8
3.1.2.3	Action Alternative 2: Reuse of Hoosac Stores as the Gateway Center	3-11
3.2	Cultural Resources	3-12
3.2.1	Affected Environment	3-12
3.2.1.1	Hoosac Stores Building	3-16
3.2.1.2	Building 109	3-18
3.2.2	Environmental Consequences	3-19
3.2.2.1	No-Action Alternative	3-19
3.2.2.2	Proposed Action/Preferred Alternative: Demolition of Hoosac Stores and Construction of a New Gateway Center	3-20
3.2.2.3	Action Alternative 2: Reuse of Hoosac Stores as the New Gateway Center	3-21

4.0	CONSULTATION AND COORDINATION	4-1
4.1	Public Involvement	4-1
4.2	Agency Consultation and Coordination	4-1
4.2.1	Section 106 of the National Historic Preservation Act	4-1
4.2.2	List of Agencies and Stakeholders	4-3
5.0	BIBLIOGRAPHY AND REFERENCES CITED	5-1
APPENDIX A. PROGRAMMATIC AGREEMENT BETWEEN THE NATIONAL PARK SERVICE, BOSTON NATIONAL HISTORICAL PARK AND THE COMMONWEALTH OF MASSACHUSETTS, MASSACHUSETTS HISTORICAL COMMISSION		A-1
APPENDIX B. DRAFT STATEMENT OF FINDINGS FOR FLOODPLAINS		B-1

FIGURES:

Figure 1-1.	USS <i>Constitution</i> at the Charlestown Navy Yard	1-3
Figure 1-2.	Existing Conditions of the CNY	1-4
Figure 1-3.	USS Constitution Museum	1-7
Figure 1-4.	Visitor Center and Entrance to USS <i>Constitution</i>	1-7
Figure 1-5.	Hoosac Stores Building at the Charlestown Navy Yard	1-9
Figure 2-1.	The CNY under the No-Action Alternative	2-2
Figure 2-2.	The CNY under the Impact Area of the Proposed Action	2-3
Figure 2-3.	Approximate Extent of Closures during Construction and Demolition Activities	2-4
Figure 2-4.	Example Open Frame Structure (Parris Landing, Building 42 at the Charlestown Navy Yard)	2-6
Figure 2-5.	Shear Wall Panels Would be Fit to each of the Four Exterior Walls of the Hoosac Stores Building and Around the Elevator Shaft to Provide Earthquake and Wind Shear Stability (NPB, 2020)	2-8
Figure 3-1.	Visitation to the Boston National Historical Park and Charlestown Navy Yard (2015-2019)	3-2
Figure 3-2.	Visitation to Charlestown Navy Yard Sites by Percent of Total Visitors (2019)	3-2
Figure 3-3.	Layout of the CNY	3-6
Figure 3-4.	Hoosac Stores National Register District	3-18
Figure 3-5.	Building 109 Looking Northwest from Pier 1	3-19
Figure 4-1.	Charlestown Navy Yard Area of Potential Effect	4-2

ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
APE	Area of Potential Effect
BMP	Best Management Practice
BNHP	Boston National Historical Park
BPDA	Boston Planning & Development Agency
BRA	Boston Redevelopment Authority
CAA	Clean Air Act
CBC	City of Boston Municipal Code
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNY	Charlestown Navy Yard
CY	Cubic Yard
CO	Carbon Monoxide
CT	Census Tract
dB	Decibels
DEP	Massachusetts Department of Environmental Protection
DLS	Massachusetts Department of Labor Standards
DO	Director's Order
DOI	Department of the Interior
EA	Environmental Assessment
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
FSOF	Floodplain Statement of Findings
GSA	General Services Administration
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
LBP	Lead-based Paint
MDS	Master Development Strategy
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NPS	National Park Service
NRHP	National Register of Historic Places

O ₃	Ozone
Pb	Lead
PM _{2.5}	Particulate Matter, 2.5 micrometers
PM ₁₀	Particulate Matter, 10 micrometers
PPE	Personal Protective Equipment
ROC	Region of Comparison
ROI	Region of Influence
SHPO	State Historic Preservation Officer
SO ₂	Sulfur Dioxide
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USSCM	USS Constitution Museum
WPA	Works Progress Administration

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The National Park Service (NPS) is proposing to construct a Gateway Center, combining the existing USS Constitution Museum (USSCM) and NPS visitor center into a consolidated facility at the primary entrance to the Charlestown Navy Yard (CNY)¹, on the site of the Hoosac Stores Building adjacent to Gate 1. NPS is also proposing to replace Building 109 (on Pier 1) with an open frame structure providing a centrally located area for visitor orientation and programming. These two actions are critical components of implementing the Boston National Historical Park's (park) Master Development Strategy (MDS). Three alternatives are analyzed in this EA: a no-action alternative and two action alternatives.

Since NPS assuming ownership in 1976, the NPS has faced management challenges in preserving and interpreting the CNY. Since 2017, NPS has worked in collaboration with its partners to develop a creative and sustainable strategy for the CNY's stewardship, resulting in the park's MDS. While the MDS impacts several of the park's units, its primary focus is the CNY.

The MDS considered many challenges the park was facing, including four decades of ad hoc development, approximately \$164 million in deferred maintenance, poor work and housing conditions, military presence and security within CNY, and a general lack of any collaborative strategic vision.

The primary goal of the MDS is to achieve a 21st-century visitor experience throughout the National Parks of Boston, in which the CNY would be a cornerstone. It also strives to create a sustainable financial model and an improved workplace environment.

Priorities of the MDS are to consolidate the park and partner footprint, expand leasing opportunities, renovate and optimize use of key assets, and leverage USSCM and Navy partnerships to boost a collective impact.

While the MDS will continue to evolve and adapt over time, it takes a two-fold approach:

- Development of a Visitor Experience Plan to revitalize how the CNY story is told and how buildings and landscape features are preserved and used for interpretation.
- Development of a Workplace Recommendations Report to propose strategies to consolidate and improve - to the greatest degree possible – the use of existing space from the current decentralized, ad-hoc approach.

The actions recommended in the Visitor Experience Plan and Workplace Recommendations Report feed into the overall goals of the MDS with the creation of the Gateway Center and Building

¹ Throughout this document 'CNY' is used to refer to the federally-owned portion of the Charlestown Navy Yard which is administered by the NPS and its partners. When the navy yard as a whole is referenced historically it is either spelled out in its entirety (Charlestown Navy Yard) or the term 'navy yard' or 'yard' is used. The term 'navy yard' is also used in reference to the non-federal portion of the Charlestown Navy Yard administered by the City of Boston.

109 open frame structure as early steps in implementing the MDS. The Visitor Experience Plan and Workplace Recommendations Report are discussed in further detail later in this document.

NPS has prepared this Environmental Assessment (EA) to assess the potential environmental impacts of the proposed components of the MDS in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] § 4321) and the Council on Environmental Quality (CEQ) implementing regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508); NPS Director's Order (DO) 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making; and the NPS NEPA Handbook (NPS, 2015).

Note to Reviewers and Respondents:

If you wish to comment on this environmental assessment you may mail comments within 30 days to the address below or you may post them electronically on the [document webpage](#). Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask in your comment to withhold your personal identifying information from public review, the National Park Service cannot guarantee that it will be able to do so.

CNY Master Development Plan Project
Boston National Historical Park
Attn: Superintendent Michael Creasey
21 Second Ave
Charlestown, MA 02129

1.1.1 Park Purpose and Significance

The Charlestown Navy Yard was established by the United States Navy in 1800 as one of six naval yards built to support the fledgling Navy. Naval personnel and thousands of civilian workers built, repaired, and supplied warships at the site. Rope for ships was also manufactured onsite at the Navy's only ropewalk, and its chain forge invented and manufactured die-lock chain for warships.

Paul Revere came ashore just west of the yet to be established navy yard to start his famous ride to Lexington. Two months later, the British commenced the battle of Bunker Hill by landing at the area of the Charlestown Peninsula which was later chosen as the site of construction for the navy yard (Carlson, 2010). The primary mission of the yard was to support the Navy's repair, outfitting, supply, and conversion efforts for ships. Navy yard workers built new ships as needed to support war efforts, including steamships during the Civil War, and destroyers and other ships during World War II. Throughout its 174 years of operation, over 200 warships were built at the yard. Tens of thousands of workers including women, African Americans, and immigrants contributed to this important work and to many innovations in shipbuilding.

When the Charlestown Navy Yard ceased operations as an active naval shipyard in 1974, it was reported as surplus property to the General Services Administration (GSA), which in January 1976 transferred a 30-acre portion of yard to NPS as authorized by Congress in the October 1974 act establishing Boston National Historical Park (Public Law 93-431, 88 Stat. 1184). In accordance with that act, NPS entered into agreements with the Navy for the continued presence of USS *Constitution* and Navy civilian maintenance staff in the CNY. NPS also entered into agreements

authorizing the presence in the CNY of the USSCM, a non-profit organization specifically devoted to the interpretation of USS *Constitution*'s history to the public. The remaining 100 acres of the navy yard were redeveloped by the City of Boston for housing, business, retail, and institutional use. Given the Charlestown Navy Yard's eventful history, the entire site was designated as a National Historic Landmark (NHL) in 1966 and is also listed in the National Register of Historic Places (NRHP). **Figure 4-1** depicts the relationship between the CNY owned by the NPS and the NHL. The 30-acre NPS-operated portion of the yard is considered to be a cultural landscape. Cultural landscapes are places that have significance in American history and exemplify authenticity to an historic time period. The CNY represents a variety of building styles, technological innovations, and landscape features and spaces which reflect evolving ideals and functional needs over the yard's 174 years of operation (Stevens et al., 2005).

The CNY is on the Freedom Trail, which links many of Boston National Historical Park's 43 total acres of noncontiguous properties in Boston. These properties preserve and interpret Boston's involvement in the American Revolution and the founding and growth of the United States. The park includes the CNY, Bunker Hill Monument, Dorchester Heights, Old North Church, Paul Revere House, Old State House, and Old South Meeting House. All BNHP sites are designated as either NHLs or National Historic Sites. Along with the Boston Harbor Islands, BNHP is managed by the NPS as part of the National Parks of Boston.



Figure 1-1. USS *Constitution* at the Charlestown Navy Yard

The CNY is home to USS *Constitution*, also known as "Old Ironsides" (**Figure 1-1**) and the World War II destroyer USS *Cassin Young*. The CNY complex contains a visitor center, museum collection storage, maintenance facilities, and law enforcement space. Additionally, it houses workspaces for employees of the park, some staff from the NPS regional office, the USSCM, the U.S. Navy, and many partner organizations. There is also limited housing for some NPS and U.S. Navy personnel. The site also includes exhibits showcasing the revolutionary ropemaking facility and dry docks as well as cranes, cannons, and light towers.

1.1.2 Project Area

The project area is an approximately 30-acre site located in the Charlestown neighborhood of Boston, Massachusetts. It includes the CNY and the adjacent Hoosac Stores historic district. The

southern edge of the CNY is situated along Boston Harbor and is the location of the CNY's two piers (Pier 1 and Pier 2) and a dry dock (Dry Dock 1). The inland portion of the CNY is known as the Shipyard Mall and consists of several buildings, some of which are actively used by the Navy. Other buildings onsite are used by NPS as part of interpretive programs and exhibits on the history of the CNY. The USSCM is located among these buildings (**Figure 1-2**). The project area is focused on the Hoosac Stores historic district, Building 109 and their surrounding areas. The vacant Hoosac Stores building is located on the western edge of the CNY (**Figure 1-2**) and is situated along the harbor facing Constitution Road. The surrounding area is mostly paved, including two small parking lots on either side of the building. The Hoosac Stores building is listed in the NRHP as the Hoosac Stores 1 & 2 and Hoosac Stores 3 historic district. It is adjacent to, but not within the CNY, is not within the NHL boundary and is not a contributing resource to the park. Building 109 is located at the end of Pier 1, across from USS *Cassin Young*. In the area around Building 109, Pier 1 has parking spaces and pedestrian walkways (**Figure 1-2**).

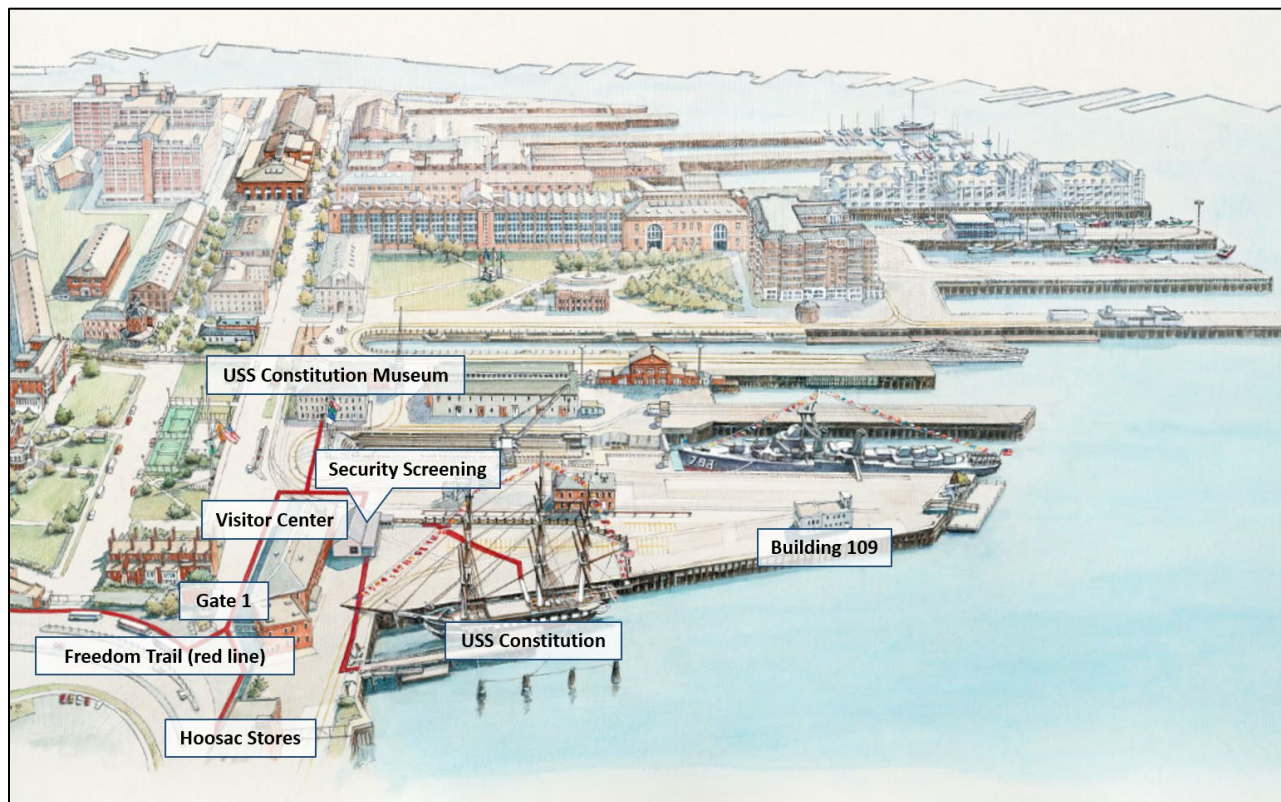


Figure 1-2. Existing Conditions of the CNY

1.2 PURPOSE OF AND NEED FOR ACTION

The purpose of this proposal is to implement several key actions critical to the goals of the park's MDS. It would reconfigure visitor access, orientation, and circulation; consolidate these activities at the entrance to the yard; and set the stage for a visitor experience befitting of the nationally significant resources visitors are about to navigate. The proposal is a major step in the overall reorganization of how the park and its partners use spaces within the CNY, freeing up key structures necessary for implementation of the MDS.

The project is needed because current visitor navigation, access, and orientation to the CNY are disjointed and confusing. The primary entry point into the yard is unclear and visitor orientation is split between several centrally located buildings with mixed uses. Additionally, the public must pass through security screening not usually seen at National Park units to enter the visitor center because it is attached to U.S. Navy barracks. As a result, many visitors miss important experiences within the CNY, such as the visitor center, USSCM, and USS Cassin Young, and leave lacking an understanding of the CNY as a whole. It is also needed because the implementation of other parts of the MDS rely on the reorganization and consolidation of park and partner use of CNY resources.

1.3 MASTER DEVELOPMENT STRATEGY – TRANSFORMING THE NAVY YARD

In the decades prior to NPS assuming ownership there had been little investment in the CNY's facilities and resources and in some respects that tremendous maintenance challenge has compounded during the NPS management. The park acquired 372,451 square feet of building space from the Navy, as well as roads, parking lots, and marine facilities (dry docks, cranes and rail tracks, seawalls, piers, etc.). Many of these 30 acres of buildings and facilities present challenges to the NPS's preservation and interpretation mission, while consuming a significant portion of the park's annual budget. As a result of these challenges, the park needed a creative and sustainable strategy for the CNY's stewardship.

The development of the Visitor Experience Plan and Workplace Recommendations Report analyzed how the park visitors, staff and partners currently use space within the CNY. They considered the deficiencies of both the visitor experience and functions of the park and partner operations. Combined with existing park and partner planning and extensive public outreach, the MDS was developed.

The MDS addresses major deficiencies in the current visitor experience, revitalizing how the CNY story is told by rethinking visitor navigation through the CNY and creating better orientation and circulation patterns. The MDS also reinvents how the park staff and partners use the historic buildings within the CNY, consolidating the footprint and allowing for more productive use of key structures for other activities, likely through leasing. The MDS includes several major elements:

- Consolidation of the operating footprint of the park and USSCM to serve visitors from modern facilities:
 - o Rehabilitate the maintenance building (building #107) and transform it into the new Park Headquarters building. Consolidate most park operations (except for visitor and resource protection (VRP) directorate) into the newly renovated facility.
 - o Collocate USSCM and park visitor center at an appropriate and functional location, relocating them from Buildings 4/5, 22 and 28.
 - o Create a visitor facility that would be energy efficient, have coastal resiliency, offer adequate wind and fire protection, and improve visitor accessibility.
 - o Integrate the Harborwalk, a nearly 43-mile continuous linear park along Boston's waterfront, into the CNY, allowing it to continue through the navy yard uninterrupted. Pedestrians and cyclists would have a continuous route along the water's edge, and a welcoming "hub" as they arrive at the CNY.
- NPS vacates Buildings 4 and 5, allowing full use by the Navy.

- Relocate park staff (VRP) from Building 109 to Building 28.
- Remove Building 109 and replace with an open-frame structure to serve visitor activities.
- Lease out underutilized buildings (Buildings 125, 265, 32, Commandants House, and a portion of Marine Barracks/Building I) to generate revenue for maintenance and upkeep of buildings and structures.

The above actions, if implemented, would be expected to dramatically lower deferred maintenance costs, transfer significant cost of ownership expenditures out of the park budget, reduce the park operating footprint, and improve visitor experience and safety.

While the MDS has and will evolve over time, these actions combined would create the 21st-century experience envisioned. Visitor experience, park and partner workspace and functionality, deferred maintenance, and resource management would be collectively improved. New leasing opportunities would allow for enhanced preservation and maintenance of leased structures and the introduction of new and vibrant activities into the CNY.

Transformation would be both physical and programmatic. Hundreds of thousands of visitors would be welcomed into the park along the Freedom Trail on Constitution Road through a new Gateway Center that combines the old visitor center and USSCM and would provide compelling programs and exhibitions. Landscape enhancements would be noticeable along with restored artifacts like the massive cranes and dry dock. The entire CNY complex and its landscape, USS *Constitution* and USS *Cassin Young* would all be primary features of the visitor experience. Throughout the CNY, a preservation standard would be applied to both NPS retained facilities, as well as several leased properties that would support the NPS in achieving its preservation and activation goals.

The studies and reports described below comprise the foundation for the creation of the CNY MDS. Throughout the process of drafting the plans listed in this section, NPS held numerous public meetings, which indicated community support for the MDS. Implementation of the strategy would occur over a period of several years in a phased approach. This project is one part of implementing the MDS.

1.3.1 Visitor Experience Plan

A public open house was held at the CNY on May 20, 2017, during which the NPS project team spoke with hundreds of visitors and collected close to 200 written comments and survey responses on visitor perceptions of the CNY. This information was used to develop the 2018 Visitor Experience Plan, which identified investment priorities that would improve visitor experience and allow for certain resources to be leased (Sasaki & Lord Cultural Resources, 2018). The plan presented a new vision for the use and function of several buildings at the CNY, ideas for visitor experience zones that would create more logical pathways for the interpretive experience and movement of visitors throughout the yard, suggestions for the expansion of green spaces, and ideas for consolidation of the USSCM (**Figure 1-3**) and visitor center (**Figure 1-4**) at the Hoosac Stores site.



Figure 1-3. USS Constitution Museum



Figure 1-4. Visitor Center and Entrance to USS *Constitution*

1.3.2 Memorandum of Understanding

A memorandum of understanding (MOU) was signed on October 5, 2018, by the Department of the Interior, U.S. Navy, USSCM, City of Boston, and NPS to support the recommendations of the CNY Visitor Experience Plan and to collaborate on the master plan for enhancing visitor experience and long-term stewardship of the CNY. The MOU details the intended development of a unified USSCM and visitor center and formalizes the partnership of the signatories.

1.3.3 2018 Workplace Recommendation Report

In 2018, NPS conducted a study of the 65,000 square feet of occupied space at the CNY to develop a strategic workplace master plan that involved the relocation, consolidation, and reconfiguration of workspace and associated support spaces for over 225 full- and part-time employees at the CNY. This study considered the relationships between NPS and other

stakeholders and partnership organizations that occupy the CNY, including NPS regional office staff, USSCM, and the U.S. Navy. The Workplace Recommendation Report presented the highest and best use case scenarios for workplace functions in CNY buildings and discussed how current ad-hoc workplace arrangements can be modified to consolidate space and improve the workplace environment (NPS & GSA, 2018). Sixteen buildings at the CNY were studied. Many of the buildings were not suitable for workplace use and several that were being used for workplace use scored very low on the GSA Workplace Scorecard. Buildings that had potential as future workspaces were selected, and test fits were made to examine the best uses of these spaces and who would move into each space. Among the recommendations was moving the law enforcement staff from the structurally deficient Building 109 to space in Building 28 made available through the relocation of the USSCM to a new facility at Hoosac Stores.

1.3.4 Program Development Study

NPS also conducted a program development study that assessed building conditions and provided recommended treatments, design directives, and test fit plans for ten structures at CNY based upon condition assessments, building code and accessibility analysis, environmental assessments, historic preservation analysis and building analysis (significance, character-defining elements, integrity/intactness, and location and sensitive adjacencies). It provided recommendations for building treatments that would be sensitive to the CNY's status as an NHL. As part of this study, Building 28, currently housing the USSCM, was identified as an appropriate alternative for Building 109 for use by the park law enforcement staff.

1.3.5 Hoosac Stores Feasibility Study

In 2019, NPS initiated a feasibility study to determine whether the Hoosac Stores building (**Figure 1-5**) could be adaptively reused by the NPS and its partners. The report examined Alternative 1 (reusing the existing building) and Alternative 2 (keeping the building's façade). The study identified several major structural and programming issues that would need to be addressed in order to reuse the building for the desired purpose:

- The existing Hoosac Stores structure was originally built to serve as a warehouse and was not designed for multi-purpose use. Floor to floor heights (which vary between 10–11 feet) are insufficient for the desired conversion into museum and visitor spaces.
- Hoosac Stores has no plumbing, no fire suppression, no HVAC, and limited electricity.
- The building lacks adequate window openings required and desired for new uses and desired programming.
- The building would need to meet seismic and wind loading standards required for the new use. These would include:
 - o addition of new concrete shear walls, to reinforce the lateral stability of the existing walls.
 - o micro pile foundation to support the new shear walls.
- Costs associated with retrofitting the building alone are expected to substantially exceed the cost of constructing a new building.
- The most current (Sep 2022) deferred maintenance and repair (DM&R) estimates indicate it would cost at least \$72M to address the identified deficiencies in the facility (not including any upgrades for new use).



Figure 1-5. Hoosac Stores Building at the Charlestown Navy Yard

1.4 IMPACT TOPICS FOR DETAILED ANALYSIS

Issues and impact topics addressed in this EA were identified based on guidance from NPS, input from other agencies and the public, and resource information specific to the park. A summary of impact topics analyzed or dismissed from further analysis is provided below. As stated in Section 4.2 of the NPS NEPA Handbook (2015), issues should be retained for consideration and discussed in detail if:

- the environmental impacts associated with the issue are central to the proposal or of critical importance;
- a detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives;
- the environmental impacts associated with the issue are a big point of contention among the public or other agencies; or
- there are potentially significant impacts to resources associated with the issue.

During the planning and pre-NEPA process, a number of issues related to the proposed action were discussed and through those discussions impact topics that warranted detailed analysis were identified. The impact topics identified to be analyzed in detail in this EA include Visitor Use and Experience and Cultural Resources.

1.5 ISSUES AND IMPACT TOPICS DISMISSED FROM DETAILED ANALYSIS

Issues and impact topics that did not meet the considerations listed above for retention were dismissed from further evaluation in the EA and are discussed below.

1.5.1 Air Quality

The Clean Air Act (CAA), as amended, and its regulations establish a set of “criteria pollutants” regulated by the U.S. Environmental Protection Agency (EPA) and the states. Criteria pollutants have the potential to damage human health and the environment and include carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and ozone (O₃). Regions of the country are designated as being in attainment or not in attainment based on whether established National Ambient Air Quality Standards (NAAQS) for each criteria pollutant are exceeded (DEP, 2020). In general, air quality in Massachusetts and Boston has improved in recent decades, and the state is in attainment for each of the above-listed criteria pollutants. The CNY accounts for an extremely small fraction of total air pollutant emissions in the Boston airshed. Furthermore, the proposed action would not meaningfully increase emissions of air pollutants nor trigger a change in the attainment status of the Boston area. The emissions created through the demolition/construction would be temporary and intermittent and not substantially different from any number of ongoing small-scale construction projects occurring throughout the Boston area. Thus, air quality has been dismissed from detailed analysis.

1.5.2 Water Resources

Other than Boston Harbor, there are no lakes, streams, or other surface waters in or near the project area. A site stormwater permit would be needed for construction activities; this permit would mitigate any adverse impacts to water resources. Existing stormwater drains onsite would be repaired under a separate, planned NPS initiative. Best management practices (BMPs) would be incorporated into final construction documents. Stormwater would be diverted to the stormwater drainage system, as it currently is and would have no new effects on the water quality of the harbor. The proposed action is not expected to have any impacts on water resources; therefore, this topic has been dismissed from further analysis.

1.5.3 Disruption to Neighbors

Construction and demolition activities under the proposed action would involve increased noise and traffic due to the use of construction equipment and vehicles, including vehicles delivering construction materials and removing construction debris and waste, and worker commutes. These activities would impact traffic levels and ambient noise environment in the vicinity of the CNY. However, because the project area is in a densely populated urban area undergoing urban renewal and situated near to two major highways, traffic and construction noise are common in the neighborhood. The traffic and noise associated with the proposed action would be short term, related to actual construction and demolition activities, and highly contained.

Traffic patterns are not expected to change during construction. Areas most impacted by construction vehicles would be on Constitution Street on the block that the Hoosac Stores Building is located. Increased traffic would include the workers commuting to and from the job site and trucks bringing and removing materials, equipment and debris. Traffic would increase during working hours during demolition and later during construction. Traffic would not be constant; it would depend on what type of work was scheduled at what hours. Workers would come to the site in the morning and leave in the afternoon. Trucks might come at any time during construction hours but would likely not include more than one or two trucks at a time, which would load or unload good or equipment and then leave. Truck traffic would generally stay on main roads and highways and not move into Charlestown neighborhoods. It is unlikely that most Charlestown

residents would notice the traffic and those adjacent to the site are unlikely to be held up by turning trucks for more than a minute or two if they encountered them at all.

Adverse impacts of increased noise from construction and demolition activities would only last for the duration of construction and demolition. Noise impacts from the use of demolition and construction equipment and vehicles on visitor use and experience would be intermittent, not continuous. Noise would dissipate or abate quickly with distance and any intervening structures that block the propagation of sound waves. Mitigation measures may be required to minimize adverse impacts to the ambient noise level. Construction contractors would generally be required to work hours in keeping with the City of Boston Municipal Code (CBC) 16-26.4, which allows construction and demolition activities between the hours of 7:00 a.m. and 6:00 p.m. on weekdays. Noise barriers and noise-dampening devices may also be used to the extent possible.

The traffic and noise associated with this project is typical of an urban environment such as Charlestown. Although immediate neighbors may be affected by the project, these impacts would be minimized to the extent possible and are in character with other construction work undertaken in Charlestown. For these reasons, this issue was dismissed from detailed analysis.

1.5.4 Climate Change and Floodplains

Executive Order (EO) 11988 (Floodplain Management) and EO 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input) require NPS and other federal agencies to clearly identify the likely impacts of proposed actions in floodplains and to improve the Nation's resilience to flood risk. The objective of EO 11988 is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. EO 13690 was issued to establish a Federal Flood Risk Management Standard (FFRMS) for federally funded projects to improve the Nation's resilience to floods and to insure new federal infrastructure will last as long as intended. NPS procedures for complying with the floodplain EOs are outlined in NPS Director's Order and Procedural Manual #77-2 (DO #77-2 and PM #77-2, respectively).

Since the proposed action would take place within an AE zone (with a 1 percent or more annual chance of flooding), a Floodplain Statement of Findings (FSOF) was necessary for the action, as well as coordination with Massachusetts Office of Coastal Zone Management, for federal consistency review. A draft FSOF is attached to this EA as Appendix B for review.

Although the proposed action would be located within the 100-year floodplain, because of the nature of the site, the use of floodplain mitigation techniques such as additional elevation and flood proofing would prevent an increase in the flood threat and protect the new structure from potential flood events. Compliance with applicable standards, regulations, and policies to minimize impacts on floodplain resources and loss of property or human life would be strictly adhered to during and after the construction. With these measures, the proposed action would not alter flood flows and would have negligible effects on floodplain functions or values. Because there would be no significant impacts on floodplain values, this topic was dismissed from detailed analysis.

Additionally, the design of the new Gateway Center would incorporate the NPS Climate Change Response Program's guidance on climate change, the recommendations from the Commonwealth's Climate Adaption Plan, and the Climate Ready Boston Plan. Proposed new

construction designs would appropriately take into account and respond to climate change impacts. Since no impacts on wetlands or floodplains would occur, and climate change will be addressed in the project design, this topic has been dismissed from further analysis.

1.5.5 Land Use

There would be no change in property ownership as a result of the proposed action. The Gateway Center site would continue to be used as park land. However, instead of hosting an attractive nuisance of a vacant building and parking lot, the Hoosac Stores lot would become the Gateway Center. More activity would be expected in and around the new Center, but this activity would be focused on Boston Harbor, USS *Constitution* and the CNY. The properties around the CNY include residential, commercial, and mixed-use areas; implementation of the proposed action would not affect the land use of adjacent properties (BPDA, 2020). The proposed action would be consistent with city, county, and regional plans, including *Imagine Boston 2030*, a city-wide planning document. The proposed action is not expected to have any impacts on land use; therefore, this topic has been dismissed from further analysis.

1.5.6 Socioeconomics and Environmental Justice

The income and demographic data for the impacted population in the Region of Influence (ROI) were assessed for socioeconomic impacts and to determine if environmental justice communities are present. Any social and economic impacts would be felt most by individuals, residents, and workers in Suffolk County, especially residents in areas adjacent to CNY. Therefore, Suffolk County was identified as the analytical ROI for consideration of socioeconomic effects and the State of Massachusetts was identified as the corresponding Region of Comparison (ROC) or the “general population” as it corresponds to the CEQ definition. The data indicate that the ROI has a substantially higher percentage of people and families below the poverty threshold compared to the State of Massachusetts and qualifies as an Environmental Justice (EJ) population on this basis. For the purposes of assessing EJ impacts, since potential impacts with the greatest intensity and longest duration would occur at or in the immediate vicinity of CNY, the census tract (CT) encompassing CNY (CT 408.01) was identified as the ROI for any direct and indirect impacts that may be associated with the implementation of the proposed action. For purposes of comparison, Suffolk County was defined as the ROC.

The proposed action would create construction jobs, primarily benefiting members from minority and low-income communities; however, the number of jobs created would be temporary in nature and represent an extremely small fraction of the total number of jobs in Charlestown. It is expected that the use of heavy machinery during construction and demolition activities may temporarily increase community noise levels and traffic during demolition and construction phases; however, activities would be conducted in compliance with local noise ordinances and would only occur during daytime hours. The proposed action would not substantially increase noise levels and traffic experienced by EJ communities. Thus, socioeconomic and environmental justice do not meet the criteria to be retained for analysis and have been dismissed from detailed analysis.

2.0 ALTERNATIVES

This chapter describes alternatives that address the purpose and need for action. Three alternatives were identified for this project: (1) the no-action alternative, which serves as a benchmark against which the impacts of the action alternatives are compared; (2) the proposed action, which is also the preferred alternative, and which would demolish the Hoosac Stores Building to replace it with a newly constructed Gateway Center and demolish Building 109 to replace it with an open frame structure; and (3) a second action alternative that would reuse the Hoosac Stores building as the new Gateway Center and demolish Building 109 to replace it with an open frame structure.

2.1 NO-ACTION ALTERNATIVE

The no-action alternative (**Figure 2-1**) represents a continuation of the current use and management of the CNY and the Hoosac Stores Building. It includes the actions described below as well as in the affected environment sections of the EA (Sections 3.1.1 and 3.2.1, including subsections).

Under the no-action alternative, visitor access and amenities would remain the same as described in the affected environment for Visitor Use and Experience (Section 3.1.1). Visitors would need to access several different sites and walk 100 yards or more in different directions, backtracking on their route to obtain a full orientation to the CNY. Few amenities would be available for shelter, resting, or for the staging of other types of experiences that might encourage visitors to enjoy the CNY or return for additional visits.

The Hoosac Stores Building would remain vacant and unused with windows and doors boarded up. The park would provide limited maintenance to ensure the safety of passersby and secure the building from intrusions, but would not embark on a major rehabilitation campaign to reuse the building.

Building 109 would continue housing park staff. Structural issues would remain; however, the park would continue to make repairs as funding came available. Planned window replacements and asbestos siding remediation would be pursued.

Finally, portions of the MDS that rely on the consolidation of current visitor and staff functions may not be able to be implemented.

More information about ongoing management of the Hoosac Stores Building, Building 109 and the rest of the built environment within the CNY can be found in the affected environment for Cultural Resources (Section 3.2.1).

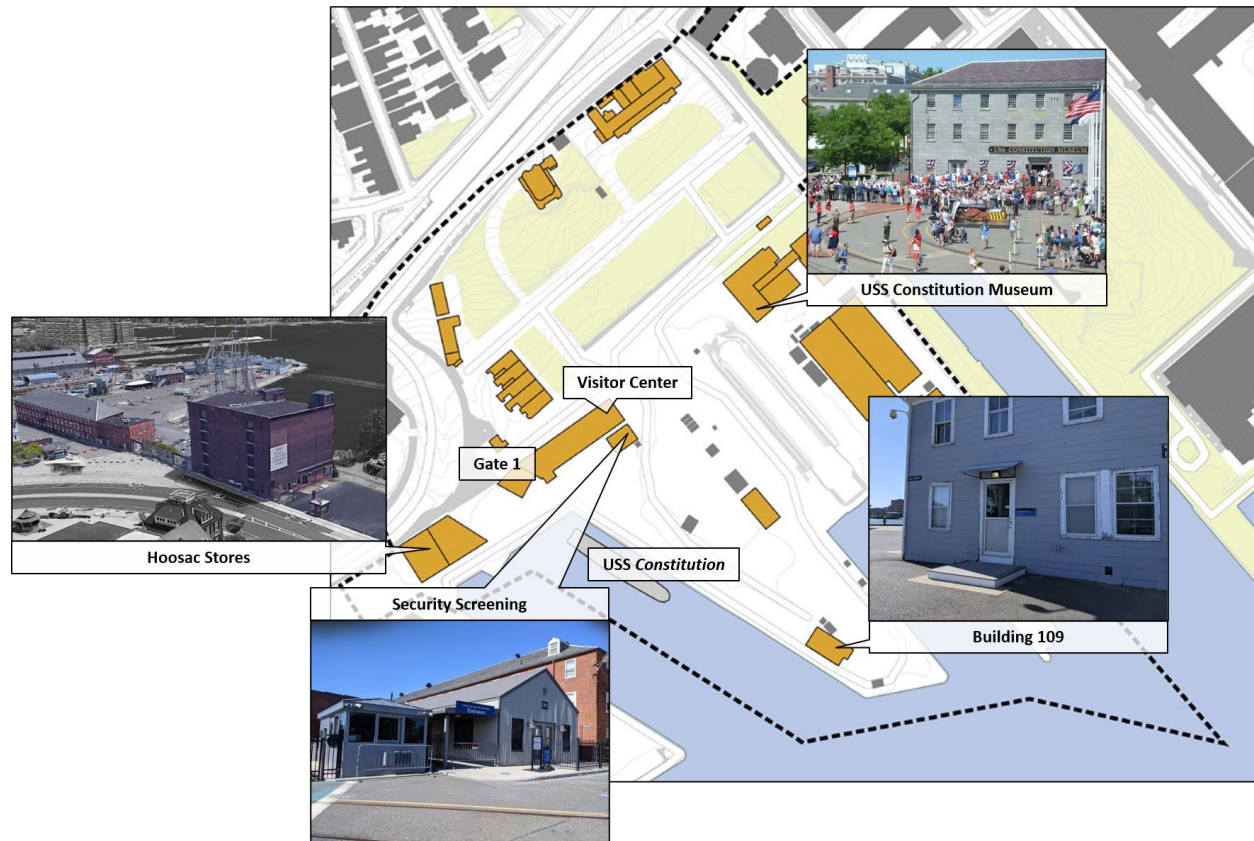


Figure 2-1. The CNY under the No-Action Alternative

2.2 PROPOSED ACTION AND NPS PREFERRED ALTERNATIVE: DEMOLITION OF HOOSAC STORES AND CONSTRUCTION OF A NEW GATEWAY CENTER

The proposed action (**Figure 2-2**) has two major components. The first is to relocate the USSCM and park visitor center to a location at the park entrance adjacent to Gate 1, consolidating them into one facility. This action would allow for visitors to be welcomed at the CNY’s main visitor entrance rather than at multiple locations deep within the yard. The new facility would provide visitor orientation in a location that would then set the stage for how they navigate the yard and how they experience its resources. The site of the Hoosac Stores Building meets all of the goals for creating a facility to welcome and orient visitors to the CNY as they approach along the Freedom Trail. Construction of the Gateway Center would occur by demolishing the Hoosac Stores Building and reusing that site for a new museum and visitor center (**Figure 2-3**). The second component would demolish the majority of Building 109 and replace it with an open frame structure accommodating visitor activities on Pier 1. Relocation of the museum and visitor center would contribute to the park’s goals to reorganize its use of existing structures. Key elements of the MDS would not be able to be implemented without this action. The two components are discussed in greater detail on the following pages.

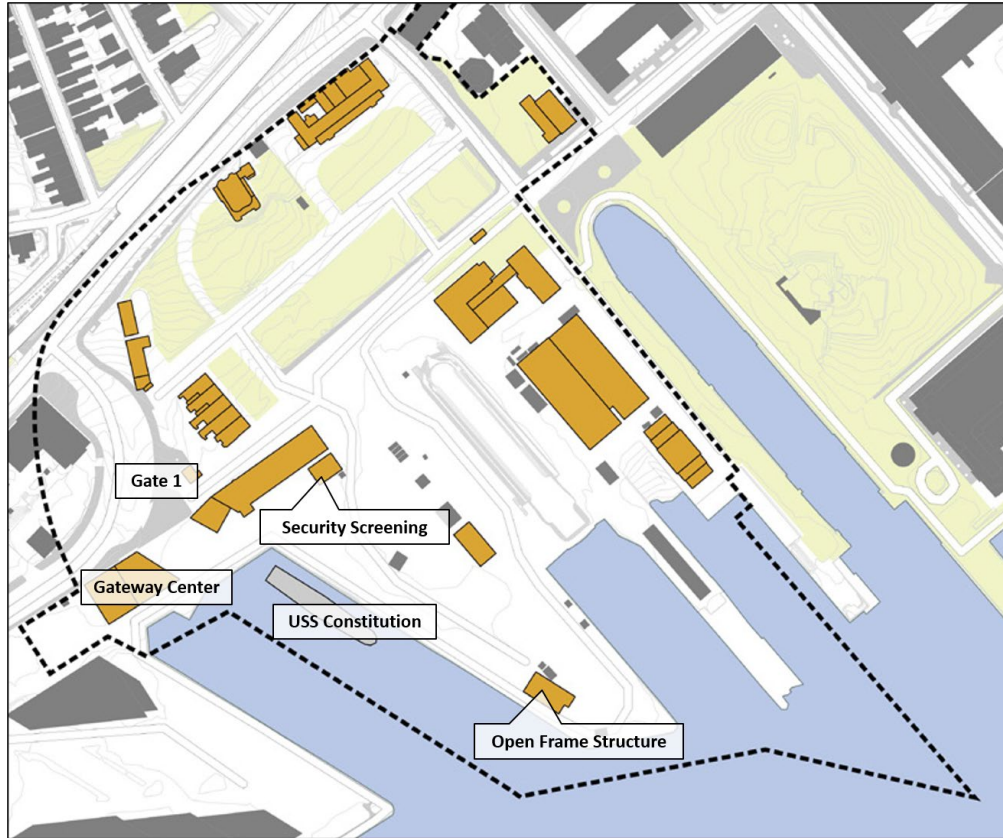


Figure 2-2. The CNY under the Impact Area of the Proposed Action

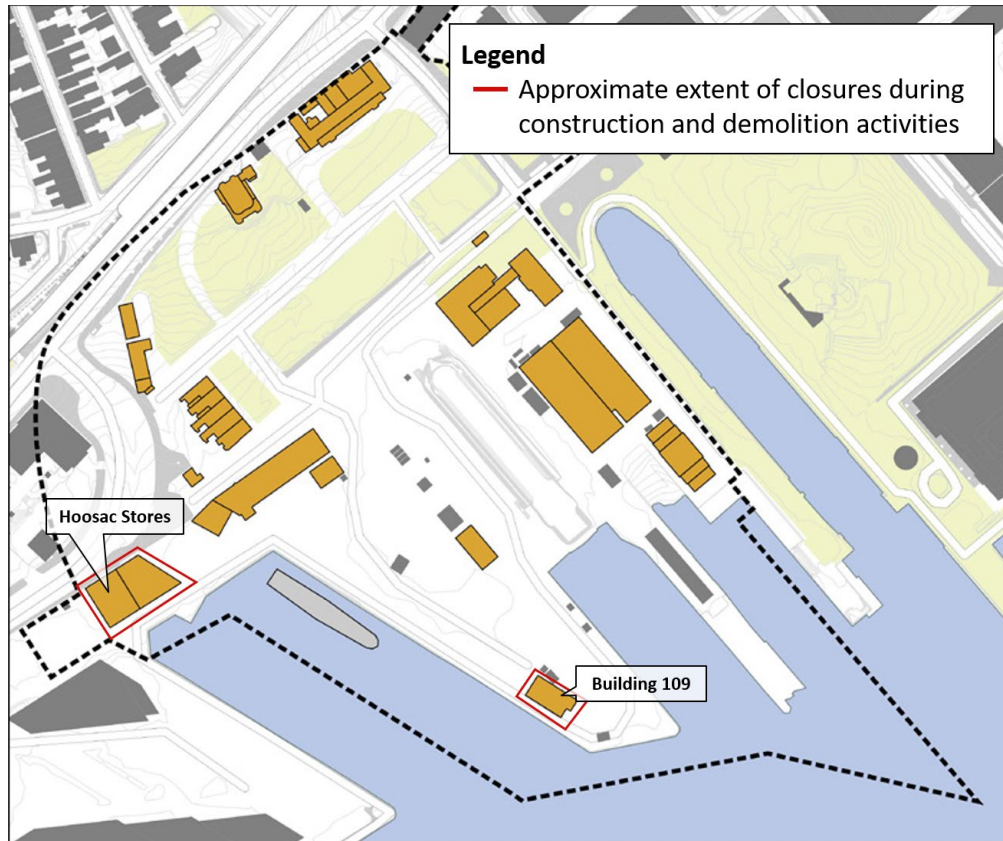


Figure 2-3. Approximate Extent of Closures during Construction and Demolition Activities

2.2.1 Demolition of Hoosac Stores Building and Construction of Gateway Center

Under the proposed action, the Hoosac Stores Building (**Figure 1-5**) would be demolished and the Gateway Center would be constructed on that site. The USSCM and park visitor center would be consolidated into the new facility. The Gateway Center would serve as a visitor entrance and orientation point directly on the Freedom Trail and at the main visitor entrance to the CNY.

Arriving at the CNY, visitors would enter the Gateway Center, become oriented to the CNY as a whole, explore the USSCM and take advantage of visitor services such as a restaurant/cafe, restrooms and gift shop amenities. Through interpretive media, visitors would be able to learn about the yard and its history and that of USS *Constitution* and USS *Cassin Young*, without passing through the current security measures. Extra security would only be necessary for boarding USS *Constitution*.

While the Gateway Center has not yet been fully designed, preliminary concepts envision a 33,500 square foot structure. Conceptual designs have the building elevated above flood level with a proposed first floor elevation of 21'. Steps and ramping would lead to the building and integrate with the Boston Harborwalk. The design would be compatible with both the historic yard and the adjacent modern developments that neighbor the CNY.

Demolition of the Hoosac Stores building, including site preparation and removal of materials, would be expected to occur over an approximate 1.5-year time frame. The majority of the

demolition activities would be scheduled to occur in a period of lower visitation such as November to April. Demolition activities would involve the use of heavy equipment with current plans to dismantle the building floor by floor. The approximate extent of the worksite is depicted in **Figure 2-3**. The building's parking area would be used as a staging area during demolition. The debris would be hauled over public roads to an appropriate and approved off-site disposal facility. The NPS would identify and evaluate material from the building that may have salvage potential for incorporation into the Gateway Center, such as structural timbers or brick. The specifications for the demolition would be compatible with the City of Boston Ordinance on restriction of noise generation during construction in a dense urban setting.

Once the demolition is complete, the construction of the Gateway Center would be expected to take approximately two years to complete. Construction may not begin immediately following demolition. If construction does not immediately follow the demolition, the site would remain vacant and closed to the public, secured with fencing. The site could contain some materials or equipment that would be used for the construction, once started. Construction activities would involve use of heavy equipment and be conducted during daytime hours to minimize noise disturbances. The construction site would be surrounded by fencing and signage to keep visitors out of construction areas. Pedestrian and vehicular traffic may be impacted by temporary, minor reroutes at certain times during construction.

During construction the USSCM and visitor center would remain open in their current locations. Upon completion of the Gateway Center, the USSCM and visitor center would be relocated to the new facility. Once the USSCM is relocated the park Visitor and Resource Protection Directorate would move from Building 109 to Building 28. With the visitor center also relocated to the Gateway Center, all of Buildings 4 and 5 could be used by the Navy.

2.2.2 Demolition of Building 109 and Replacement with Open Frame Structure

Under the proposed action and after completion of the Gateway Center, the park Visitor and Resource Protection Directorate would relocate from Building 109 to Building 28 and the majority of Building 109 would be demolished. If feasible the brick electrical substation portion of Building 109 would be retained. In place of Building 109, an open frame structure with pavilion (example provided in **Figure 2-4**) would be constructed to host visitor activities on Pier 1. While detailed design has not been completed, the structure would represent the scale and location of Building 109, and likely consist of a steel frame structure encompassing the remaining brick electrical substation portion if retained. The structure with pavilion would serve as a visitor orientation and interpretive space, also providing wayfinding and shade for visitors and further encourage the use of Pier 1.

Although Building 109 is a contributing resource to the Charlestown Navy Yard NHL, it was intended to be a temporary structure when built during World War II and is afflicted with structural issues and asbestos. Demolition activities would involve the use of heavy equipment and vehicles to remove building debris. The demolition of Building 109 would be expected to take six months to a year with the major work scheduled to occur when service to the nearby seasonal harbor ferry landing is not operating. The approximate extent of the worksite during demolition and construction is depicted in **Figure 2-3**.



**Figure 2-4. Example Open Frame Structure
(Parris Landing, Building 42 at the Charlestown Navy Yard)**

2.3 ACTION ALTERNATIVE 2: REUSE OF HOOSAC STORES AS THE NEW GATEWAY CENTER

Action alternative 2 has two major components. The first is to relocate the USSCM and park visitor center to the Hoosac Stores Building, consolidating them into one facility. The rationale for doing this is the same as described in the preferred alternative (Section 2.2). Instead of demolishing the Hoosac Stores Building and constructing a new building, Hoosac Stores would be retrofitted to meet code and to accommodate its new use as the Gateway Center. The second component would demolish the majority of Building 109 and replace it with an open frame structure as described in the preferred alternative. As with the preferred alternative, relocation of the museum and visitor center would contribute to the park's goals to reorganize its use of existing structures. It would also preserve portions of the Hoosac Stores Building.

2.3.1 Reuse of Hoosac Stores Building as the Gateway Center

Under the proposed action, the Hoosac Stores Building would be retrofitted to accommodate the USSCM and park visitor center. The new Gateway Center would serve as a visitor entrance and orientation point directly on the Freedom Trail and at the main visitor entrance to the CNY.

The arrival and visitor experiences available within the Gateway Center would be similar to those described in the preferred alternative, however, building constraints would dictate the final design. The Gateway Center would be a vertical experience, with people having to use elevators to move through several different floors in the building to interact with the different amenities.

The Hoosac Stores currently has approximately 61,400 square feet of space to house the 33,500-square foot programming needs for the Gateway Center, however the extensive retrofitting necessary to reuse the building would likely reduce the available square footage.

Retrofitting for safety and programming needs include:

- Adding four new 12-inch concrete shear walls around the elevator core and new shear walls on the inside of all four exterior walls for lateral stabilization (**Figure 2-5**);
- Underpinning the shear walls with micro piles;
- Reconnecting the floors to the walls where the shear walls were inserted;
- Removing or reconfiguring large areas of the existing floors in part or in whole to increase the 10'8" floor to floor height in many areas including exhibition spaces;
- Potentially raising the height of the building by 9-feet to accommodate internal changes in floor heights;
- Adding new windows and door openings for access and to help people visually connect to resources such as USS *Constitution* and the CNY as a whole, which would in turn increase the amount of lateral stabilization needed;
- Modifying the ground floor so that it sat above the current and projected 100-year floor levels or locating most functions to the second floor and above to protect government investments from potential flooding and climate change scenarios;
- Installing all new mechanical, electrical, communication and plumbing systems because the building currently has only minimal electrical service:
- Building out the space for different functions:
- Cleaning and repairing the structural façade inside and out.

Construction activities would involve use of heavy equipment and be conducted during daytime hours to minimize noise disturbances. The construction site would be surrounded by fencing and signage to keep visitors out of construction areas. Pedestrian and vehicular traffic may be impacted by temporary reroutes at certain times during construction.

During construction the USSCM and visitor center would remain open in their current locations. Upon completion of the Gateway Center the USSCM and visitor center would be relocated to the new facility. Once the USSCM is relocated the park Visitor and Resource Protection Directorate would move from Building 109 to Building 28. With the visitor center also relocated to the Gateway Center, all of Buildings 4 and 5 could be used by the Navy.

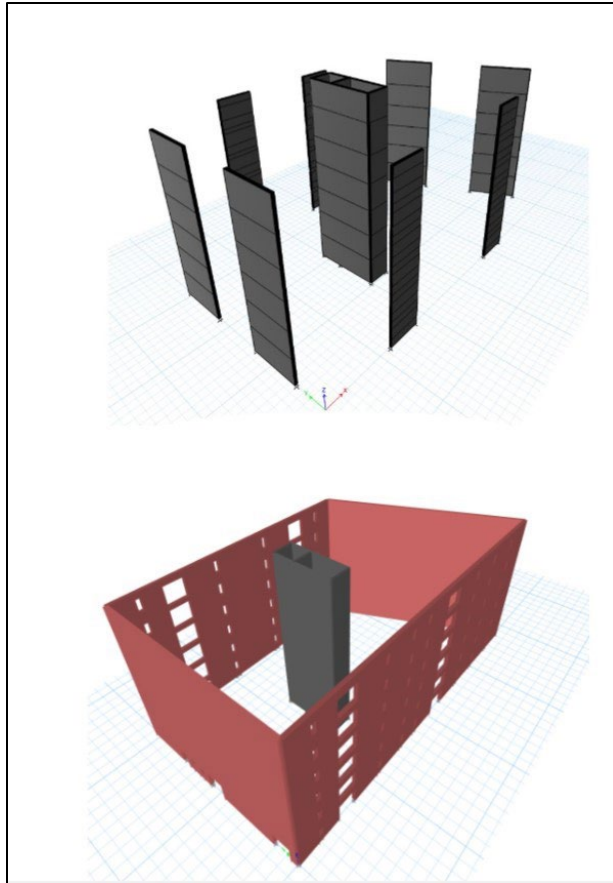


Figure 2-5. Shear Wall Panels Would be Fit to each of the Four Exterior Walls of the Hoosac Stores Building and Around the Elevator Shaft to Provide Earthquake and Wind Shear Stability (NPB, 2020)

2.3.2 Demolition of Building 109 and Replacement with Open Frame Structure

The replacement of Building 109 with an open frame structure under action alternative 2 would be the same as described in section 2.2.2 of the preferred alternative.

2.4 MITIGATION MEASURES

Mitigation in the NEPA process includes the avoidance or minimization of impacts to resources. To minimize impacts related to the action alternatives, the NPS would implement mitigation measures when and wherever feasible. Some of the mitigation measures would be implemented prior to any construction activities while others may depend on the final demolition and construction designs. Mitigations measures, including those developed through the Section 106 process, would include the following:

Hoosac Stores 1 & 2

- Complete Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) for the Hoosac Stores 1 & 2. The HABS/HAER documentation has been

completed and accepted by the NPS and will be submitted to the Library of Congress, MA SHPO, and BNHP.

- Update Hoosac Stores 1 & 2, Hoosac Stores 3 NRHP documentation.
- Evaluate salvageable material during the Hoosac Stores demolition for potential reuse and incorporation into the design and construction of the Gateway Center. Recognizing the historical significance of the Hoosac Stores, NPS would evaluate any intact material for meeting the necessary health and safety standards for potential reuse in the Gateway Center. NPS determined this selective consideration of material reuse would be the most effective and safe method for, possibly preserving components of the building.

Building 109

- Document existing conditions of Building 109 prior to demolition. NPS would photo document the exterior and interior of Building 109 using guidelines set forth in the NPS NRHP Photo Policy Factsheet (nps.gov). Photo documentation to be submitted to MA SHPO as an addendum to existing CNY HABS/HAER documentation.
- Photo documentation would build on the extensive information already contained within the *Charlestown Navy Yard Historic Resource Study* (Carlson, 2010), resulting in extensive documentation of Building 109 and adding to the vast documentation of the CNY as a whole.
- Design and construct an open frame ghost structure on the footprint of Building 109 reflective of its mass, scale, and location.

2.5 ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION

In addition to the no-action and two action alternatives, one additional alternative was proposed.

This alternative would have reused Hoosac Stores and expanded the existing footprint with an addition. This alternative was dismissed from further consideration because the effects of the alternative on the Hoosac Stores 1 & 2 and Hoosac Stores 3 Historic District would be similar to Action Alternative 2 and would be much more costly.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment, which is intended to document the existing conditions of resources and is the baseline for predicting changes to resources that could occur if the no-action alternative or either of the action alternatives were to be implemented. The resource topics analyzed correspond to the issues and concerns described in the Purpose and Need section of this EA. For each resource topic analyzed, resource condition trends are identified.

The Affected Environment describes the areas that could be affected by the alternatives considered, including the reasonably foreseeable environmental trends and planned actions in the area (40 CFR 1502.15). For each resource, the affected environment description is followed by an analysis of the beneficial and adverse environmental consequences or “impacts” of the no-action alternative and action alternative. In accordance with the CEQ regulations, the environmental consequences analysis includes a discussion of the direct, indirect, and cumulative effects potentially resulting from the alternatives (40 CFR 1502.16 and 40 CFR 1508.1(g)). The methods used to assess impacts vary depending on the resource being considered but are generally based on a review of pertinent literature and studies, information provided by subject matter experts, professional judgment, and park staff knowledge and insight. Impacts were assessed with the assumption that the mitigation measures described in the description of the alternatives would minimize, reduce, and/or avoid impacts to resources.

Cumulative impacts include the incremental impacts of a project together with the past, present, and reasonably foreseeable future actions of other projects. The analysis considers actions that could affect resources evaluated for the proposed action and alternatives and that would be reasonably expected to occur. Cumulative impacts also consider whether a particular resource has been historically affected by cumulative actions. Past actions that have ongoing impacts are considered in the cumulative analysis and are described in the affected environment.

The action alternatives are one element of the MDS, which includes other organizational and redevelopment efforts throughout the CNY. Other past projects to preserve and rehabilitate the larger CNY and future actions planned under the MDS would contribute to cumulative impacts. The reasonably foreseeable projects listed in the MDS are presented in Section 1.3; however, the exact projects that would be undertaken as part of the MDS are subject to change for reasons such as funding and partnership viability. As described in Section 1.3, these projects include actions to address deferred maintenance, building renovations, and putting buildings out to lease. These projects are intended to increase access, circulation, quality of visitor experience, diversity of opportunities, cohesion of spaces, and efficiency of operations at the CNY.

3.1 VISITOR USE AND EXPERIENCE

3.1.1 Affected Environment

Visitor use and experience refers to what visitors do while in a park, and how they perceive their experiences. The existing conditions and trends described in the subsections below focus on visitor use and several aspects of visitor experience: Navigation and Orientation, Access, Experience Types, and Resource Condition.

3.1.1.1 Visitor Use

The CNY is part of the BNHP and Freedom Trail. The Freedom Trail, which received 1.1 million visitors in 2021, is a 2.5-mile trail through Boston leading to 16 nationally significant historic sites from the last 250 years. These sites include museums, churches, meeting houses, burying grounds, parks, a ship, and historic markers that tell the story of the American Revolution (USSCM, NPS, and U.S. Navy, 2018; The Freedom Trail, No Date; NPS, 2021). In 2019, the last year before COVID-19 affected visitation, of the 3.2 million visitors to the BNHP, 40 percent visited the CNY (Figure 3-1).

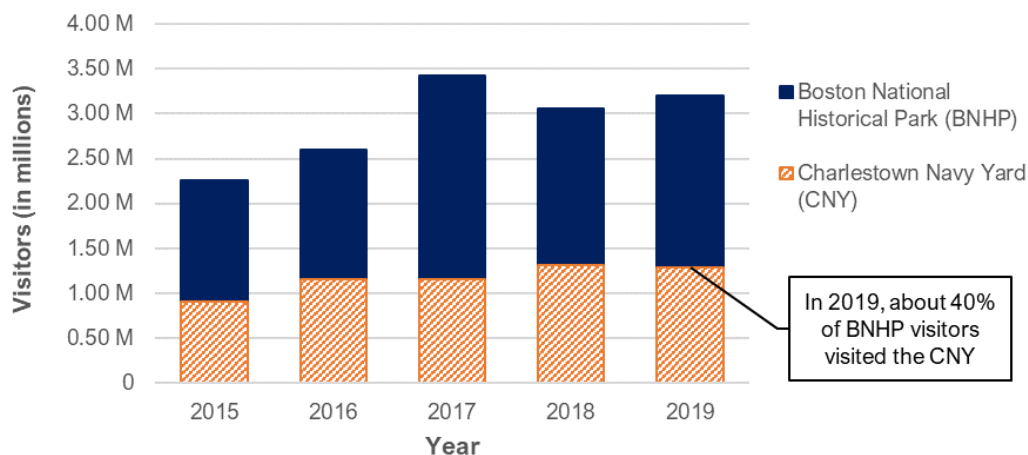


Figure 3-1. Visitation to the Boston National Historical Park and Charlestown Navy Yard (2015-2019)

Visitors to the CNY overwhelmingly visit the NPS visitor center and USS *Constitution*, although statistics for the USS Constitution Museum made it the fifth-most visited museum in Boston in 2016 (USSCM, NPS, and U.S. Navy, 2018; NPS, 2021). The 2019 percentage of visitors to the different venues in the CNY are shown in Figure 3-2. During that year, the majority of visitors came to the CNY as part of a family group and 93 percent were not from Massachusetts (NPS, 2019).

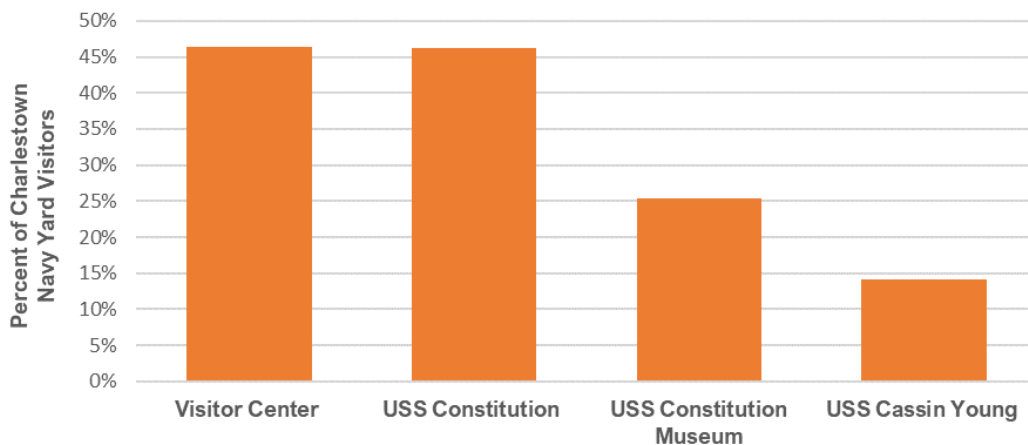


Figure 3-2. Visitation to Charlestown Navy Yard Sites by Percent of Total Visitors (2019)

In addition to visitors who come to the CNY specifically to visit the national park, the CNY serves as a connector for residents and visitors to the commercial, institutional, and residential developments in the eastern portion of the Charlestown Navy Yard managed by the City of Boston. First Avenue, extending from Gate 1 through the park to Fifth Street, is a major pedestrian and bicycle passageway for these users (**Figure 1-2**).

Visitor Use Trends

The percent of BNHP visitors who visit the CNY has remained steady over the last several years, even as the total number of visitors to the BNHP and CNY has increased. A decrease in visitation was seen when USS *Constitution* was in dry dock in 2017, but it has been increasing since the ship returned to its normal berth. Even in 2021, when overall visitation to the BNHP was half that of a normal year due to travel restrictions, the overall percentage of visitors to the CNY had a slight increase; 48.4 percent of visitors to BNHP came the CNY as opposed to 40 percent in 2019. Visitation is expected to increase as BNHP visitation increases, especially around the 250th anniversary of the American Revolution, although the percentage of the total number of visitors to BNHP who visit the CNY may remain relatively flat in accordance with recent precedent.

The leasing strategies outlined in the MDS are expected to draw new opportunities for recreation to the federally-owned portion of the navy yard. As these are implemented, visitors may spend longer periods of time within the CNY and there is likely to be an increase in local residents visiting the CNY to take advantage of new attractions.

3.1.1.2 Visitor Experience

Navigation & Orientation

Over 90 percent of visitors enter the CNY from the 2.5-mile-long Freedom Trail (Sasaki & Lord, 2018:25). Visitors follow the Freedom Trail into Charlestown, pass the Hoosac Stores Building, which is currently vacant, and enter the CNY via Gate 1 as shown in **Figure 1-2** (NPS, 2019). Gate 1 serves as the entrance to the greater navy yard neighborhood, yet the design of the space does little to celebrate its importance or provide a sense of arrival (Sasaki & Lord, 2018). After entering Gate 1 visitors pass along the length of Building 4/5, which blocks the view of the water and Pier 1, where major attractions of USS *Constitution* and USS *Cassin Young* are docked (**Figure 3-3**).

Once past Building 4/5 visitors are met with the large open spaces of the parade grounds ahead of them and Pier 1 to their right. There are few wayfinding signs within the open space to help visitors navigate to desired destinations.

Orientation to the CNY happens in two locations. The NPS visitor center is located at the far end of Building 4/5. The entrance to the visitor center, due to its direct connection and proximity to USS *Constitution*, is behind a security fence. To enter, visitors walk past the entrance, go through security, and then turn back toward the entrance. To reach the USSCM, visitors must walk approximately 100 yards across the open parade grounds, which is hot and without shade in the summer and cold and windy in the winter. There are few places to sit along the way. From these two locations, they are then directed to visit other sites within the CNY. USS *Constitution* and USS *Cassin Young* are both located on Pier 1. Other sites are scattered throughout the CNY. For visitors with mobile phones, the NPS Park App is useful for navigating and understanding sites in the greater CNY.

Access

Access to the different experiences within the CNY requires different levels of security. Because the NPS visitor center is within an active U.S. Navy facility and USS *Constitution* is managed by the Navy, security not usually seen at National Park units is necessary to enter. Visitors going to both places need to pass through security twice.

Security is not needed to enter USS *Cassin Young*, managed by NPS, or the USSCM, but orientation and resources interpreted are separated for both locations. The USSCM is over 100 yards away from USS *Constitution* and USS *Cassin Young* is the full length of Pier 1 from the NPS visitor center. Like the parade grounds, Pier 1 has no shade or seating options.

To experience all the opportunities at the CNY, visitors must walk long distances through open areas and repeatedly back track along their routes.

Visitor Opportunities

The following opportunities are available for visitors to the CNY:

- The NPS visitor center (Building 5) interprets the history of the CNY as a home to Naval officers, sailors and U.S. Marines, the ingenuity of its workers, and its role in “Servicing the Fleet” (NPS 2022). It provides an orientation to the yard and helps visitors navigate throughout the site.
- The USSCM preserves, displays, and interprets artifacts related to USS *Constitution* and her crew. Visitors can engage with the museum’s interactive exhibits, programs, and outreach initiatives (USSCM, No Date). It is managed and operated by a partner group.
- USS *Constitution* is docked at Pier 1. Tours of the oldest commissioned ship in the U.S. Navy are run every 30 minutes by the Navy. Visitors must pass through security screening and show photo identification to board the ship.
- USS *Cassin Young* is a World War II destroyer maintained by the National Park Service as an example of the type of ship built and repaired at the CNY. Tours are offered seasonally.
- Other Sites. In addition to the formal opportunities for learning, visitors to the CNY see numerous historic buildings and equipment from the CNY’s days as an active naval shipyard. These include equipment, such as the portal cranes and rail tracks, and buildings and structures that had important roles in the work accomplished at the CNY, including the Tar House, Commandant’s House, dry dock, officers’ quarters, Gate 1, Marine barracks, rope walk and chain forge. The last two are outside of the main NPS campus.
- Community Resources. Other recreation opportunities at the CNY include the use of the greenspace on the Commandant’s House front lawn and use of the two tennis courts and adjacent basketball court, referred to collectively as the athletic courts. The CNY serves as a public open space for the residents of Charlestown and as a gateway to the greater navy yard, which extends east along First Avenue to the Spaulding Hospital and Menino Park (USSCM, NPS, and U.S. Navy, 2018). There are no permanent opportunities for buying food or beverages within the federal portion of the CNY.

Condition

As a working naval shipyard, the CNY provides visitors with a unique experience, however it also provides a challenge. Episodic expansion, use, and contraction over 174 years has resulted in a

jumble of buildings and structures from many eras and remodeling campaigns. The use of space in the CNY has been similarly organic and provides barriers to visitor exploration in places—especially near active Navy work areas. Additionally, the high level of deferred maintenance of some of the resources, such as Building 109, detract from the visitor experience.

Visitor Experience Trends

NPS conducted extensive visitor surveys in 2017 during the development of the visitor experience plan. The plan identified a number of challenges and opportunities to improve experiences in the CNY which have been incorporated into the MDS. Needs identified included easier access to different experiences without going through security, a more tangible connection to the rest of the Freedom Trail, new ways of connecting with history and engaging the community surrounding the CNY, and places for people to rest and relax (Sasaki & Lord 2018). Implementing solutions to these needs is expected to improve all aspects of visitor experience through the reorganization of space, attention to deferred maintenance and the introduction of new uses into historic buildings and spaces within the NPS-owned portion of the CNY. Building 107 will be an integral part of the MDS, consolidating the majority of the park management and maintenance functions in that building and freeing up some space in the CNY for other activities and uses. The full extent of the improvement would depend on which aspects of the MDS were implemented.

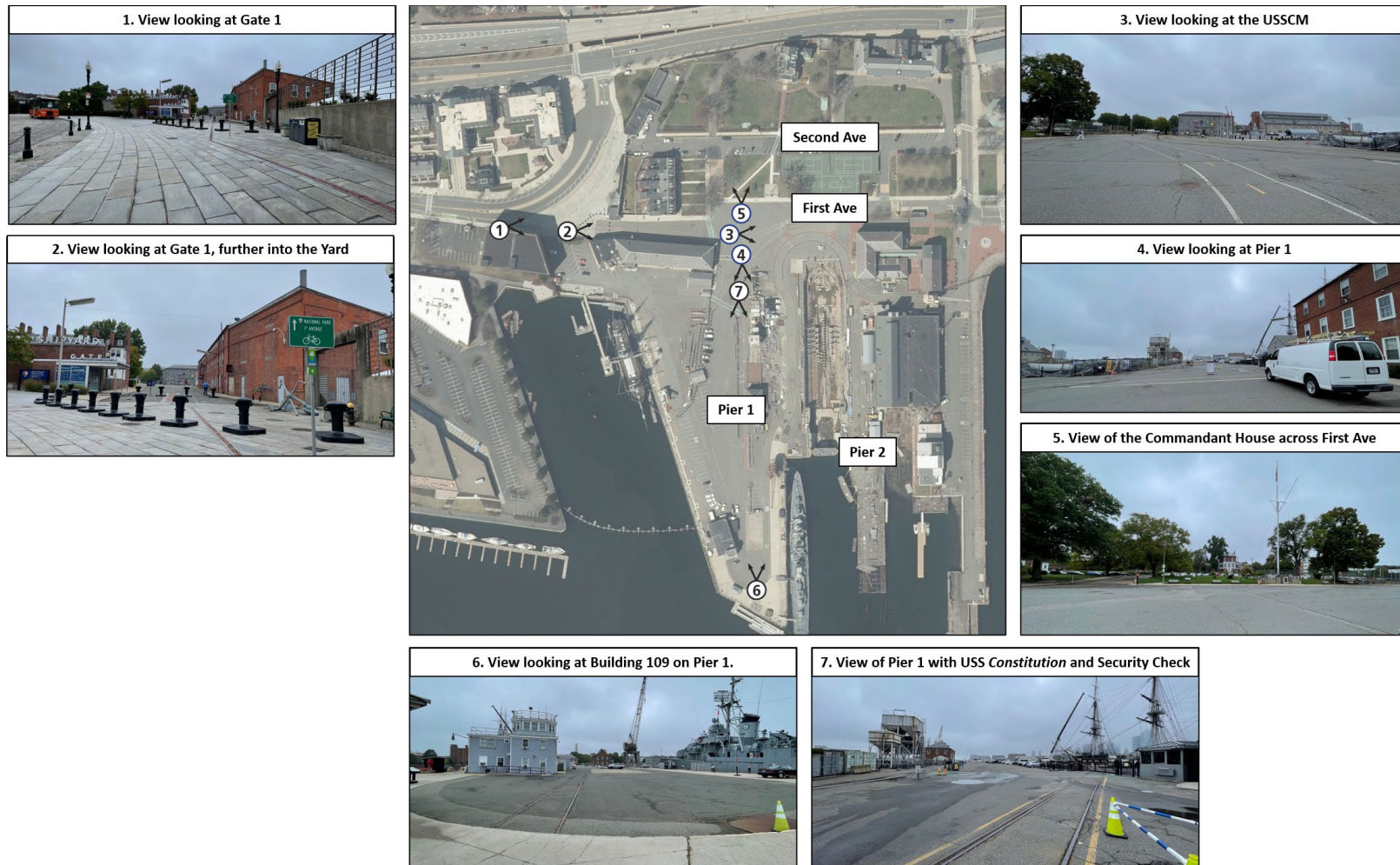


Figure 3-3. Layout of the CNY

3.1.2 Environmental Consequences

This section discusses the potential impacts of the no-action and action alternatives on visitor use and experience. Visitor use and experience would be impacted by the continuation of the current use and management of the site under the no-action alternative as well as by all measures under the action alternatives.

3.1.2.1 No-Action Alternative

The no-action alternative would be a continuation of the current use and management of the site as described in the affected environment.

Visitor Use

Visitor use trends would be expected to continue at their current rate. Numbers of visitors to the CNY and its sites would be expected to grow or fall consistently with the number of visitors to the BNHP. The percentage of visitors to the park would be expected to remain around 40-45 percent of total number of visitors to the BNHP. Community use of the site would remain low, but steady, and generally consist of people using the site as a pass through to get to resources within portions of the navy yard outside of the federal ownership.

Visitor Experience

Navigation & Orientation

Navigation and orientation within the Navy Yard would remain the same as described in existing conditions. The Hoosac Stores building would continue to be boarded up and unused at the main entrance to the CNY, contributing the lack of a welcoming feeling of arrival at Gate 1.

Orientation would continue to be split into two distinct locations that are physically separated from the resources they interpret. Visitors would need to backtrack between resources to receive a full orientation to the site. Shade, shelter and seating in the large open areas of the parade grounds and Pier 1 would be difficult to find and lead to visitor fatigue, which could prevent them from staying longer and experiencing the CNY as a whole.

Access

Access issues described in the affected environment would continue, with visitors having to pass through layers of security not usually seen at NPS sites to access the NPS visitor center and USS *Constitution*. Without going through the screening, they would miss out on much of the interpretation of the CNY and its history.

Visitor Opportunities

The major types of experiences offered at the CNY would not change from what was discussed in the affected environment.

Condition

The Hoosac Stores building would stay unused and boarded up, making the approach to the navy yard feel neglected and blocking the view of the water and USS *Constitution*. However, other buildings would be refurbished as funds allowed. Plans to update the exterior of Building 109 (windows and siding) and remove hazardous materials would improve the condition of NPS assets and make Pier 1 feel more welcoming.

Some MDS projects would be implemented under the no-action alternative, but the leasing opportunities would not be fully realized and deferred maintenance would be slower to be addressed than predicted.

Cumulative Impacts

The ongoing and reasonably foreseeable projects under the MDS, such as the rehabilitation of Building 107 and the planned window and siding replacements at Building 109, would provide small, short-term disruptions to visitor use and experience as visitors may need to be rerouted during construction, but long-term beneficial impacts to visitor use and experience by eliminating deferred maintenance and potentially freeing up space for new activities. When the incremental effects of the no-action alternative are considered along with the short-term adverse and long-term beneficial impacts of the MDS projects, there would be very small adverse and beneficial impacts which would not be much different from current conditions over the long term.

Summary

Overall the impacts to visitor experience from the no-action alternative are both beneficial and adverse. Visitors would enjoy the CNY resources, making the USSCM the fifth most visited museum in Boston, but have difficulty navigating the CNY and accessing and understanding the resources. Little shelter from the weather or places to sit also detract from the visitor experience. Because most visitors are one-time visitors from out of town, the positives tend to out-weigh the deficiencies. While visitor patterns are not expected to decrease because of the deficiencies, neither would they draw more visitors from the surrounding neighborhoods to the federally-owned portion of the CNY. Under the no-action alternative, the full benefits of the MDS would not be realized because many of the improvements revolve around the consolidation of visitor orientation and museum space at the Hoosac Stores location.

3.1.2.2 Proposed Action/Preferred Alternative: Demolition of Hoosac Stores and Construction of a Gateway Center

The proposed action would demolish Hoosac Stores Building in order to consolidate the current two visitor orientation locations into a single state-of-the-art Gateway Center at the entrance of the CNY. Once that was accomplished, Building 109 would be demolished and NPS staff moved to a portion of the old USSCM space in Building 28. Additionally, the construction of an open frame structure at the end of Pier 1 in the location of Building 109 would provide shelter, a place for visitors to rest out of the weather, and a focal point for new programming. Implementation of the proposed action would set the stage for the MDS to be fully implemented as funding allowed, leading to a revitalization of the CNY.

Visitor Use

Visits to the CNY would be expected to increase after construction of the Gateway Center. Additionally, the proportion of visitors to the BNHP who visit the CNY is also expected to increase. More out-of-town visitors may be drawn to the Center as it is featured on the park website, NPS Park App and other tourist locations, but the bulk of new visits are expected to come from Massachusetts residents who have previously visited the CNY, but now want to see and use the new attraction, and by locals who live and work in Charlestown, Boston, and neighboring towns. These visitors are expected to make repeat visits to the yard to take advantage of the new shelter and activities that would be focused in that area. The Gateway Center's integration into the Harbor

Walk would also increase passive recreation to and through the CNY and bring more attention to the resources within the CNY.

With the construction of the Gateway Center, a larger percentage of visitors would be expected to visit both the NPS Visitor Center and the USSCM because they would be consolidated in one place, easily found at the entrance to the CNY and contain new, improved and expanded exhibits and programming.

Additionally, a larger percentage of people would be expected to visit USS *Cassin Young* because the open structure and new programming at the end of Pier 1 would draw more visitors nearer to where the ship is berthed and may entice them to board.

Visitor Experience

Navigation and Orientation

The Gateway Center would provide a consolidated orientation point for visitors to the CNY. Situated at Gate 1, the Gateway Center would provide a welcoming experience to visitors approaching the CNY via the Freedom Trail and illustrate the importance of Gate 1 in the working history of the CNY. At the Gateway Center visitors would receive a comprehensive orientation to the CNY, its history and its resources, including USS *Constitution* and USS *Cassin Young*. Visitors would have a place to sit and rest before exploring the CNY and would know where to go once they left the Gateway Center, eliminating backtracking and difficulties navigating through the CNY. The long-term beneficial impacts of the new Gateway Center would almost entirely negate the navigation and orientation problems identified by visitors during the Visitor Use Study.

The Gateway Center would be designed to encourage the easy access to and exploration of the different visitor resources it contained, making the experience easy to navigate for visitors.

During demolition and construction activities, there would be minimal adverse impacts to visitor navigation as visitors would need to be routed around construction. The reroute along Chelsea Street would be approximately 60 yards longer than the existing route. Visitors could still enter the CNY through Gate 1 or the adjacent Gate 2. Signage would help direct them through the new route to the resources. The impact is expected to be short term (lasting only during major demolition and construction activities) and most visitors would not notice the difference.

Access

Access issues would be minimized by implementation of the proposed action. Because visitor orientation would be separated from U.S. Navy operations, visitors would no longer need to go through security clearance before being able to learn about the CNY history and be oriented to the site. Additionally, integrating the USSCM resources into the Gateway Center would move them closer to USS *Constitution*, providing a more seamless experience. Backtracking between orientation and different experiences would be minimized. The addition of seating in the open frame structure would allow people to rest and its availability might encourage more people to move further along Pier 1 to see USS *Cassin Young*.

During construction, the slight rerouting of people to keep them out of construction zones would not prevent them from accessing resources in the same way as described in the no-action alternative and existing conditions.

Visitor Opportunities

The types of experiences that visitors could enjoy at the CNY would include those listed in the existing conditions section of the EA, however the arrangement of these experiences, coupled with new experiences made available by the Gateway Center and open structure pavilion would provide long-term benefits to visitors and greatly enhance their enjoyment of the CNY. The Gateway Center would provide new state-of-the art orientation and site interpretation coupled with views of the Boston Harbor that could be enjoyed from within a sheltered location. Site orientation would be easier and make for a more seamless enjoyment of the resources. Additionally, the ability to sit and relax before visiting the CNY resources would help people recover from the walk from Boston on the Freedom Trail and help them better enjoy the time they spend in the CNY. The open structure at the end of Pier 1 would encourage people to move down the pier for additional programming that could be centered on the pavilion. Because the *Cassin Young* is situated at the end of the pier, more people would be expected to seek out tours of the ship as well. Finally, integrating the new Gateway Center into the existing Harborwalk would provide incentive for more locals to recreate at the CNY.

Condition

Recognizing that the demolition of Hoosac Stores and Building 109 will have an adverse impact on National Register properties and to local residents concerned with losing architectural fabric in Charlestown, the resource conditions of these sites would improve under the proposed alternative more than under the no-action alternative. Extensive funding would be required to bring buildings up to code and mitigate the impacts of sea level rise. New construction of the Gateway Center and the open frame structure on Pier One would eliminate substantial deferred maintenance and allow resources to be utilized in preserving and maintaining other resources within CNY. Most visitors and neighbors would find an enhanced gateway experience into CNY and the amenities provided by the open frame structure on Pier One.

Selection of the proposed action would also allow for the greatest implementation of the MDS. By consolidating activities at the new Gateway Center, it would allow for better use of the other buildings for leasing opportunities and new amenities, which would be expected in the long term to decrease the backlog of deferred maintenance throughout the CNY and improve visitor experience.

Cumulative Impacts

The ongoing and reasonably foreseeable projects under the MDS, such as the rehabilitation of Building 107 would provide small long-term beneficial impacts to visitor use and experience. When considered along with the small short-term adverse and long-term beneficial impacts from the implementation of the preferred alternative, the preferred alternative would incrementally add a substantial amount to the overall long-term beneficial cumulative impacts to visitor use and experience at the CNY.

Summary

Implementation of the proposed action would have short-term adverse impacts on visitor use and experience during the construction period. These short-term adverse impacts were weighed with the beneficial impacts of the overall project that consolidates the visitor orientation and USS Constitution Museum and Navy security into a portal to CNY and Boston Harbor. The proposed action would

eliminate many of the difficulties visitors currently face in navigating and orienting themselves to the CNY, including access issues and issues with the condition of resources. The beneficial impacts would increase through the gradual implementation of the MDS. The proposed action would provide substantial long-term beneficial cumulative impacts to visitor use and experience.

3.1.2.3 Action Alternative 2: Reuse of Hoosac Stores as the Gateway Center

Action alternative 2 would reuse the Hoosac Stores Building in order to consolidate the current two visitor orientation locations into a single state-of-the-art Gateway Center at the entrance of the CNY. Once that was accomplished, Building 109 would be demolished and NPS staff moved to a portion of the old USSCM space in Building 28. Additionally, the construction of an open frame structure at the end of Pier 1 in the location of Building 109 would provide shelter, a place for visitors to rest out of the weather, and a focal point for new programming. Selection of action alternative 2 would set the stage for the MDS to be implemented as funding allowed, leading to a revitalization of the CNY.

Visitor Use

Visitor use would be similar to visitor use under the proposed action. The reuse of the Hoosac Stores as the Gateway Center would draw more people to the CNY. Because the space would not be purpose-built, if there were fewer gathering spaces or harbor views, there is the potential for fewer repeat visits, however the design team would provide an attractive space within the parameters of the existing building and so repeat visitors from the neighboring community would still be expected.

Visitor Experience

Navigation and Orientation

Overall navigation and orientation would have the same long-term beneficial impacts seen in the proposed action and would almost entirely negate the navigation and orientation problems identified by visitors during the Visitor Use Study.

There would be some slight differences. Building constraints would mean that people would have to navigate up to five to six floors instead of two to three floors to receive the whole experience. Some visitors may find repeated use of elevators to be a deterrent to visiting all the amenities. This would be taken into account during the design phase to ensure that the most important resources were well positioned and easily accessed by visitors.

Rerouting of visitors during construction would be similar to the proposed action and is expected to be short term (lasting only during major construction activities) Most visitors would not notice the difference from the existing conditions. Although construction activities may last longer as it is more difficult to retrofit an existing building than build a new one, this would be offset by the fact that less heavy equipment would be needed for less time and there would be no demolition, so visitors may need to be rerouted for slightly less time overall.

Access

Impacts related to access from action alternative 2 would be identical to those of the proposed action.

Visitor Opportunities

Visitor opportunities within the CNY and the park would be similar to the proposed action, with similar impacts.

Condition

Impacts to resource conditions would be similar to the proposed alternative and somewhat better than existing conditions. Reuse of the Hoosac Stores would bring a park-owned historic building into good condition and remove an eyesore at the entrance to the park. However, reusing Hoosac Stores is expected to cost approximately twice as much as building a new facility due to the extensive retrofits that would be needed. The Hoosac Stores is not a contributing resource to the CNY NHL or to the park. Spending additional funds to retrofit the Hoosac Stores Building would consume funds needed to address maintenance of other resources that are critical to the mission of the park. Even so, over the long term, it would set the stage for leasing opportunities and new amenities, which would be expected to decrease the backlog of deferred maintenance throughout the CNY and improve visitor experience.

Cumulative Impacts

The ongoing and reasonably foreseeable projects under the MDS, such as the rehabilitation of Building 107, would provide small long-term beneficial impacts to visitor use and experience. When considered along with the small, short-term adverse and long-term beneficial impacts from the implementation of action alternative 2, the alternative would incrementally add a substantial amount to the overall long-term beneficial cumulative impacts to visitor use and experience at the CNY.

Summary

Implementation of action alternative 2 would have small, short-term adverse impacts on visitor use and experience due to rerouting visitors during construction. These adverse impacts would be more than offset by the large-scale, long-term beneficial impacts of the project due to consolidating visitor orientation at the entrance to the CNY. Action alternative 2 would eliminate many of the difficulties visitors currently face in navigating and orienting themselves to the CNY, including access issues and issues with the condition of resources. The beneficial impacts would increase through the gradual implementation of the MDS. The proposed action would provide substantial long-term beneficial cumulative impacts to visitor use and experience.

3.2 CULTURAL RESOURCES

3.2.1 Affected Environment

The NPS defines a cultural resource as an aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the NRHP and as archeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for NPS management purposes.

The CNY as managed by the NPS along with the larger historic Charlestown Navy Yard and the Hoosac Stores Building are tangible cultural resources, with historical significance and listed on the NRHP. The Charlestown Navy Yard is a National Historic Landmark district with significance on the national level and includes the NPS managed CNY. The Hoosac Stores Building is a

remnant of a once larger historic district listed on the National Register for its local historical significance.

NPS has four criteria (codified at 36 CFR 60) for listing significant cultural properties in the National Register. Significance can be “in American history, architecture, archaeology, engineering, and culture” and may be present “in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association.” The four criteria (known by the letters A–D) allow for the listing of properties:

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded or may be likely to yield information important in prehistory or history.

The entirety of the Charlestown Navy Yard was designated an NHL in 1966 (Boston Naval Shipyard NHL) as part of a National Survey of Historic Sites and Buildings for its significance in military-industrial history, and was then listed in the NRHP as part of the BNHP in 1974. BNHP is a larger entity that encompasses a number of scattered sites in Boston, including the NPS managed portion of the CNY. The multiple historic sites included in the BNHP are associated primarily with the Revolutionary War and early Republic-era history. The NRHP documentation for the BNHP was updated in 2014 and accepted by the Keeper of the National Register in 2015 (Bradford, 1960; Scofield et al., 2014).

The navy yard is nationally significant under Criterion A in the area of military, and Criterion C in the areas of architecture and landscape architecture (Scofield et al., 2014). It is significant for its role in the construction, repair, and servicing of U.S. Navy vessels from 1800 to 1974. It is also significant as the site of one of the first two naval dry docks in the U.S., the location of the Navy’s only ropewalk, and for technical innovations such as the die-lock chain (Carlson, 2010).

The CNY is the western quarter of the Charlestown Nav Yard and faces south and east to Boston Harbor. The CNY is unofficially divided into three tracts: the Waterfront; the Upper [Western] Yard; and the Lower [Eastern] Yard. The CNY is laid out with a grid created by First and Second avenues and the perpendicular alignments of Third and Fourth streets and Baxter Road. Buildings are sited along the streets and piers, with Quarters G (Commandant’s House) adjacent to the Shipyard Mall green space. The southwest area of the CNY includes Building 267 (Main Gate), Building 5 (Bachelor Officers’ Quarters/Open Mess), and Building 4 (Chief Petty Officers Club). Hoosac Stores 1 & 2 and Building 109 are in the Waterfront section, which includes everything south of First Avenue between Constitution Road to the west and Baxter Road to the east. Hoosac Stores 1 & 2 is outside the west edge of the Charlestown Navy Yard NHL on the south side of Constitution Road at the head of Piers 6 and 7 (now called Constitution Pier). Building 109 is in an open setting at the southwest part of the CNY at the southern end of Pier 1.

The Charlestown Navy Yard was established by President John Adams in 1800 and is one of the oldest shipbuilding facilities associated with the U.S. Navy. The naval yard initially consisted of

34.25 acres of land acquired in 10 parcels, approximately corresponding to the current CNY. By 1973, the navy yard had expanded to encompass 129.88 acres, extending east to present-day 16th Street and Menino Park, largely a result of land filling activities (Carlson, 2010). An ambitious development plan was laid out for the site by 1802, but little was built. After a decade of haphazard construction, yard Commandant William Bainbridge, who took command during the War of 1812, led the effort to convince the federal government to develop and execute a cohesive plan for the shipyard. Three buildings from the War of 1812 period are remaining and are the oldest buildings in the CNY: the Commandant's House (built in 1805), the Marine Barracks (built in 1811), and the Navy Store (Building 5, built in 1813) (see **Figure 4-1**). The Parade Ground in front of the Marine Barracks was laid out by the Marines shortly after the completion of the barracks (Carlson, 2010).

In 1828, Loammi Baldwin, a prominent civil engineer, developed a master plan for the navy yard. The plan called for a formal grid of streets: five broad avenues running east-west and seven cross streets running north-south. At an early stage, the yard was unofficially divided into three tracts: the Upper [Western] Yard; the Lower [Eastern] Yard; and the Waterfront. The 1828 grid pattern and these three area designations remained intact through the active years of the navy yard. The Upper Yard is delineated by First Avenue to the south, Constitution Road to the west, Chelsea Street to the north, and Fifth Street to the east. The Lower Yard, positioned east of the Upper Yard, is bounded by First Avenue to the south, Fifth Street to the west, Chelsea Street to the north, and the Little Mystic Channel to the west. The Waterfront includes everything south of First Avenue between Constitution Road to the west and Baxter Road to the east. The Shipyard Mall, located between First and Second Avenues and Third and Fifth Streets, is a large green space that was initially established in 1828 as a gun park and shot park for the storage of cannons and ammunition. The Shipyard Mall is an aspect of the historic landscape setting and a historic associated feature of the NHL. The Mall now contains the athletic courts (Structure 236) built in 1947, including tennis and basketball courts, at the center (Scofield et al., 2014). These athletic courts are also a contributing historic resource in the NHL.

The Lower Yard's layout strictly adheres to the 1828 Master Plan's formal grid system. Industrial buildings fill each block with very little vegetation; however, some open space is retained for parking lots and storage. A small green space area is between Building 107 (Public Works Shop) and Building 58 (Ropewalk) at the north end of the CNY. A "Flirtation Walk," or boardwalk, created for recreational purposes in the 1800s, ran along the south elevation of the Ropewalk, but was removed by the end of World War II. It has recently been reinstated as a concrete walkway along the redeveloped Ropewalk. A wrought iron fence with granite posts that runs from Gate 4 at the west end of the Ropewalk along the south side of Chelsea Street replaced the original granite boundary wall (built 1824–1826) in the early twentieth century. The Upper Yard also adheres to the grid system laid out in the 1828 Master Plan; however, most of the buildings within the Upper Yard were constructed for residential and administrative use.

Due to the utilitarian purpose of the Waterfront, its layout has evolved to meet the needs of the navy yard, with numerous temporary wood buildings constructed to meet changing needs (Scofield et al., 2014). Dry Dock 1, one of the first two dry docks built by the Navy, was designed by Baldwin and completed in 1833; twice extended, it remains in use by USS *Constitution* and USS *Cassin Young*. Through the years, two additional dry docks, shipbuilding ways, and finger piers have been added to the Waterfront. Pier 1, the heart of the CNY unit of BNHP, dates to a major reconstruction undertaken as part of the yard's modernization at the end of the 19th century (Carlson, 2010).

Significant building campaigns across the navy yard correspond to the periods between the Spanish-American War (1898) and America's entry into World War I (1917) and during World War II (1939–1945). Between the World Wars, during the Great Depression, the Works Progress Administration (WPA) had offices in Building 107 and undertook multiple modernization activities in the CNY including the construction of a kitchen wing on the Commandant's House, new porches and stair towers on the Marine Barracks, improvements to the athletic courts, improvements to piers, and street paving (Stevens et al., 2005; Carlson, 2010).

In 1974, the navy yard was decommissioned as a shipbuilding facility; it remains in use as a repair facility through the Naval Historical Center Detachment Boston's Maintenance and Repair Facility (Carlson, 2010). At the time of decommissioning, an approximately 30-acre portion of the installation, encompassing the historic core of the Shipyard, west of present-day Fifth Street, was identified for transfer to the NPS for incorporation into the BNHP established that same year; the actual transfer occurred in January 1976. The remaining approximately 100 acres were transferred to the City of Boston's Boston Redevelopment Authority (BRA, now Boston Planning and Development Agency [BPDA]). The BRA portion of the navy yard was divided into three areas: 1) the 16-acre Shipyard Park to the east of and including Dry Dock 2; 2) the 31-acre Historic Monument Transfer Area north of First Avenue extending to the Little Mystic Channel, encompassing historic industrial buildings such as the Ropewalk (Building 58), Chain Forge (Building 105), and the Public Works Shop (Building 107), designated for historically-sensitive redevelopment preserving the historic fabric of the buildings within the area; and 3) the 58-acre New Development Area developed for commercial, retail, public use, and housing (BRA 1984: 2–3). The Ropewalk, Chain Forge, and Public Works Shop were subsequently incorporated within the boundary of BNHP by Congress, with Building 107 being transferred by the BRA to the NPS in 1985.

Within the NPS-owned area, several buildings were removed to permit construction of Fifth Street from Gate 4 to First Avenue to allow through vehicular traffic to be excluded from the national park while other buildings were rehabilitated to accommodate new uses, including the alteration of Buildings 22 and 28 into the USSCM (Stevens et al., 2005; Carlson, 2010).

The Curtain Gate was installed at the CNY in 1955 to allow visitor access to the parking area south of Water Street (now Constitution Road). It is a contributing historic feature in the CNY NHL BNHP. The gate spans between the Hoosac Stores and Building 4 (Chief Petty Officers Club) and is comprised of a concrete wall with two 18-foot openings at the east and west ends containing rolling overhead doors. The 6-foot-tall concrete center section of the gate is topped by a stainless steel, open fabric fence. A raised concrete planting area is integrated into the south side of the Curtain Gate. Stainless steel letters reading "USS Constitution" are located above the western end of the fence.

Existing conditions of the Hoosac Stores 1 & 2 and Building 109 are described below.

Cultural Resources Trends

Since its inception, the Charlestown Navy Yard has had a rich history of preservation and adaptive reuse. This is seen in the number of extant buildings dating from 1805 to present day. The U.S. Navy, for over 150 years, and then the NPS and City of Boston, following the 1974 navy yard closure, have strived to retain buildings and found new uses for those that no longer best served

their original function. This is evident in the historically sensitive residential, commercial, and institutional redevelopment of multiple buildings within the Historic Monument Transfer Area, including the Ropewalk (Building 58), Chain Forge (Building 105), and Public Works Shop (Building 107) and the incorporation of an approximately 30-acre portion of the navy yard into the BNHP. In both areas, NPS and the City of Boston have consistently encouraged preservation and adaptive reuse, while demolition of historic buildings has been discouraged and limited. Extensive rehabilitation has taken place with the CNY, and while there has been some limited demolition, the overall goal continues to preservation of the yard's historic character.

The proposed demolition of Building 109 within the CNY and the adjacent Hoosac Stores 1 & 2 is not consistent with strong cultural resource preservation trends in the navy yard. The decision to demolish the two structures follows extensive consideration of reuse scenarios, extensive analysis of the structures and their condition and consultation with partners. It is not anticipated that demolition of the structures is indicative of any evolving trend that would reverse the NPS preservation and adaptive reuse ethic within the CNY.

3.2.1.1 Hoosac Stores Building

The Hoosac Stores Building was listed on the NRHP in 1985 as part of the Hoosac Stores 1 & 2; Hoosac Stores 3 historic district (and concurrently listed in the Massachusetts State Register of Historic Places). At the time of its listing the district included three contributing components: Hoosac Stores 1& 2, Hoosac Stores 3, and the Railroad Right-of-Way that connected them (**Figure 3-4**). The Hoosac Stores 1 & 2 boiler house outbuilding was not evaluated as part of that documentation. The district was listed for having significance in the areas of architecture, commerce, economics and transportation during the late 19th and early 20th centuries. The district, and its three components, define “the location of a once thriving nineteenth and early twentieth century complex of docks, wharves, grain elevator, warehouse and railroad structure” (Booth, 1983). Today only Hoosac Stores 1 & 2 (the Hoosac Stores Building) and a small portion of the rail line remain. Hoosac Stores 3, which was privately owned, and the majority of the rail line have since been demolished. The extant Hoosac Stores 1 & 2 remains a contributing feature to the Hoosac historic district but is outside the boundary of the Charlestown Navy Yard NHL district and is not a contributing resource to the NHL district.

Hoosac Stores 1 & 2, which was acquired by the NPS in 1981, is a six-story, six-bay-by-three-bay, trapezoid-shaped brick warehouse built in 1895 adjacent to the rail line that existed on its south. It is a purpose-built warehouse exhibiting late nineteenth-century heavy timber and steel construction techniques and restrained classically inspired details. It was constructed to conform to an irregular parcel shape, because the need for storage outweighed the limitations of available land along the waterfront. The building has a flat roof with corbelled brick cornice along the north and west elevations, and two vertical brick shafts for freight elevators on the south elevation. It rests on a granite foundation on wood footings. Ghost signs of painted brick for the White Star line and the New England Distribution and Warehouse Corporation are centered on the north edge of the west elevation. The brick walls are laid in common bond and are pierced by two sets of loading doors on six floors on the north and south elevations. Narrow window openings flank the loading doors on each floor; additional window openings are on the south elevation. Two entrances are located on the first story of the west elevation. The interior of the building is divided into two main spaces by a fire wall that runs north-south along the approximate center of the building. The fire wall has the same thickness as the exterior walls and is pierced by openings near the south end, connecting the two sides of each floor and providing access to the interior

stairwell and original elevator on the south. The massive timber framing of the warehouse floors displays a consistent layout pattern with variation in the structural elements on all stories (PAL, 2021).

The Hoosac Stores 1 & 2 remains largely as it was constructed in 1895 and is currently used for limited inactive storage on floors one through five. In general, all of the original exterior and interior architectural configurations and materials appear to remain extant, with alterations consisting of partition walls to create small office spaces on the first and fifth floors. The building is in generally fair condition with some exterior brick discoloration and spalling, rusting of window and door coverings, and areas of water damage on the interior of the building. The Hoosac Stores building has a small, paved parking lot on the west side and immediately abuts the Curtain Gate and open space of the NHL on its east. Given the large amount of deferred maintenance for the CNY as a whole, and since Hoosac Stores is not a contributing resource, maintenance work on the building has been and will continue to be a low priority for the park.

Hoosac Stores 3, constructed in 1875, was a four-story warehouse built in the classically inspired paneled brick style, popular for industrial buildings at the time. Hoosac Stores 3, with arched windows and more intricate brick work, had a more elaborate and detailed exterior than Hoosac Stores 1 & 2. Hoosac Stores 3, which remained in private ownership, was demolished in 2000.

The Railroad Right-of-Way ran along the south side of both Hoosac buildings with one main line and a spur track into the CNY. A portion of the line remains intact along the south wall of Hoosac Stores 1 & 2.

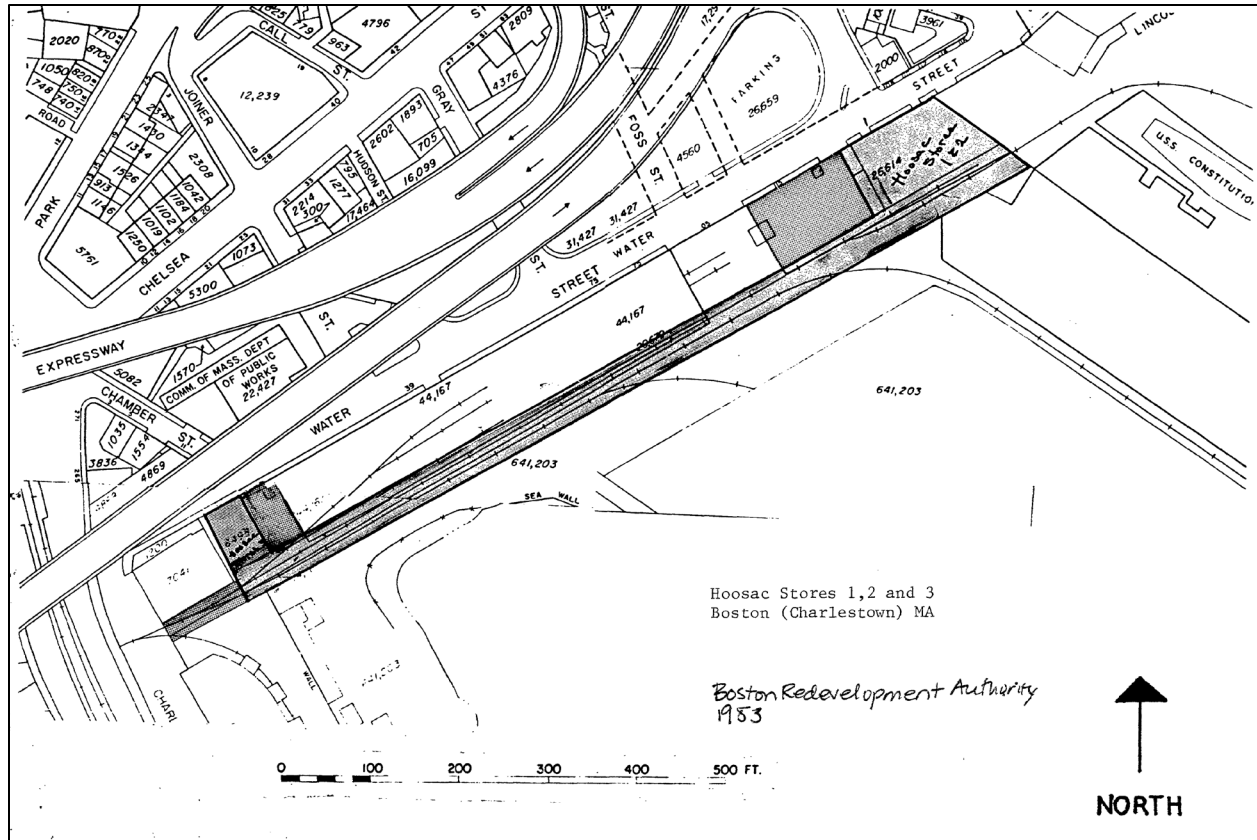


Figure 3-4. Hoosac Stores National Register District

3.2.1.2 Building 109

Building 109, on the west side of the CNY on the south end of Pier 1 (**Figure 3-5**), is a contributing historic resource in the CNY NHL district, constructed by the Navy in the 1940s. The two-story, wood-frame building with light gray asbestos siding is four bays wide and eight bays deep with a third-story observation deck on the south end. It was built in three stages between 1940 and 1944 as a temporary building constructed around an existing 25-foot-by-13-foot electrical substation. Vestiges of the original brick substation are exposed on the north and east elevations.



Figure 3-5. Building 109 Looking Northwest from Pier 1

Despite its original intention as a temporary structure, the building remains and is currently being used by the Visitor and Resource Protection Directorate. Due in part to its temporary construction nature and age, the building is suffering from structural issues. The building is currently plagued with an unevenly settling foundation evident in the cracked masonry surfaces, the cracked exterior asbestos shingles, and the unevenly sloped floors. The west wall of the building has damage associated with movement due to the continued deterioration and compression of the wood sills. Exterior trim, sash, woodwork and windows need replacement. The structure has been retained decades past its originally intended temporary life span, making upkeep difficult and not cost effective. The current condition of the structure results in it being an ineffective and not functional space as well as visually unappealing in a prime, central location on Pier 1.

3.2.2 Environmental Consequences

This section presents an analysis of the anticipated impacts of the no-action and action alternatives on cultural and historic resources at the CNY. Cultural resources would be impacted by the continuation of the current use and management of the site under all alternatives.

3.2.2.1 No-Action Alternative

The no-action alternative would be a continuation of the current use and management of the site as described in the affected environment.

The no-action alternative, including retention of the Hoosac Stores and Building 109, would result in no immediate change to the current management and use of cultural resources within the Hoosac historic district or the CNY NHL district. Hoosac Stores would continue as a vacant structure with substantial deferred maintenance issues unaddressed, remaining as a substantial boarded up structure at the entrance to the park. Building 109 would remain in place and continue to be used by the Visitor and Resource Protection Directorate with its structural and maintenance issues addressed as funding and priorities allow. Allocating resources to those structures would remain a low priority for the park. Allowing the structures to remain would mean that they would continue to contribute to their respective historic districts.

Without construction of the Gateway Center and the relocation of the visitor center and museum those activities and programs would remain in their current locations. While some MDS projects would be implemented under the no-action alternative, the rehabilitation and leasing opportunities would not be fully realized.

Cumulative Impacts

The ongoing and reasonably foreseeable projects under the MDS, such as minor repairs to Building 109, the ongoing rehabilitation and reuse of Building 107 and the potential lease of a few historic buildings within the CNY, would take steps in furthering the goals of the MDS. These actions would have beneficial, long-term impacts to the cultural resources of the CNY. Under the continuation of current management of the Hoosac Stores, it would continue to deteriorate and would not be prioritized for rehabilitation work, contributing a negligible long-term adverse impact to the overall beneficial cumulative impact.

3.2.2.2 Proposed Action/Preferred Alternative: Demolition of Hoosac Stores and Construction of a New Gateway Center

The proposed action includes the demolition of the Hoosac Stores 1 & 2 and construction of a new Gateway Center, and the demolition of Building 109 and construction of an open frame structure and shade pavilion. These actions have the potential to impact cultural resources of both the Hoosac Stores historic district and the CNY NHL district.

Hoosac Stores 1 & 2 and Construction of Gateway Center

Demolition of the Hoosac Stores would result in the loss of the remaining feature of the Hoosac Stores historic district, potentially leaving only a remnant of the rail line. As previously described, the Hoosac district's historic integrity has been greatly compromised with the loss of Hoosac Stores 3 and most of the rail line, as well as a loss of historical context of the industrial landscape it sat within. The remaining Hoosac Stores sits within a landscape and context that is not comparable to its historic setting. Demolition of the Hoosac Store would cause the loss of the remaining component of the Hoosac historic district and therefore have major, long-term, adverse impacts to the Hoosac Stores district. The integrity of the site would change to such an extent that the national register district, which was already heavily compromised by the removal of Hoosac Stores 3, potentially would be delisted from the NRHP. This would be decided in concert with the State Historic Preservation Officer (SHPO). The loss of Hoosac Stores would have no measurable impact on the CNY NHL district. The structure does not contribute to the historic character of the CNY NHL district and sits outside its boundary.

Construction of the Gateway Center has the potential to impact the CNY NHL district by constructing a new facility in close proximity to the district. As with the existing Hoosac Stores building, the Gateway Center building would be outside of, but abutting, the CNY NHL boundary. Due to the presence of adjacent multi-story, modern buildings and depending on the design of the Gateway Center, the new building, anticipated to be no taller and potentially lower than the existing Hoosac Stores, would not introduce new visual elements that are out of character with the adjacent CNY. The new structure would be designed to be sympathetic to the character of the surrounding neighborhood and the CNY. The Curtain Gate that abuts the Hoosac Stores would be retained, resulting in no impact to that historic feature. Construction of the Gateway Center would have no direct impacts to the CNY NHL district. However, construction of the Gateway Center, as part of the larger MDS, would allow for additional preservation and adaptive reuse

projects to be initiated within the CNY, providing a long-term beneficial impact as described below in Cumulative Impacts.

Building 109 and Open Frame Structure

Demolition of Building 109, possibly retaining the small substation portion of the building, would result in the loss of an historic structure within the CNY NHL district. However, Building 109 was meant to be a temporary structure and its existence within the CNY landscape is not of primary importance. Its loss would not impact the historical integrity of the CNY in any meaningful manner and would have little impact on the historic character of the CNY NHL district. The replacement of Building 109 with the open frame structure would mimic the lost structure, combined with the other mitigation measures outlined, would lessen the impact of its loss while providing a critical function for the CNY's visitors. The impacts would be minor, adverse and long-term.

Cumulative Impacts

In addition to the direct impacts mentioned above the proposed action would also contribute to cumulative impacts. Demolition of the two structures would have permanent, adverse impacts to cultural resources, lessened somewhat by implementation of the mitigation measures outlined in section 2.2.3 of the EA. Completion of the Gateway Center would allow additional elements of the MDS to progress, including the rehabilitation and reuse of Buildings 22 and 28. When considered along with other elements of the MDS, such as the ongoing rehabilitation and reuse of Building 107 and the potential reuse and lease of several other historic buildings within the CNY, the incremental impact of demolishing Hoosac Stores and Building 109 would be a permanent and adverse contribution to the overall beneficial cumulative impacts to cultural resources.

3.2.2.3 Action Alternative 2: Reuse of Hoosac Stores as the New Gateway Center

Action alternative 2 includes the reuse of the Hoosac Stores 1 & 2 as a new Gateway Center, and the demolition of Building 109 and construction of an open frame structure and shade pavilion. These actions have the potential to impact cultural resources of both the Hoosac Stores historic district and the CNY NHL district.

Hoosac Stores 1 & 2

The reuse of Hoosac Stores would result in portions of the building remaining in the landscape instead of the total loss of the building that would result from the implementation of the proposed action. However, the extensive retrofits necessary to reuse the building, including the addition of shear walls and the new window and door openings throughout the building would result in a substantial, permanent adverse impact to the Hoosac Stores historic district. These impacts would be larger if multiple floors were removed to allow for a better visitor experience and if the building height were raised. When coupled with changes to the site to allow gathering spaces, drop off-locations and visitor access. The integrity of the site would change to such an extent that the national register district, which was already heavily compromised by the removal of Hoosac Stores 3, potentially would be delisted from the NRHP. This would be decided in concert with the SHPO. The mitigation measures developed in section 2.4 would somewhat mitigate this loss as would the fact that the façade, the massing and some of the historic materials would remain. The reuse of Hoosac Stores would have no measurable impact on the CNY NHL district.

Building 109 and Open Frame Structure

The Demolition of Building 109 under action alternative 2 would have the same impacts as described for the proposed action.

Cumulative Impacts

The cumulative impacts of action alternative 2 would be substantially similar to those of the proposed action. The very small beneficial impacts of reusing the building shell would be offset by the slower implementation of the MDS as a result of the greater cost of the reuse alternative, resulting in similar cumulative impacts overall.

4.0 CONSULTATION AND COORDINATION

NPS provided an opportunity for the public to comment on the proposed project both prior to initiating the NEPA process and during the NEPA process. Consultation and coordination with federal and state agencies and other interested parties was also conducted to refine the alternatives and identify issues and/or concerns related to the CNY's resources, partners and neighbors. This section provides a brief summary of the public involvement and agency consultation and coordination that occurred during the planning and preparation of the EA.

4.1 PUBLIC INVOLVEMENT

On June 2, 2021, NPS hosted a virtual civic engagement meeting to present preliminary concepts for the CNY MDS to the public. The meeting was followed by a 30-day civic engagement comment period to collect public input, from June 2, 2021, to July 1, 2021. Thirty-three comments were received during the comment period, with most of the comments addressing the following issues and concerns: public access and safety, socioeconomic, climate change, land use, infrastructure, recreation, and visual resources. All issues and concerns identified during scoping have been carefully considered during the development of the proposed action and the preparation of this EA.

On June 21, 2022, NPS published a newsletter to announce the start of the public scoping period for the EA. The announcement was followed by a 30-day public comment period to collect public input from June 21, 2022 to July 21, 2022, later extended to July 25, 2022. The scoping period announcement and the accompanying newsletter are available at <https://parkplanning.nps.gov/cnystrategy>. The scoping public comment period enabled 48 commenters to provide feedback. Comments received during the scoping period were from members of the public as well as official and unofficial representatives of the Pier 5 Association, Charlestown Civic Association, an independent scholar at Boston University, Charlestown Preservation Society, Charlestown Historical Society, Charlestown Neighborhood Council, Friends of the Charlestown Branch Library, Boston Harbor Now, Harborfront Neighborhood Alliance, and the Massachusetts Port Authority. Most of the comments focused on ensuring that NPS adequately considered the reuse of the Hoosac Stores Building to house the USSCM and visitor center given the building's historical and cultural value to the Charlestown community.

4.2 AGENCY CONSULTATION AND COORDINATION

4.2.1 Section 106 of the National Historic Preservation Act

Section 106 of the NHPA (36 CFR 800) requires that each federal agency identify and assess the effects its actions may have on historic properties (either listed on or determined eligible for listing on the NRHP). NPS has defined the Section 106 Area of Potential Effects (APE) as the boundary encompassing the CNY NHL district and Hoosac Stores National Register district boundaries combined (**Figures 4-1 and 1-2**).



Figure 4-1. Charlestown Navy Yard Area of Potential Effect

In accordance with the regulations of the Advisory Council on Historic Preservation (ACHP) governing the implementation of Section 106, the NPS has consulted with the Massachusetts SHPO and other stakeholders as to the potential effects of the project. Because all of the effects of the proposed action on cultural resources cannot be identified prior to the completion of detailed plans for the individual actions, NPS is carrying out its responsibilities under Section 106 of the NHPA for the MDS through the execution of a project-specific Programmatic Agreement with the MA SHPO. During the development of this agreement the USSCM, USS *Constitution*, Boston Landmarks Commission, and BPDA agreed to be consulting parties to the agreement. While the NPS reached out to federally recognized tribes, no response was received from them. In addition, the Programmatic Agreement was made available for public comment between October 26, 2021 and November 30, 2021.

The agreement sets out procedures for continued consultation and review of individual implementing actions and outlines the proposed mitigation for any adverse effects which may occur. After being signed by NPS and the MA SHPO, the Programmatic Agreement took effect on January 21, 2022. The Programmatic Agreement is included as Appendix A to this EA.

4.2.2 List of Agencies and Stakeholders

The following agencies and stakeholder organizations were contacted to request input on the proposed action as part of the NEPA and/or Section 106 compliance processes:

Federal and State Agencies

- Advisory Council on Historic Preservation
- Massachusetts Department of Conservation and Recreation
- Massachusetts Port Authority (MassPort)
- Massachusetts State Historic Preservation Officer (Massachusetts Historical Commission)
- Naval History and Heritage Command, Detachment, Boston
- USS *Constitution*

Tribal Governments

- Mashpee Wampanoag Tribe
- Narragansett Indian Tribe
- Wampanoag Tribe of Gay Head (Aquinnah)

Local Governments

- Boston Housing Authority
- Boston Landmarks Commission
- Boston Planning and Development Agency
- Charlestown Neighborhood Council
- City of Boston Department of Parks
- Harvard-Kent Elementary School

Public and Private Organizations

- Boston Children's Museum
- Boston Creates
- Boston Harbor City Cruises
- Boston Harbor Now

Boston Preservation Alliance
Bright Horizons Daycare
Charlestown Boys and Girls Club
Charlestown Historical Society
Charlestown Preservation Society
Charlestown Ropewalk LLC
Courageous Sailing
DC Beane and Associates
E-Inc.
Friends of the Boston Harborwalk
Friends of the Charlestown Navy Yard
Jamestown LP (Constitution Wharf)
Mass General Brigham
Massachusetts General Hospital (MGH) Institute of Health Professions
Nautica Leasehold Condominium Trust
New England Aquarium
Residence Inn by Marriott Boston Harbor on Tudor Wharf
Spaulding Rehabilitation Hospital Boston
USS Cassin Young (DD 793) Association
USS Constitution Museum
WalkBoston

5.0 BIBLIOGRAPHY AND REFERENCES CITED

- (Blotkamp et al., 2010). Ariel Blotkamp, Yen Le, and Steven J. Hollenhorst. May 2010. Boston National Historical Park Visitor Study. Accessed October 27, 2021 at: https://sesrc.wsu.edu/doc/218_BOST_rept.pdf.
- (BNHP, U.S. Navy, and USSCM, 2018). Boston National Historical Park, U.S. Navy, and USS Constitution Museum. October 5, 2018. Memorandum of Understanding between Boston National Historical Park, U.S. Navy, and USS Constitution Museum.
- (Boston Harbor Now, No Date). Boston Harbor Now. No Date. About the Harborwalk. Accessed October 2021 at: <https://www.bostonharbornow.org/what-we-do/explore/harborwalk/>.
- (BPDA, 2020). Boston Planning and Development Agency. 2020. Plan: Charlestown. Accessed October 28, 2021 at: <http://www.bostonplans.org/getattachment/d7d8d07a-8bcc-45be-be91-0cb195278ad7>.
- (Bradford, 1960). S.S. Bradford. January 20, 1960. National Survey of Historic Sites and Buildings: Boston Naval Shipyard. Accessed at: <http://npshistory.com/publications/bost/nr-boston-naval-shipyard.pdf>.
- (Carlson, 2010). Carlson, Stephen P. 2010. Charlestown Navy Yard Historic Resource Study. Volume 1-3. Division of Cultural Resources – Boston National Historical Park. Accessed January 4, 2022 at: <http://npshistory.com/publications/bost/hrs-charlestown-navy-yard-1.pdf>, <http://npshistory.com/publications/bost/hrs-charlestown-navy-yard-2.pdf>, <http://npshistory.com/publications/bost/hrs-charlestown-navy-yard-3.pdf>.
- (DEP, 2020). Massachusetts Department of Environmental Protection, Division of Air and Climate Programs. 2020. Massachusetts 2019 Air Quality Report. May 2020. Available online at: <https://www.mass.gov/doc/2019-annual-air-quality-report/download>.
- (EPA, 1993). Environmental Protection Agency. March 1993. Applicability of RCRA disposal requirements to lead-based paint abatement wastes. Final Report. EPA 747-R-93-006 Technical Programs Branch, Office of Pollution Prevention and Toxics. Accessed October 25, 2021 at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/20001KB9.PDF?Dockey=20001KB9.PDF>.
- (MK&A, 2007). McGinley Kalsow & Associates LLP. March 2007. Building 109, Charlestown Navy Yard, Stabilization and Renovation Project.
- (NPB, 2020). National Parks of Boston. June 8, 2020. Hoosac Stores Feasibility Study for Hoosac Stores Modernization.
- (NPS, 2006). National Park Service. Management Policies. 2006. Accessed November 10, 2021 at: <https://www.nps.gov/orgs/1548/upload/ManagementPolicies2006.pdf>.
- (NPS, 2015). National Park Service. 2015. National Park Service NEPA Handbook. Accessed at: https://www.nps.gov/subjects/nepa/upload/NPS_NEPAHandbook_Final_508.pdf.
- (NPS, 2019). National Park Service. September 26, 2019. Public Meeting Presentation: Re-Imaging The Yard. Accessed October 27, 2021.
- (NPS, 2020). National Park Service. January 16, 2020. Program Development Study (PDS) for Workplace Modernization and Improvements for Buildings 1/269, 10, 21, 22/28, 32, 107, 265 B-F, I and the Commandant's House.

- (NPS, 2021). National Park Service. December 2021. Boston NHP. Accessed January 31, 2022 at:
<https://irma.nps.gov/STATS/SSRSReports/Park%20Specific%20Reports/Park%20YTD%20Version%201?Park=BOST>.
- (NPS, 2022). National Park Service. 2022. STATS - Park Reports. Accessed at
<https://irma.nps.gov/Stats/Reports/Park/BOST>.
- (NPS & GSA, 2018) National Park Service and General Services Administration. July 23, 2018. Charlestown Navy Yard 2018 Workplace Recommendation Report.
- (PAL, 2021). Public Archaeology Laboratory. June 2021. Historical American Building Survey, Hoosac Stores 1 & 2, HABS No. MA-1354.
- (Sasaki & Lord, 2018). Saskia & Lord Cultural Resources. August 2018. Final Draft Charlestown Navy Yard Visitor Experience Plan. Prepared for National Park Service, Boston MA.
- (Scofield et al., 2014). Scofield, Jenny Fields, Virginia H. Adams, Stephen Olausen, Kristen Heitert, Quinn R. Stuart, Kathleen Miller, Jennifer Elam, Allison Cahoon, and Gretchen Pineo. 2014. *National Register Nomination – Boston National Historical Park*, Suffolk Co., Massachusetts. NRIS 15000195. <https://mhc-macris.net/Documents/NR/15000195.pdf>.
- (Stevens et al., 2005). Stevens, Christopher, Margie Coffin Brown, Ryan Reedy, and Patrick Eeey. 2005. *Cultural Landscape Report – Charlestown Navy Yard, Boston National Historical Park*. Olmsted Center for Landscape Preservation, National Park Service, Boston, MA. Accessed February 1, 2022 at:
https://www.nps.gov/parkhistory/online_books/bost/charleston_clr.pdf.
- (The Freedom Trail, No Date). The Freedom Trail. No Date. About. Accessed October 27, 2021 at: <https://www.thefreedomtrail.org/about>.
- (U.S. Army, 1993). U.S. Department of the Army. U.S. Army Environmental Hygiene Agency. May 1993. Interim Final Report. Lead-based paint contaminated debris waste characterization study No. 27-26-JK44-92. Accessed October 25, 2021 at:
https://www.denix.osd.mil/soh/programs/toxic-substances/reports/interim-final-report-lead-based-paint-study/note1_0.doc.
- (USSCM, 2018a). USS Constitution Museum. 2018. Department of the Interior Gives \$3M to National Parks of Boston to Begin Planning for Redevelopment of the Charlestown Navy Yard. Accessed October 25, 2021 at: <https://ussconstitutionmuseum.org/press-news/planning-for-redevelopment-of-the-charlestown-navy-yard/>.
- (USSCM, 2018b). USS Constitution Museum. 2018. USS Constitution Museum Annual Report 2018. Accessed October 27, 2021 at: <https://ussconstitutionmuseum.org/wp-content/uploads/2019/02/Annual-Report-2017.pdf>.
- (USSCM, 2019). USS Constitution Museum. 2019. USS Constitution Museum Annual Report 2018. Accessed October 27, 2021 at: <https://ussconstitutionmuseum.org/wp-content/uploads/2018/09/Annual-Report-2018.pdf>.
- (USSCM, No Date). USS Constitution Museum. No Date. Museum History. Accessed October 27, 2021 at: <https://ussconstitutionmuseum.org/about-us/museum-history/>.
- (USSCM, NPS, and U.S. Navy, 2018). USS Constitution Museum, National Park Service, and U.S. Navy. August 2018. Charlestown Navy Yard Visitor Experience Plan. Accessed

October 27, 2021 at:

<https://parkplanning.nps.gov/document.cfm?parkID=214&projectID=90626&documentID=98542>.

(Walsh, 2020). Mayor Martin J. Walsh. 2020. Coastal Resilience Solutions for Downtown Boston and North End. Final Report. Available online at:

https://www.boston.gov/sites/default/files/file/2020/10/Final_North%20End%20Downtown%20Final_EMBARGO_0.pdf.

**APPENDIX A. PROGRAMMATIC AGREEMENT BETWEEN THE
NATIONAL PARK SERVICE, BOSTON NATIONAL HISTORICAL
PARK AND THE COMMONWEALTH OF MASSACHUSETTS,
MASSACHUSETTS HISTORICAL COMMISSION**

PROGRAMMATIC AGREEMENT
BETWEEN THE NATIONAL PARK SERVICE,
BOSTON NATIONAL HISTORICAL PARK

AND THE

COMMONWEALTH OF MASSACHUSETTS,
MASSACHUSETTS HISTORICAL COMMISSION

REGARDING THE

IMPLEMENTATION OF THE
CHARLESTOWN NAVY YARD MASTER DEVELOPMENT STRATEGY

WHEREAS, the National Park Service (NPS) administers the Charlestown Navy Yard (CNY) as part of Boston National Historical Park (hereafter PARK), established by the Boston National Historical Park Act of 1974, as amended (88 Stat. 1184, 16 U.S.C. § 410z); and

WHEREAS, the PARK is continuing the ongoing planning and implementation of the Master Development Strategy (MDS) for the CNY and is nearing decisions in that planning regarding the implementation of certain major elements of the MDS, considered “proposed actions” at this stage; and

WHEREAS, the PARK will be further analyzing these proposed actions initiating an environmental assessment under the National Environmental Policy Act in early 2022; and

WHEREAS, the proposed actions that constitute the undertaking include the development of the Gateway Center at the Hoosac Stores location, activation of Pier 1 including replacement of Building 109, and reestablishment of the Great Lawn including potential reconfiguration of the athletic courts; and

WHEREAS, the CNY is a National Historic Landmark (Boston Naval Shipyard: NRIS 66000134) and the Hoosac Stores (outside the NHL district) is listed on the National Register of Historic Places (Hoosac Stores 1 & 2; Hoosac Stores 3: NRIS 85002337); and

WHEREAS, the PARK has defined the undertaking’s area of potential effect (APE) as the boundary encompassing the CNY NHL district and Hoosac Store National Register boundary combined (Attachment A); and

WHEREAS, USS Constitution (NRIS 66000789) and USS Cassin Young (NRIS 86000084), both NHLs, and the Maurice J. Tobin Memorial Bridge (determined eligible for the

National Register: BOS.944/CLS.917), while adjacent to the established APE, are expected to have no adverse effect from the undertaking; and

WHEREAS, the individual components of the undertaking have the potential to cause adverse effects to both the CNY NHL district and the Hoosac Stores; and

WHEREAS, the assessment of effects cannot be fully determined at this stage of planning and the PARK has chosen to execute this programmatic agreement to outline the ongoing consultation process to avoid, minimize and, when necessary, mitigate adverse effects; and

WHEREAS, the PARK has consulted with the Massachusetts Historical Commission (MA SHPO) pursuant to 36 C.F.R. part 800, of the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the PARK has consulted with the Wampanoag Tribe of Gay Head (Aquinnah), the Mashpee Wampanoag Tribe, and Narragansett Indian Tribe and invited them to be consulting parties during the MDS planning and implementation of this undertaking and they declined; and

WHEREAS, the PARK has invited the USS Constitution Museum, U.S. Navy, Boston Planning and Development Agency, and Boston Landmarks Commission to be consulting parties during the MDS planning and implementation for this undertaking and they have accepted; and

WHEREAS, the PARK has notified the Secretary of the Interior (through the NPS National Historic Landmarks Program) and invited them to participate in consultation regarding the potential effects to NHLs and they have accepted; and

WHEREAS, the PARK has notified the Advisory Council on Historic Preservation of the potential effects of this undertaking and invited them to participate in the development of this PA and the Council has declined; and

WHEREAS, the PARK has informed and engaged the public regarding the MDS throughout the planning process including a June 2, 2021, virtual public meeting presenting the MDS overall including the elements of the plan included in this PA; and

WHEREAS, the PARK has posted the draft of this agreement for public comment on its Planning, Environment & Public Comment (PEPC) web site and has received no comments:

NOW, THEREFORE, the PARK and the MA SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The PARK shall ensure the following stipulations are carried out should the undertaking be implemented:

I. CONSULTATION PROCESS

- A. The overall MDS including the undertaking's proposed actions have been presented and shared with the SHPO and the consulting parties.
- B. The PARK will share further planning information related to the MDS with the SHPO and the consulting parties as it is developed.
- C. The PARK will provide planning/design documents for the undertaking's proposed actions as they are developed at both the schematic and draft construction drawing phases for a 30-day review/comment period.
- D. The PARK will schedule presentation/discussions with the consulting parties if requested or if substantial comments are received.

II. RESOLUTION OF ADVERSE EFFECTS:

The undertaking's proposed actions include the demolition of the Hoosac Stores that will result in an adverse effect and the demolition of Building 109 that will result in an adverse effect to the CNY NHL District. The following will be implemented to mitigate the adverse effect of the demolition:

Hoosac Stores

- A. The PARK has completed HABS/HAER documentation of the Hoosac Stores (HABS MA-1394). The PARK shall provide the full HABS/HAER documentation to the Library of Congress and the MA SHPO, and archive the documentation at the PARK.
- B. The PARK will complete an update to the National Register of Historic Places nomination for the Hoosac Stores.

Building 109

- A. The CNY as a whole and individual structures such as Building 109 have been extensively documented in the *Charlestown Navy Yard Historic Resource Study* (2010). In addition, the park museum collection includes historic architectural drawings, photographs, and other records documenting the original construction and continued use and alterations of the structure.
- B. The PARK will complete photo documentation of the interior and exterior of Building 109 using the guidelines set forth in the National Register Photo Policy Factsheet (updated 5/15/2013) [Interim National Register Photo Policy Factsheet \(nps.gov\)](https://www.nps.gov/interim-national-register-photo-policy-factsheet). The PARK shall submit completed photo documentation to the SHPO printed on acid free paper. The PARK will also submit the material as an addendum to the existing HABS/HAER documentation of the Charlestown Navy Yard (HAER MA-90).
- C. The PARK will construct a ghost structure on the footprint of Building 109 reflective of its mass, scale and location within Pier 1. The ghost structure will provide visitors with a shade and congregation location on the pier.

III. CHANGES TO THE UNDERTAKING

Actions may be added to or subtracted from this undertaking for a variety of reasons including but not limited to available funding or alterations within the MDS as consultation and planning continues.

- A. Additions: If actions are added to the program, the PARK shall notify all consulting parties and the signatories to the PA in writing, and then move forward with the review of the actions in accordance with the PA stipulations.
- B. Subtractions: Before the PA expires, the PARK shall provide the signatories to this PA with an account of what actions have or have not been completed. At that time, the signatories shall consult about any outstanding actions and determine whether or not to extend the PA to cover the outstanding actions, in accordance with Stipulation VIII.

IV. DURATION

This PA will expire if its terms are not carried out within ten (10) years from the date of its execution. Prior to such time, the PARK may consult with the other signatories to reconsider the terms of the PA and amend it in accordance with Stipulations VIII below.

V. POST-REVIEW DISCOVERIES

If potential historic properties are discovered or unanticipated effects on historic properties occur, the PARK shall notify the MA SHPO within 3 days and reinitiate consultation with the consulting parties and signatories to this PA to determine how to proceed.

VI. MONITORING AND REPORTING

Each year following the execution of this PA until it expires, all measures are completed or the PA is terminated, the PARK shall provide all parties to this PA a summary report detailing work undertaken/completed pursuant to the terms of the PA and also include scheduling changes proposed, problems encountered, and any disputes and objections received in the PARK's efforts to carry out the terms of this PA.

VII. DISPUTE RESOLUTION

Should any signatory or concurring party to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the PARK shall consult with such party to resolve the objection. If the PARK determines that such objection cannot be resolved, the PARK will:

- A. Forward all documentation relevant to the dispute, including the PARK's proposed resolution, to the ACHP. The ACHP shall provide the PARK with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the PARK shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and signatories, and provide them with a copy of this written response. The PARK will then proceed according to its final decision.

- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the PARK may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the PARK shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories to the PA, and provide them and the ACHP with a copy of such written response.
- C. The PARK's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

VIII. AMENDMENTS

This PA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

IX. TERMINATION

If any signatory to this PA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the PA upon written notification to the other signatories.

Once the PA is terminated, and prior to work continuing on the undertaking, the PARK must either (a) execute a new PA pursuant to 36 CFR § 800.14 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. The PARK shall notify the signatories as to the course of action it will pursue.

X. ANTI-DEFICIENCY

All actions taken by the PARK in accordance with this PA are subject to the availability of funds, and nothing in this PA shall be interpreted as constituting a violation of the Anti-Deficiency Act.

Execution of this PA by the PARK and implementation of its terms evidence that the PARK has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

**National Park Service
Boston National Historical Park**

MICHAEL CREASEY Digitally signed by
Date: 2021.12.15 10:27:13 -05'00' Date

Michael Creasey, Superintendent

**Commonwealth of Massachusetts
Massachusetts Historical Commission**

Brona Simon Date

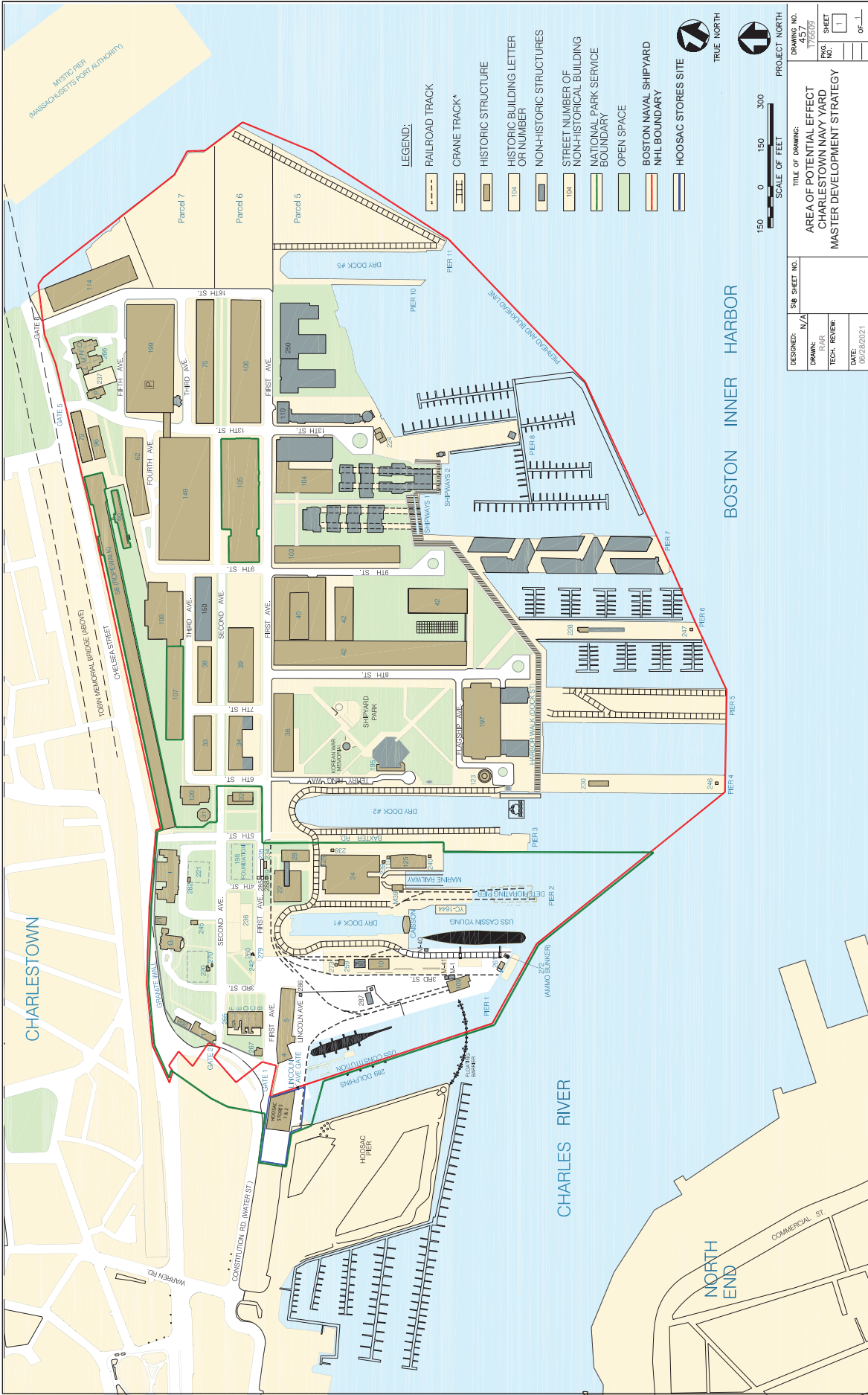
January 21, 2022

Brona Simon, Executive Director

APPENDIX

Area of potential Effect

NPS Drawing 457_176609



© 2021 HOK COMPANY. ALL RIGHTS RESERVED.

APPENDIX B. DRAFT STATEMENT OF FINDINGS FOR FLOODPLAINS

Demolition and Construction Activities at the Charlestown Navy Yard

Boston National Historical Park

FLOODPLAINS STATEMENT OF FINDINGS

for

Executive Order 11988: Floodplain Management

**Executive Order 13690: Establishing a Federal Flood Risk Management Standard and a
Process for Further Soliciting and Considering Stakeholder Input**

and

Directors Order DO #77-2 Floodplain Management

Recommended: _____
Michael Creasey, Superintendent
Boston National Historical Park
Date

Certified for Technical Adequacy and Servicewide Consistency:

Forrest (Ed) Harvey, Chief, Water Resources Division
National Park Service
Date

Approved: _____
Gay E. Vietzke, Director, xxx Region 1
National Park Service
Date

INTRODUCTION

The National Park Service (NPS) is preparing an environmental assessment for the proposed demolition of the Hoosac Stores at the Charlestown Navy Yard (CNY), and the replacement of building 109, on Pier 1, with a ghost structure. Demolition of the Hoosac Stores and Building 109 is needed to accommodate the construction of a new Gateway Center and to accomplish the goals of the Master Development Strategy (MDS) as described in the EA.

Executive Order (EO) 11988 (Floodplain Management) and EO 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input) require the National Park Service (NPS) and other federal agencies to clearly identify the likely impacts of proposed actions in floodplains and to improve the Nation's resilience to flood risk. The objective of EO 11988 is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. EO 13690 was issued to establish a Federal Flood Risk Management Standard (FFRMS) for federally funded projects to improve the Nation's resilience to floods and to insure new federal infrastructure will last as long as intended. NPS procedures for complying with the floodplain EOs are outlined in NPS Director's Order and Procedural Manual #772 (DO #772 and PM #772, respectively).

It is NPS policy to preserve floodplain functions and values and minimize potentially hazardous conditions associated with flooding, including threats to human health and life, risk to capital investment, and impacts to natural and beneficial floodplain values. If a proposed action is found to cause adverse impacts in an applicable regulatory floodplain and relocating the action to a non-floodplain location is considered not to be a practicable alternative, then a formal floodplain "Statement of Findings" must be prepared. The "Statement of Findings" must (a) describe the rationale for selection of a floodplain site, (b) quantify flood conditions and associated hazards as a basis for management decision making, (c) disclose the resources and amount of risk associated with the chosen site, and (d) explain flood mitigation plans. The "Statement of Findings" must be available for public review and comment, generally by including it in National Environmental Policy Act compliance documentation.

This draft Floodplain Statement of Findings (FSOF) documents compliance with NPS floodplain management procedures for the proposed demolition and construction activities at the Hoosac Stores lot, and on Pier 1, at the Charlestown Navy Yard, located in Charlestown, Massachusetts. The proposed action area is located entirely within the 100-year floodplain. The following draft Statement of Findings identifies elements of the proposed project located within the floodplain and mitigation measures designed for the proposed project to comply with NPS floodplain management procedures.

PROPOSED ACTION

The NPS proposes to demolish the Hoosac Stores and Building 109, located at the Charlestown Navy Yard, at Boston National Historical Park. A new gateway center is proposed at the Hoosac Stores lot, and an open frame structure will replace building 109.

The proposed action is part of the greater MDS for longer-term redevelopment of the CNY into an area that would be more understandable to visitors, have improved circulation, make better

use of space, meet NPS's operational and stewardship mission, and result in the CNY becoming a more user friendly, active, and vibrant location. Through the implementation of the MDS, NPS intends to strengthen and expand pedestrian connections in the CNY to provide an improved cohesive visitor experience. The proposed activities would contribute to the overall goals of the MDS by improving the visitor experience at the CNY, incorporating, and interpreting CNY resources and making the CNY an understandable and functional site for the NPS, visitors and partners.

HOOSAC DEMOLITION AND GATEWAY CENTER

The complete demolition of the Hoosac Stores building includes but is not limited to demolition of the existing building, roofing, windows, lighting, electrical, HVAC, plumbing, finishes, and asphalt removal. A 6' temporary fence with lockable gates will be installed around the entire perimeter, and fabric mesh to contain dust. Demolition is proposed to occur from November 2023 – March 2024. Access to the site will be a stabilized gravel construction entrance off Constitution Road. Once the building is demolished, gravel fill will be placed over the site and brought to an elevation of 15.32'. No wetlands are within the areas that would be disturbed during the project activities.

The proposed 33,500 square foot Gateway Center is currently in the schematic design phase. Conceptual designs show the building elevated above flood level with a proposed first floor elevation of 21'. Steps and ramping leading to the building would connect to the Boston Harborwalk, and would also provide seating, staging and views from the public plaza. The steps and ramps are needed so that the building can be constructed above the floodplain. The proposed public plaza and walkway surrounding the building is proposed at elevation 16'. The walk will be elevated to be protected from climate change and sea level rise (Figure A-4).

BUILDING 109 AND OPEN FRAME STRUCTURE

The demolition of Building 109 will allow the construction of an open frame structure. This structure is anticipated to provide wayfinding, shade, place-setting for visitors, and encourage activation of Pier 1.

Under the proposed action and after completion of the Gateway Center, park Visitor and Resource Protection Directorate would relocate from Building 109 to Building 28 and most of the building 109 would be demolished. If feasible the brick electrical substation portion of Building 109 would be retained. In place of Building 109, an open frame structure with pavilion would be constructed to host visitor activities on Pier 1. While detailed design has not been completed, the structure would represent the scale and location of Building 109, and likely consist of a steel frame structure encompassing the remaining brick electrical substation portion if retained. The structure with pavilion would serve as a visitor orientation and interpretive space at the end of Pier 1.

Demolition activities would involve the use of heavy equipment and vehicles to remove building debris.

SITE DESCRIPTION

The site for the proposed demolition and construction project is over previously disturbed fill soil and has an existing grade of 15-16' above the North American Vertical Datum of 1988. It should be noted that Boston City Base (BCB) Datum can be converted to NAVD88 by: $NAVD88 = BCB - 6.46 \text{ ft.}$

For a specific community, the Federal Emergency Management Agency produces a Flood Insurance Rate Map that identifies special hazard areas and the risk premium zones applicable to the community. This site is in an AE zone (EL 10), as issued on FIRM map 25025C0081J, panel 81 of 176, revised 3/16/2016. This area is designated as a Special Flood Hazard Area (SFHA) subject to inundation by the 1% annual chance flood. (Figures A-1, A-2)

Current Federal Emergency Management Agency (FEMA) 1% Flood Insurance Rate Map (FIRM) Maps identify the existing flood zone and base flood elevation (BFE) for the City. The maps do not consider impacts from sea level rise (SLR) and future 100-year floodplains. The Boston Harbor Flood Risk Model (BH-FRM) is a dynamic flood model that identifies probability of inundation and depth of flooding under current and future (2030, 2050, and 2070) SLR and storm surge considerations. The Boston Planning and Development Agency (BPDA) has developed a SLR-BFE layer on their zoning viewer, which shows the BFE for each parcel in the projected flood hazard area with 40 inches of SLR (2070-time horizon) based on the BH-FRM. The SLR-BFE varies based on parcel location and shall be considered a minimum value to use for planning purposes.

This site is in the City of Boston's Coastal Flood Resilience Overlay District. Article 25A [Coastal Flood Resilience Overlay District \(CFROD\)](#) works to protect persons and structures from the adverse effects of sea level rise and storm surge associated with climate change. The CFROD relate to areas of the City of Boston anticipated to be flooded with a 1% chance storm event in 2070 with 40-inches of sea level rise, formalize the implementation of the Design Guidelines, and establish sea level rise design flood elevations for new construction and retrofits. The Gateway Center is being designed based on this data and in accordance with the City of Boston's Flood Resiliency Building Guidelines and NPS Standards.

This site is located along Constitution Road and is approximately 26,616 square feet or .61 acres. The existing building is a 6-story brick building, with a small out-building, concrete pad, steps, gravel, and asphalt area. Post demolition, the site will be regraded with gravel to an elevation of 15.32 and secured with an 8' high ornamental chain-link fence. Disturbed areas will be restored to their previous condition.

Few trees will be removed during the demolition. Existing trees outside of the building area will be protected during construction.

JUSTIFICATION FOR USE

The entire site for the proposed action is located within a floodplain. Although the National Park Service is under executive order and policy to reduce or eliminate development in floodplains, this is not possible for the proposed action because most of the Charlestown Navy Yard is within a flood zone. Figure A-1 shows the project area and flood zones.

FLOOD RISKS

Although the demolition actions and the construction of the Gateway Center must occur within the floodplain, the extent of development, placement of structures, and types of structures and associated facilities would be of minimal impact as activities are occurring on a previously disturbed site.

SITE SPECIFIC FLOOD RISK

Flood risks in the demolition areas are negligible due to the temporary nature of the proposed activities. The proposed Gateway Center, and open frame structures, may be exposed during flooding events (e.g. Category 2 or higher hurricane).

CAPITAL INVESTMENT

Moderate flood risk, practicable mitigation measures and the acute need to satisfy the MDS justify the investment in the proposed action within the regulatory floodplain. The proposed action minimizes impacts from temporary construction activities and is on previously disturbed and developed land. Proposed development will be constructed over and above the 100-year floodplain, use resilient materials, and minimize risk to the maximum extent practicable.

HUMAN HEALTH AND SAFETY

The proposed action has been developed in accordance with local requirements for the protection of human health and safety for building demolition and construction activities.

In the Boston area, relative sea level rise (includes land subsidence and eustatic sea level rise) has caused an increase in sea level elevation of approximately 1.0 ft (0.3 m) over the last century and projected to further rise by 1.4-2.4 ft (0.4-0.7 m) by 2050 and 4.0-7.6 ft (1.2 m – 2.3m) by 2100 depending on a low or high greenhouse gas emission scenario (NECASC 2018). Given US Army Corps of Engineers background information for storm surge and projected sea level rise in the Boston area, a 100-year storm event would become equivalent to a modern day 500-year storm event by the year 2100 (Kirshen et al. 2008), indicating an increased percent probability of a storm of this magnitude occurring or being exceeded in any given year.

Impacts on floodplains would result from the construction of a new structure on existing impervious surface within the 100-year floodplain. The new Gateway Center would be constructed within the floodplain, adding to the risk offloading associated with hurricanes and other storms. However, the facility would be elevated to protect it against storm forces and floodwaters and constructed using flood proofing standards, which would help reduce property losses and risk to human safety from flooding. The demolition of the Hoosac Stores and Building 109, and the construction of a new Gateway Center in the floodplain would result in long-term, localized, negligible risk to the site and insignificant changes to the flood profile.

MITIGATION ACTIONS

As stated in Director's Order 77-2, if the National Park Service determines a facility must be placed within an area subject to natural hazards, then the "design and siting will be based on a thorough understanding of the nature of the physical processes and avoiding or mitigating (1) the risks to human life and property, and (2) the effect of the facility on natural physical processes and the ecosystem."

In 2019, NPS initiated a feasibility study to determine whether the Hoosac Stores building could be adaptively reused by the NPS and its partners as proposed in the MDS. The feasibility study included a hazmat analysis and historic preservation assessment. The report revealed that demolition and new construction would be the feasible approach. Key conclusions from the study included the following:

- The existing building was originally built to serve as a warehouse and was not designed to house mixed-use programs; as such, floor to floor heights are insufficient for the desired program and the building lacks adequate window openings required for new uses.
- The building lacks a mechanical system, it does not have plumbing or a fire protection system, and it has limited electrical utility.
- The building was found to be inadequate to withstand seismic and wind loading required by today's standards; therefore, the building conversion would require the construction of a new seismic structure to accommodate the new intended use.
- Improving the lateral stability required of the existing structure would necessitate the addition of poured concrete shear walls that would engage the existing masonry walls and tie them back to a new poured concrete core. These new shear walls would also require a new micropile foundation system.

The National Park Service finds that the only practicable alternative is to demolish the Hoosac Stores and construct the new Gateway Center in its place, which is within the floodplain. Therefore, requirements within Executive Order 11988 state that the National Park Service must construct the new building to comply with the standards of the National Flood Insurance Program, including elevating the structure above flood elevation, using flood proofing and other flood protection measures. Furthermore, a notice must be circulated explaining why the Gateway Center must be constructed within a floodplain.

FLOODPLAINS WITHIN PROJECT AREA

The proposed action would qualify as a Class I Action as defined in PM #772, subject to the floodplain policies and procedures if occurring within the 100-year floodplain. NPS used two of the three approaches identified in the FFRMS to evaluate the flood elevation (“how high”) and corresponding flood hazard area (“how wide”) for project siting, design, and construction:

- Freeboard Value Approach (FVA): The elevation and flood hazard area that result from adding an additional 2 feet to the BFE for noncritical actions and by adding an additional 3 feet to the BFE for critical actions; or
- Climate Informed Science Approach (CISA): The elevation and flood hazard area that result from using the best available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science.

This project area is located in a BPDA Sea Level Rise Flood Hazard Area (SLR-FHA). The Gateway Center is being designed based on the FIRM and in accordance with the City of Boston’s Flood Resiliency Building Guidelines, and NPS Standards Sea Level Rise Design Flood Elevation (SLR-DFE) was calculated at +20.5 by following the Boston Climate Change Guidelines and using the use the online BPDA SLRFHA Mapping Tool to determine the highest Sea Level Rise - Base Flood Elevation (SLR-BFE) for the project site and calculate the SLR-DFE by adding at minimum 24” of freeboard for critical facilities and infrastructure and buildings with ground floor residential units or at minimum 12” of freeboard for all other buildings and uses."

The proposed Gateway Center would be constructed on a raised concrete structure with a first-floor elevation of 21 feet above NAVD88 to account for the 100-year flood and sea level rise and to meet City and NPS design requirements. The design will conform to the requirements of Executive Order 13690 and FFRMS. This elevation is proposed to accommodate potential current

and future flood risks and uncertainties associated with climate change as described under the Federal Flood Risk Management Standard CISA and FVA.

During the project development process and construction, measures to minimize and mitigate impacts on sensitive resources would be applied. During site preparation erosion and sediment control measures would be designed in accordance with federal; state, and local regulations, requirements, and codes and the specifications of the best management practices. Examples include silt fences, diversions, sediment basins, vegetative buffers, swales, flow diversions, and dams/barriers (Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas)

During hurricane season (June 1 to November 30), extra care and precautions will be maintained to ensure quick response to potentially severe tropical weather. The park's response to severe weather conditions is managed under an Incident Command System approach for preparedness purposes during hurricane season. In keeping with the park's storm plan and protocols, NPS personnel progress to higher levels of operational preparedness when tropical storm conditions or strong storm surge is predicted by the National Weather Service to occur within five days.

SUMMARY

Although the proposed action would be located within the 100-year floodplain, because of the nature of the site, the use of floodplain mitigation techniques such as additional elevation and flood proofing would prevent an increase in the flood threat and protect the new structure from potential flood events. Compliance with applicable standards, regulations, and policies to minimize impacts on floodplain resources and loss of property or human life would be strictly adhered to during and after the construction. With these measures, the proposed action would not alter flood flows and would have negligible effects on floodplain functions or values.

LIST OF FIGURES

- A-1 Firm Map Panel 81 of 176, Map Number 25025C0061J
- A-2 National Flood Hazard Layer FIRMette
- A-3 Proposed Action Locations on BPDA Zoning Viewer
- A-4 Existing Conditions Survey

REFERENCES

- FEMA. Federal Flood Risk Management Standard. Accessed November 1, 2022. [Federal Flood Risk Management Standard | FEMA.gov](#).
- FEMA Flood Map Service Center. Accessed October 18, 2022. <https://msc.fema.gov/portal/home>.
- FEMA. Flood Insurance Rate Map (FIRM) for the Suffolk County, Massachusetts (All Jurisdictions) Map Number 25025C0081J Panel 81 of 176 Map Revised March 16, 2016. <http://msc.fema.gov/portal>.
- Boston Planning and Redevelopment Agency. Coastal Flood Resilience Design Guidelines. September 2019. Accessed October 18, 2022. [d1114318-1b95-487c-bc36-682f8594e8b2 \(bostonplans.org\)](https://www.bostonplans.org/files/2022/08/d1114318-1b95-487c-bc36-682f8594e8b2) and [Zoning Maps | Boston Planning & Development Agency \(bostonplans.org\)](#).
- City of Boston. Coastal Resilience Solutions for East Boston and Charlestown (Phase II) Final Report. August 2022. Accessed August 20, 2022. <https://www.boston.gov/sites/default/files/file/2022/08/Coastal-Resilience-Solutions-for-East-Boston-and-Charlestown-Phase-II-August-2022.pdf>.
- National Park Service. 2003 Directors Order 77-2: Floodplain Management. Accessed October 20, 2022. <http://nps.gov/policy/DOrders/DO77-2--floodplains.pdf>.
- NPS Climate Change Response Program. Climate Change Hazards Summary Report for Facility Investment Planning, Boston National Historical Park. March 2021. Accessed November 1, 2022. [DataStore - Unpublished Report - \(Code: 2284746\) \(nps.gov\)](#).
- Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas – A guide for Planners, Designers and Municipal Officials. Original Print March 1997, Reprinted May 2003. Accessed November 1, 2022. <https://www.mass.gov/doc/complete-erosion-and-sedimentation-control-guidelines-a-guide-for-planners-designers-and/download>.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under US administration.

BOST 457 186825 January 2023

United States Department of the Interior – National Park Service