

CHAIN FORGE (CNY Building 105)

Community Meeting # 2 – RFP Visioning Session & EPA Brownfields Grant



October 29th, 2024

Yoon Cha, Real Estate Development Officer



Planning Department

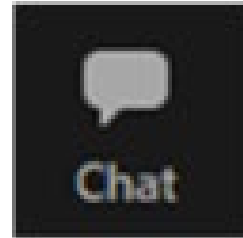
CITY of **BOSTON**

MEETING ETIQUETTE

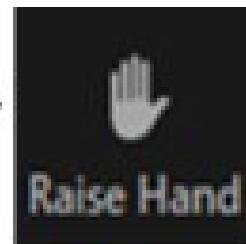
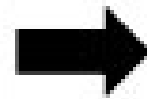
**PLEASE HELP US ENSURE THAT THIS CONVERSATION IS
A PLEASANT AND PRODUCTIVE EXPERIENCE FOR ALL ATTENDEES.**

- Be respectful of everyone's time
- Use kind language
- Keep the discussion focused on the topic
- Remain muted until called on
(use the "Raise Hand" function on Zoom for comments or questions)
- Wait to raise additional questions until all others have had an opportunity
- If we are unable to get to your question tonight, please enter comments on the project website: bit.ly/ChainForge or email yoon.cha@boston.gov

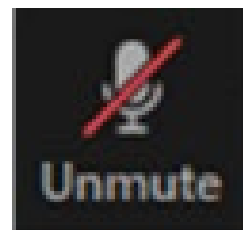
ZOOM TIPS



Use the chat to type a comment or ask a question at any time – Planning Department staff will moderate the chat



To raise your hand, click on “Participants” at the bottom of your screen, and then choose the “Raise Hand” option in the participant box



Mute/unmute – Participants will be muted during the presentation – the host will unmute you during discussion if you raise your hand and it is your turn to talk



Turns your video on/off

RECORDING

- At the request of community members, this event will be recorded and posted on the project webpage for those who are unable to attend the zoom event live.
- It is possible that participants may be recording the meeting with their phone cameras or other devices. If you do not wish to be recorded during the meeting, please turn off your microphone and camera.
- If your camera and microphone are off, you can still participate through the text chat feature at the end of the presentation.
- Note: These meetings are not subject to Open Meeting Law. Open Meeting Law also does not require that public bodies allow public comment or public participation during meetings.

SUMMARY



CHAIN FORGE (CNY Building 105)

Assessing ID : 0203510510

UR Parcel ID : NY-1, Charlestown Urban Renewal Area, Project No. MASS R-55

Address : 105 First Ave, Charlestown, MA 02129

Lot size : 75,515 sf

Current GSF : 58,800 sf

Chain Forge, a historic industrial building in Charlestown Navy Yard (CNY), is up for renewed disposition effort following termination of its previous lease.

Considering presented challenges such as historic preservation requirements, flood risk, and environmental contamination it will be important to rehabilitate property in a way that can attract investment for the necessary improvements and transform the building into a centerpiece and destination for Boston. The Planning Department is seeking community input on the draft RFP Development Objectives and draft application for the EPA Brownfields Cleanup Grant.

AGENDA

OBJECTIVE

- 1) Continue conversation on RFP Visioning
- 2) Review Draft EPA Brownfields Cleanup Grant Application & Draft ABCA

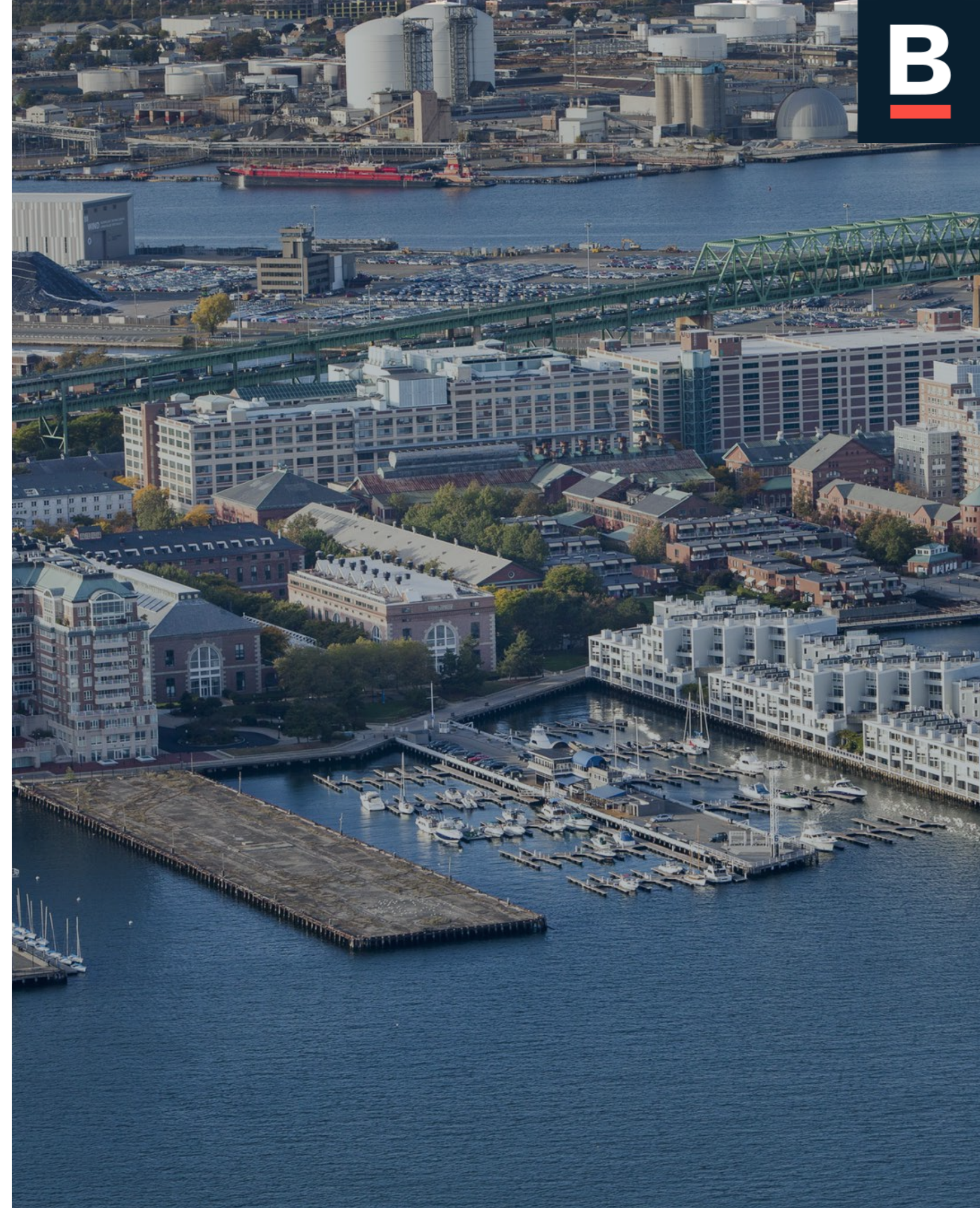
1 BACKGROUND & RECAP

2 RFP VISIONING: WHAT WE HEARD

3 EPA BROWNFIELDS CLEANUP GRANT

4 DISCUSSION

5 NEXT STEPS



DISPOSITION PROCESS



Goal: Redevelop vacant or underutilized city-owned land to create more affordable, equitable, and resilient uses

Real Estate Division analyzes subject parcel and provides recommendation

Real Estate Division drafts Request for Proposal (RFP)

RFP is released and developers submit proposals

Strongest proposal chosen based on evaluation criteria and community feedback

Developer secures all design, financing, permits and is ready to break ground



Public Meeting to share recommendation, receive feedback, and gather ideas (Often multiple meetings)

Public Meeting to review final draft of the RFP

Public Meeting to review RFP proposals

Public Meetings led by entitlement/permitting process (Article 80, BCDC, IAG...)

Ground lease or sale executed; Development breaks ground

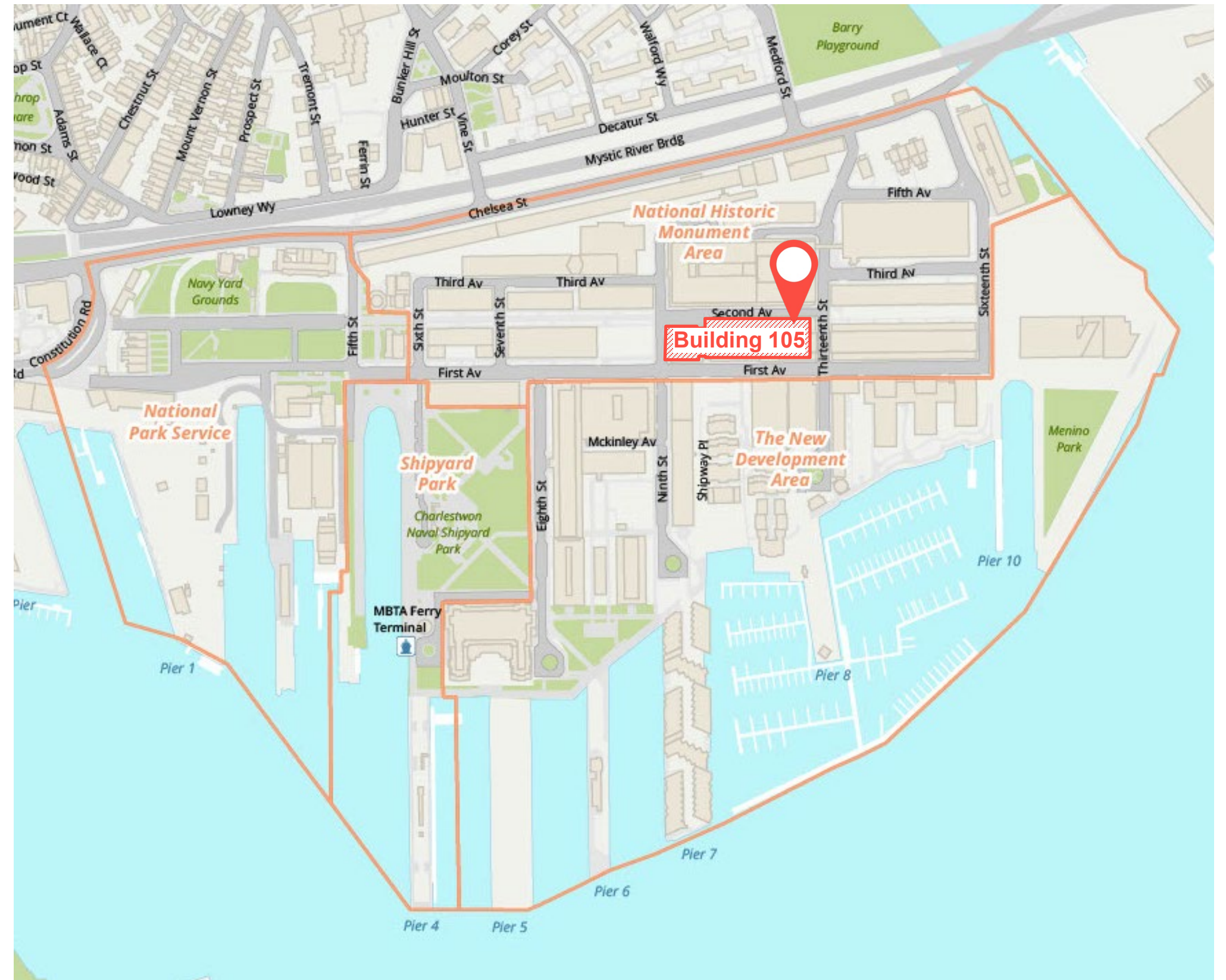
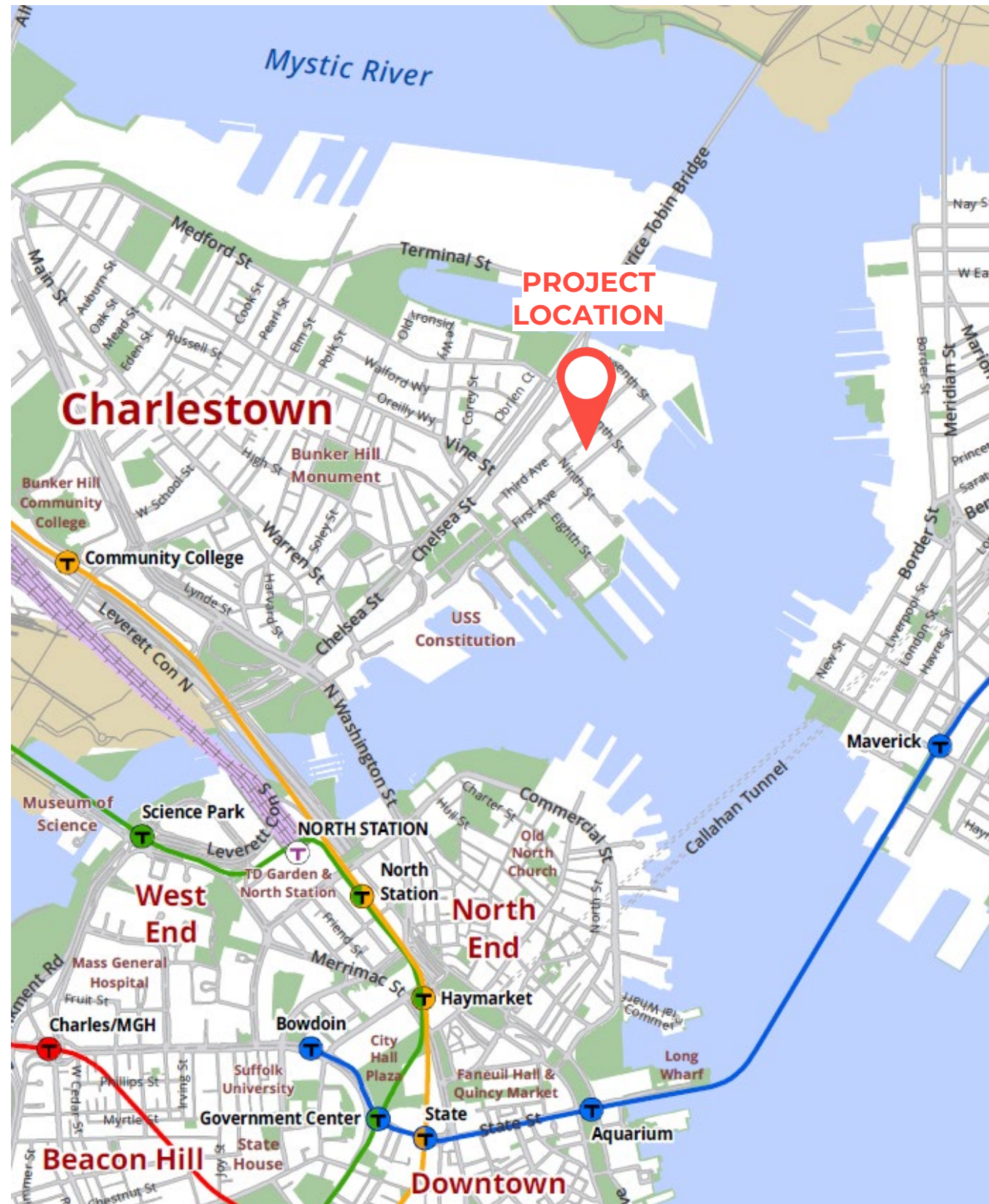
... and it's an iterative process!



BACKGROUND & RECAP



PROJECT LOCATION



CHARLESTOWN NEIGHBORHOOD



TRANSPORTATION

- No onsite parking, possible use of nearby garage
- Route 93 Bus - First Ave @ Ninth St
- 30m walk to Community College T-stop
- Charlestown Ferry, Water Shuttle, Water Taxi



RETAIL

- Need for ground-floor activation
- No large fresh market outside of Whole Foods
- Opportunity for waterfront dining



BUSINESS / INSTITUTIONS

- Medical: MGH / Spaulding Hospital
- Lab: Kendall Square, Conference
- Education: BHCC, Harvard, MIT, Tufts

SITE HISTORY



Charlestown Navy Yard (1957), BPDA Records

1904: Chain Forge Opens at CNY

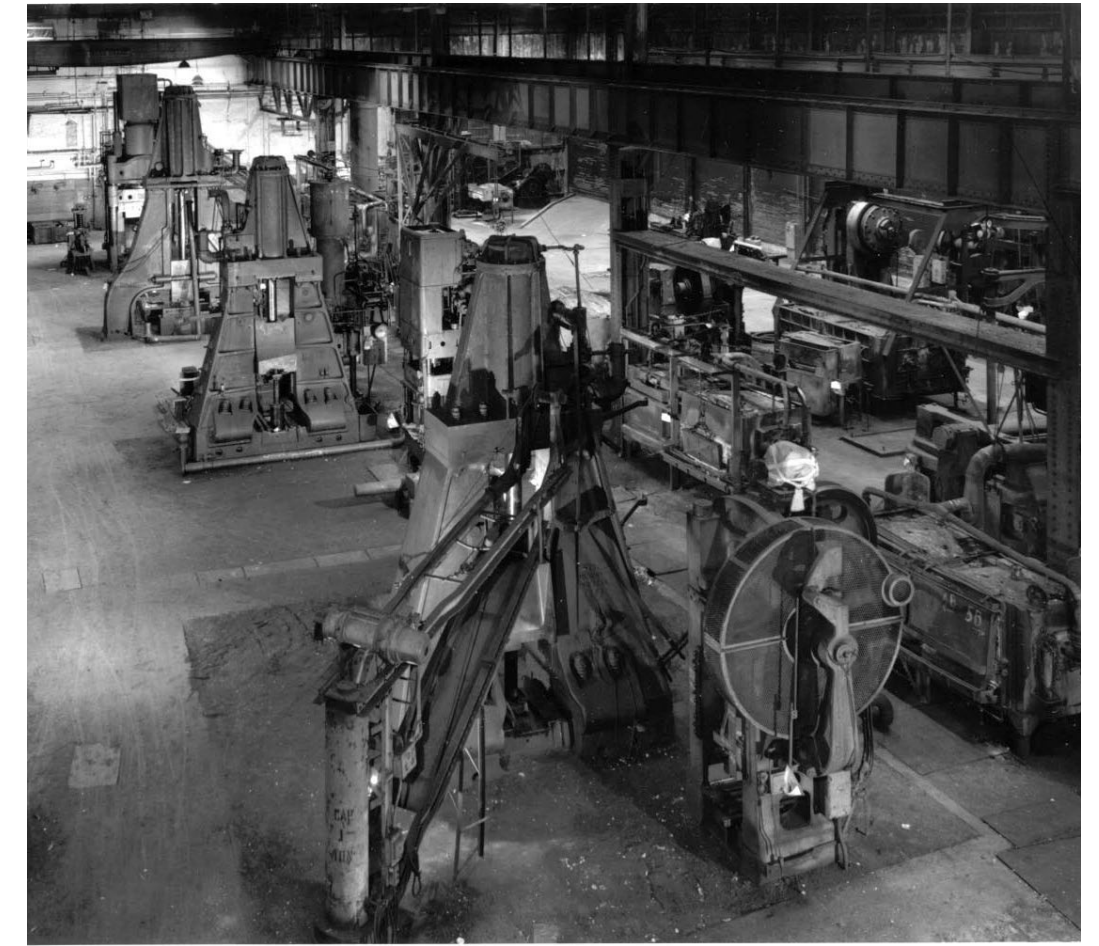
In 1904, the Charlestown Navy Yard added Building 105, also known as Chain Forge, to its complex. Designed in by Architect Louis Leach of Works Progress Administration, the building has an innovative steel frame covered with a brick veneer in Renaissance Revival style.



Women workers with a Die-Lock chain (c.1940), NPS

1930-1940s: "The Cathedral of Industry"

Chain Forge produced nearly all the chains used by the Navy through WWII. Most notable of their production was Die-Lock chain, invented by James Reid, Albert M. Leahy, and Carlton G. Lutts, which remains unparalleled for its durability to this date.



Interior of Chain Forge (c. 1970s), NPS

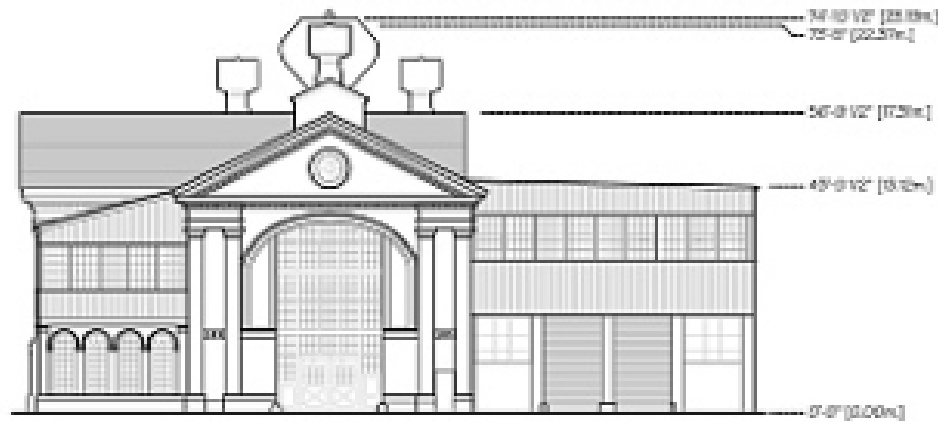
1975: CNY transferred to BRA

After the Navy Yard closed in 1974, the building was transferred to the BRA in 1975. Most of the historically significant equipment were transferred to NPS for Boston National Historical Park (BOST). Some equipment will be preserved on site.

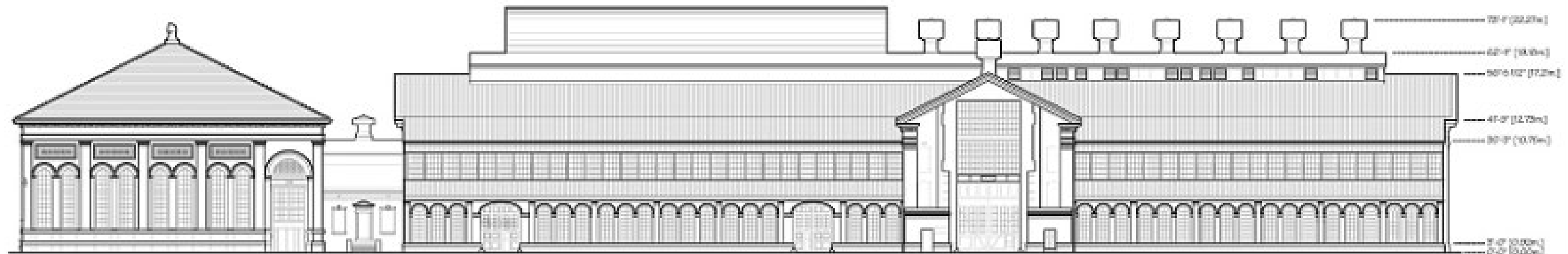
CHAIN FORGE (BUILDING 105)



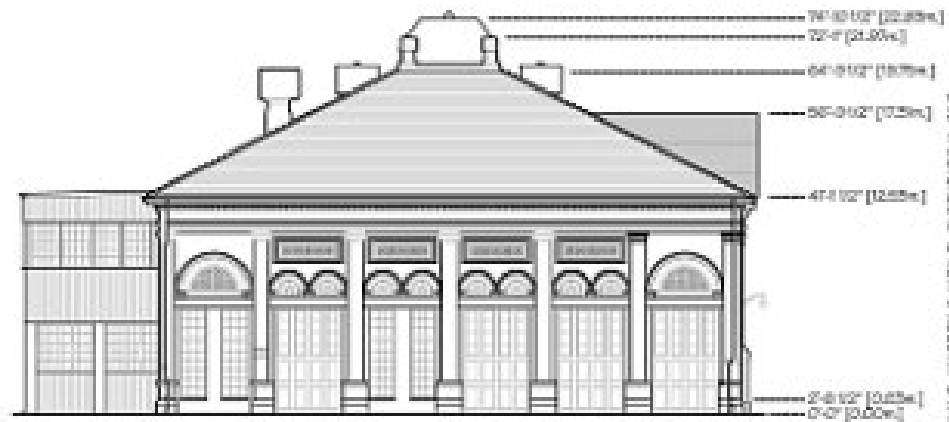
SCALE: 1/16" = 1'-0"
0 10 20 30 40 50 FEET
0 5 10 15 METERS



NORTH ELEVATION



EAST ELEVATION

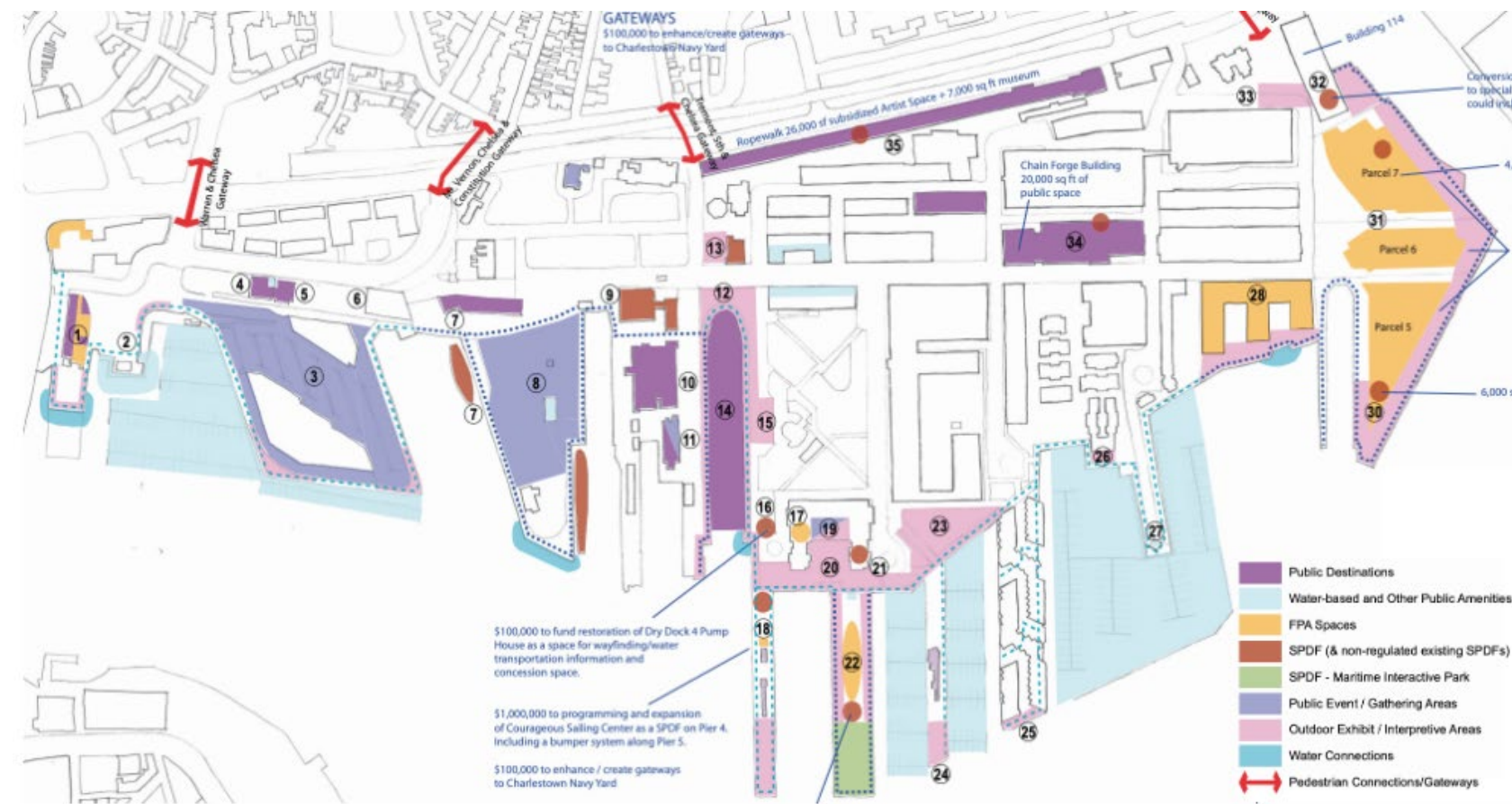


SOUTH ELEVATION



WEST ELEVATION

ZONING & PLANNING



Waterfront Activation Map (PLAN:Charlestown, 2023)

WHAT IT MEANS FOR CHAIN FORGE...

- Priority: Ground-Floor Activation
- Redevelopment must preserve historically significant elements
- Limit to additional density
- No open space required
- Public use recommended
- Floodplain challenges for ground-floor use (residential, retail)
- Flood resilience measures needed
- Permitted uses: institutional, retail, hotel, residential
- No addition of onsite parking allowed

RELEVANT PLANS

- PLAN: Charlestown (2023)
- Improved Connectivity
 - Waterfront Activation
 - Adaptive Reuse and Preservation
 - Economic Development
 - Coastal Resilience

ZONING DISTRICT

- Article 42F Harborkpark-Charlestown Waterfront District
- Charlestown Navy Yard Subdistrict
 - dimensional and use regulations (42F-13 & 14)

OVERLAYS

- Special Study Overlay Area: Historic Monument Area
 - Design Guidelines
- Urban Renewal Area Overlay District
- Coastal Flood Resilience Overlay District
- FEMA Flood Hazard Area

CHALLENGES



HISTORICAL PRESERVATION

- Nationally registered historical site
- Intervention must retain historical character of the building, especially on building exterior, as well as some chain-making equipment in-situ
- May impact ability to add floorplates or windows



FLOOD RESILIENCY

- Project is in Coastal Flood Resilience Overlay District (CFROD)
- Portion of site is in FEMA Special Flood Hazard Area
- Ground floor must be designed for flood resiliency
- May impact feasibility for residential use



ENVIRONMENTAL REMEDIATION

- History of hazardous substances (asbestos, PCB's, oil-based substances, lead paint, contaminated piping and soil)
- Property underwent significant remediation, but more work remain
- EPA Brownfields Cleanup Grant
- Planning Department Stabilization Funds



RFP VISIONING



WHAT WE HEARD



9/17/2024 COMMUNITY MEETING

67 Attendees (more sent in comments in writing)

Comment Period : 9/17/2024 – 10/1/2024

“I would love to see this interesting building **preserved**. I love the idea of **multiple uses**.”

“**Sports recreation**, like a skating rink, pickleball courts, or running tracks. The die-lock chain assembly can be integrated in a creative way!”

“What will happen to **parking** spots in front of the building? Is it possible to create underground parking?”

“The (Chain Forge) building is so stunning and there’s nothing like it. Love the idea of incorporating **art**.”

“Charlestown needs **smaller, intimate spaces to gather** for holiday events, recital, birthday, or weddings.”

“There are few options for **grocery and food** in Charlestown. Would love to see **Retail, Hotel, and Dining**. A good example would be Hood Park, which has restaurant, cycling studio, and parking garage.”

“Would love to see **Hotel and Retail** again. With something this **costly to redevelop**, not surprised it will be a hard stop for any developer.”

“What is the estimated cost of **environmental remediation**?”

“There is a real need for **Senior Housing**, such as independent living, assisted living, or nursing facilities.

“**[Grocery store]** would be fantastic. **Street parking** continues to be in worsening condition.”

“**Boutique hotels** do not require as many rooms and would be a good here. Even large chains have boutique brands.”

WHAT WE HEARD



9/17/2024 COMMUNITY MEETING

67 Attendees (more sent in comments in writing)

Comment Period : 9/17/2024 – 10/1/2024



NEIGHBORHOOD NEEDS

- **Restaurant (7)** : High end restaurant, causal dining, sandwich, coffee, bar
- **Hotel (6)** : Boutique / conference
- **Grocery Store (5)** : Trader Joe's concept
- **Housing (4)** : Senior housing, 3-4bd condos for families



COMMUNITY & RECREATION

- **Cultural (4)** : Museum, gallery, performance venue
- **Sports Recreation (3)** : skating, gym, pickleball, running track, cycling studio
- **Community Space (2)** : intimate gathering spaces for community use

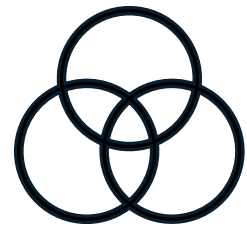


IMPORTANT CONSIDERATIONS

- **Mixed Use (10)** : There should be a mix of different uses on site
- **Parking (7)** : parking availability, enforcement of parking restrictions
- **Historic Preservation (4)** : Historic character is important; Friends of Charlestown, Plaque of British Landing

RFP DRAFTING : DEVELOPMENT OBJECTIVES

The Planning Department seeks to redevelop the Property in a manner consistent with the following goals:



MIXED-USE ADAPTATION

- Adapt the Property into a vibrant mixed-use destination
- Neighborhood Needs: Grocery Store, Restaurant, Retail, Hotel, Gallery, Performance Venue, Public Gathering Spaces, Residential (esp. Senior Housing), Institutional



HISTORIC PRESERVATION

- Restore and preserve the exterior architectural character of the Property
- Preserve the required historic chain-making equipment on site
- In coordination with city, state, and federal historical preservation authorities



PUBLIC DESTINATION

- Create a public destination that attracts visitors and serves neighborhood residents
- Publicly accessible areas such as lobbies or lounges
- Exhibition of historic chain forge equipment



RESILIENT DESIGN

- Proposal should be designed in a way that is flood and climate resilient
- Selected proponent should continue to work with relevant authorities toward goals of Climate Ready Boston

RFP DRAFTING: NEXT STEPS

DEVELOPMENT OBJECTIVES

What are the goals we want to achieve in this RFP?



DEVELOPMENT & URBAN DESIGN GUIDELINES

Program, design, climate resiliency, and DEI goals proposals should follow



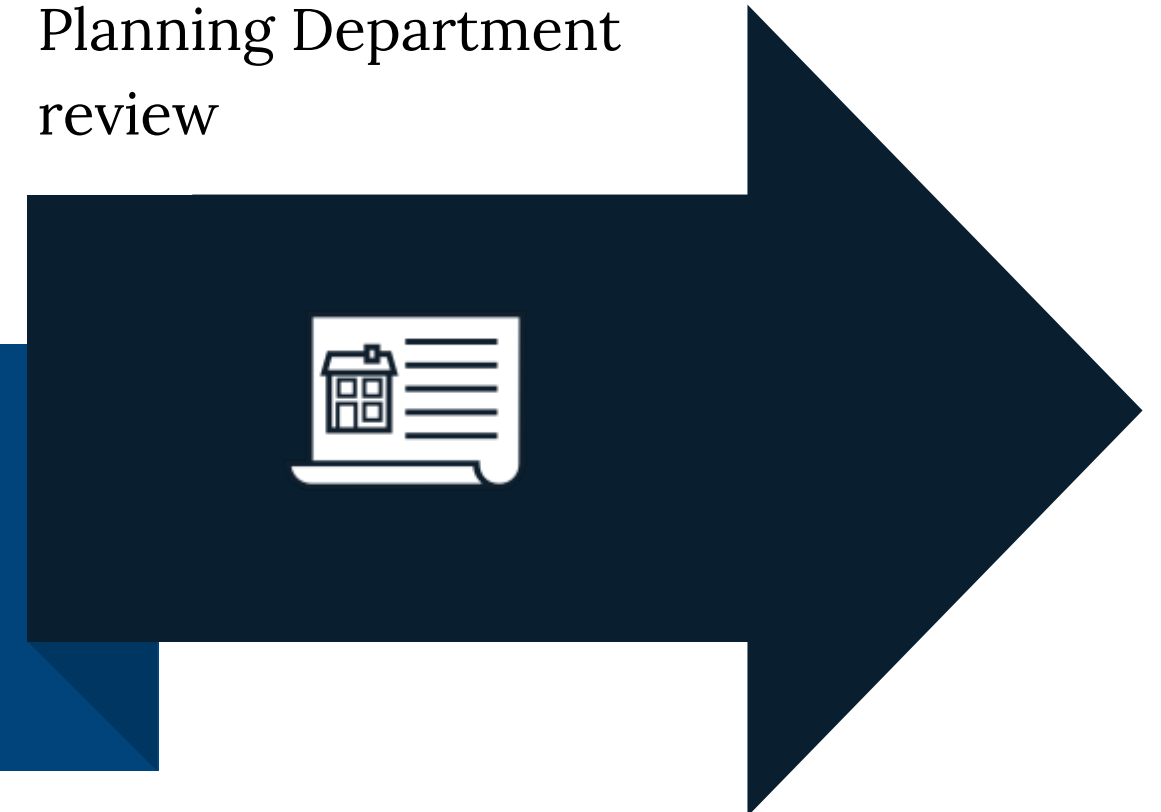
COMPARATIVE EVALUATION CRITERIA

How proposals will be evaluated amongst themselves



RFP RELEASE

RFP released after final Planning Department review





EPA BROWNFIELDS CLEANUP GRANT

Paul Uzgiris, Weston & Sampson



welcome

Weston & SampsonSM

transform your environment

Building 105

Former Chain Forge Site

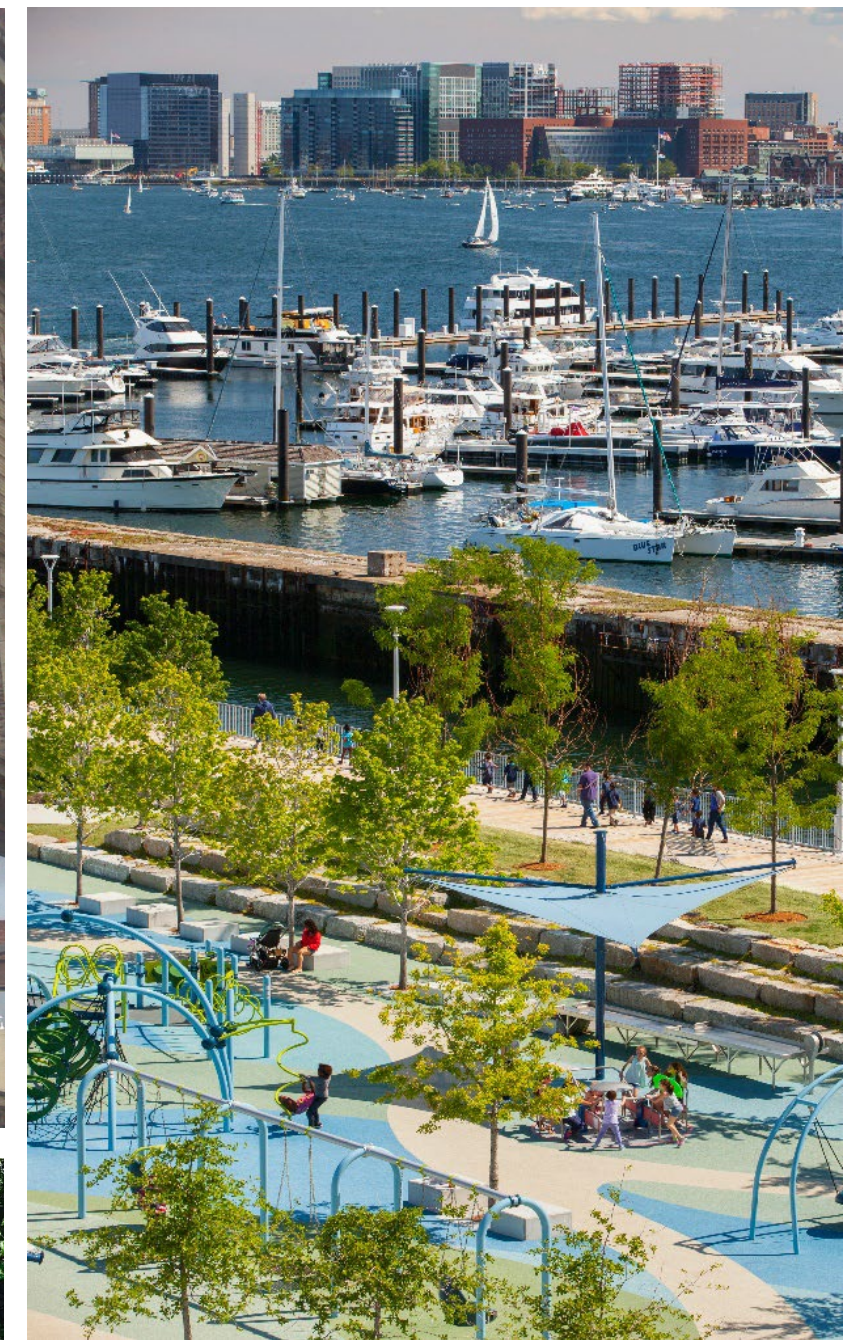
105 1st Avenue

Charlestown, MA

Draft Analysis of Brownfields Cleanup Alternatives (ABCA)
and Draft EPA Cleanup Grant Application



- Established in 1899
- Employee-Owned Company
- Municipally-focused
- Multidisciplinary Engineering & Design Firm
- EPA Brownfields since program inception



MEET THE TEAM



Sarah R. DeStefano, ENV SP
Brownfields Lead



Paul Uzgis, PE
Remediation Lead



Prasanta Bhunia, PhD, LSP
Site Assessment Lead

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Our mission is to protect, improve, and sustain the natural and built environment to enhance the quality of life.

Our clients are our partners; in our municipal work, we remain sensitive to community concerns and understand the need to minimize impacts to residents, businesses, and visitors.

CHAIN FORGE – BUILDING 105

A **brownfield** is a property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant.



SITE HISTORY



1904-1974: US Navy

Birthplace of the die-lock anchor chain

1974: Transferred from DOD | Vacant

BRA: Parcel

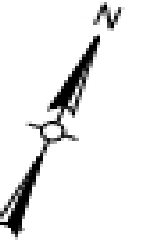
NPS: Equipment

1966: National Historic Landmark & National Register of Historic Places

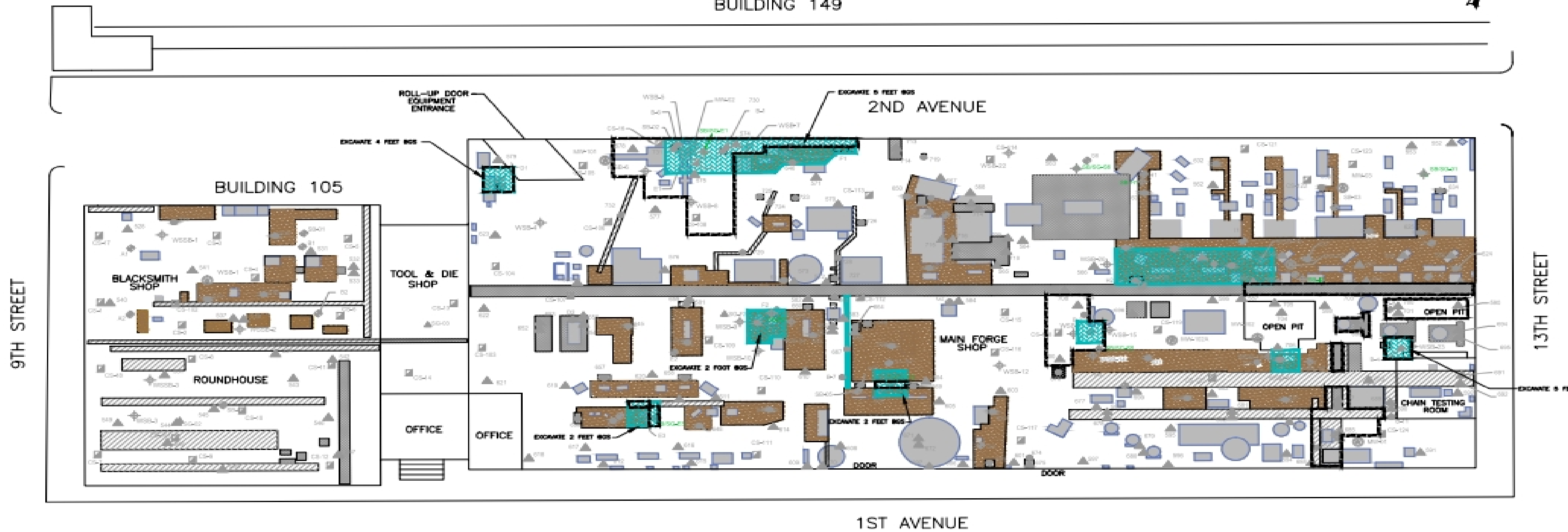
1992-Present: Regulated by MassDEP and EPA (TSCA)

PRESENT DAY


















BUILDING 149



LEGEND:

-  OPEN TRENCH
-  STEEL PLATE COVERED TRENCH
-  AREA OF SOIL FLOOR
-  EXISTING EQUIPMENT
-  USACE AND METCALF & EDDY SOIL SAMPLING LOCATION (1992-1995)
-  EXISTING MONITORING WELL LOCATION
-  STONE & WEBSTER SOIL SAMPLING LOCATION (1996-2000)
-  STONE & WEBSTER CONCRETE SAMPLING LOCATION (1996-2000)
-  WESTON & SAMPSON CONCRETE SAMPLE LOCATION
-  WESTON & SAMPSON SUB-SLAB VAPOR IMPLANT
-  COMBINED WESTON & SAMPSON SOIL BORING LOCATION AND SOIL GAS LOCATION
-  WESTON & SAMPSON SOIL BORING LOCATION
-  WESTON & SAMPSON MONITORING WELL LOCATION
- PROPOSED CONCRETE REMOVAL (FORs >50 PPM)
- PROPOSED SOIL REMOVAL AREAS (SEE NOTE 7)

NOTES:

1. BASE MAP TAKEN FROM PLAN TITLED "SITE PLAN" PREPARED BY STONE & WEBSTER INC.
2. THE LOCATIONS OF VAULTS, TRENCHES AND PITS AND THE CLASSIFICATION OF THE FLOORING TYPES ARE APPROXIMATE. THE INFORMATION IS BASED ON BUILDING DRAWINGS THAT WERE MADE AVAILABLE BY THE NATIONAL PARKS SERVICE (NPS) AND OBSERVATIONS MADE BY THE U.S. ARMY CORPS OF ENGINEERS AND STONE & WEBSTER.
3. INVENTORY OF PROCESS EQUIPMENT PROVIDED BY NPS. EQUIPMENT LOCATIONS ARE APPROXIMATE.
4. LOCATIONS OF HISTORIC SOIL AND CONCRETE SAMPLES TAKEN FROM THE FIGURES PROVIDED IN STONE & WEBSTER'S DATA SUMMARY REPORT DATED OCTOBER 2000 AND THE INTERIM EVALUATION REPORT # DATED AUGUST 2002.
5. WESTON & SAMPSON SOIL BORINGS, MONITORING WELLS, CONCRETE SAMPLES AND SOIL VAPOR IMPLANTS INSTALLED BETWEEN SEPTEMBER 2014 AND MARCH 2015.
6. WESTON & SAMPSON CONCRETE SAMPLES COLLECTED BETWEEN SEPTEMBER 2014 AND JANUARY 2015.
7. DEPTH OF EXCAVATION MEASURED IN FEET BELOW THE BOTTOM OF CONCRETE SLAB IN AREAS WHERE THE CONCRETE FLOOR SLAB IS INTACT, AND DEPTH BELOW GROUND SURFACE IN AREAS WITH EXPOSED SOIL FLOOR. DEPTH OF EXCAVATION IS 1 FOOT IN ALL AREAS UNLESS OTHERWISE INDICATED. FINAL DEPTHS OF EXCAVATION TO BE DETERMINED BASED ON POST-EXCAVATION CONFIRMATORY VERIFICATION TESTING RESULTS.

DRAFT

FIGURE 9
FORMER CHARLESTOWN NAVY YARD
BUILDING NO. 105

SOIL & CONCRETE REMEDIATION PLAN

MAY 2015 SCALE: 1" = 16'

Stone & Webster

SUMMARY OF ASSESSMENT FINDINGS



Hazardous Building Materials (PCBs / Asbestos / Lead)

Petroleum Hydrocarbons

Heavy Metals

Dioxins / Furans



Remove contaminant exposure pathways and reduce site risk to support future redevelopment



Reduce cost and uncertainty associated with redevelopment




Achieve regulatory closure with an AUL that supports future redevelopment

Draft ABCA – Cleanup Alternatives

1) No Action

- Does Not Meet Cleanup Goal

2) Selective Hazardous Building Materials Abatement & Soil Removal with Cap Installation and Activity & Use Limitation (AUL)

- Meets Cleanup Goals
 - Keeps Costs Down by Focusing on Locations and Contaminants Driving Risk
- 

3) Comprehensive Abatement & Soil Removal

- Meets Cleanup Goals
- Very High-Cost Relative to Risk Reduction

WHAT'S NEXT



Draft ABCA and other grant application documents are available for review at <https://www.bostonplans.org/planning-zoning/planning-initiatives/chain-forge-building-105-disposition-planning>



Public comments on the grant application and/or ABCA can be submitted to Yoon Cha at yoona.cha@boston.gov by 11:59 PM on November 1, 2024



Grant Application timeline:

- Due November 14, 2024
- Award Announcement by EPA - Late Spring 2024
- Funds Awarded - October 1, 2025

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thank you

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DISCUSSION



4

POTENTIAL TOPICS

- Feedback on draft RFP Development Objectives
- Questions/comments about the EPA Brownfields Cleanup Grant
- Ideas for Urban Design Guidelines & Comparative Evaluation Criteria
- Questions for Planning Department





NEXT STEPS

5



TIMELINE / NEXT STEPS



	2024		2025	
	Q3	Q4	Q1	Q2
Planning Department	RFP Due Diligence		Draft RFP	
	Draft Federal Brownfields Grant		(Q1) Release RFP	(Q2) RFP Response Due
	(9/3) Federal Brownfield Grant Open	(11/14) Federal Brownfield Grant Due		
Community Meeting	(9/17) RFP Visioning	(10/29) RFP Visioning/ Brownfield App Review	(Nov/Dec) RFP Visioning / Review	(Dec/Jan) RFP Review
				(Q2) Developer Presentation

*Timeline is tentative and subject to change

EPA BROWNFIELDS CLEANUP GRANT



CHAIN FORGE COMMUNITY MEETING

Oct 29, 2024

6:00 PM - 7:30 PM



Contact Name:

Yoon Cha

Contact Email Address:

yoon.cha@boston.gov

Type:

Public Meeting

Location:

Virtual Meeting

DESCRIPTION:

PUBLIC NOTIFICATION FOR EPA BROWNFIELDS CLEANUP GRANT & RFP VISIONING

The Public is hereby notified that on 11/12/2024, the BRA intends to apply for a Brownfields Cleanup Grant from the U.S. Environmental Protection Agency's Brownfields Program. The grant would provide funding for the cleanup of the Chain Forge located at 105 First Avenue in Charlestown, Boston, MA. A copy of the draft application for the grant, including the draft Analysis of Brownfields Cleanup Alternatives, are available for public review and comment on the project website: bit.ly/ChainForge. All comments must be received by 11/1/2024 11:59PM.



Related

Planning Initiative(s)

[Chain Forge \(Building 105\) Disposition Planning](#)

Document(s)

[Draft EPA Brownfields Cleanup Grant Application and Alternatives of Brownfields Cleanup Analysis \(ABCA\) \(PDF 3MB\)](#)



Building 105
Former Chain Forge Site
105 1st Avenue
Charlestown, Massachusetts
DRAFT Analysis of Brownfields Cleanup Alternatives (ABCA)

October 2024

DRAFT Analysis of Brownfields Cleanup Alternatives
Building 105
Former Chain Forge Site
105 1st Avenue
Charlestown, Massachusetts

I. Introduction & Background

This Analysis of Brownfields Cleanup Alternatives (ABCA) has been prepared to evaluate cleanup alternatives for Building 105 (also known as the former Chain Forge) property located at 105 1st Avenue in Charlestown, Massachusetts (the Site). This ABCA has been prepared to fulfill the requirements of the Boston Redevelopment Agency's (BRA's) application for a United States Environmental Protection Agency (EPA) Brownfields Cleanup Grant for the Site.

1. Site Location

The Site is mostly occupied by an approximately 60,300 square foot (sf) former industrial building located in a developed mixed commercial and residential use area. Building 105 is a multi-story brick building comprised of two main sections that are connected by a small office and storage area. The eastern portion houses the Main Forge Shop (MFS), which is approximately 330-feet long by 135-feet wide, while the western portion contains the former Blacksmith Shop (BS) and Roundhouse (RH), measuring approximately 95-feet long by 110-feet wide.

The Site is currently vacant, and access is restricted by a chain link fence, and boarded up windows and doors to prevent trespassing and contain potential releases due to contaminated materials inside the building. The building is mostly empty, except for several historically significant pieces of equipment, furnaces, steel plates, piping, and other miscellaneous building debris associated with former Chain Forge operations. A network of concrete trenches, pits and vaults also exist throughout the building.

The former Chain Forge building currently exhibits evidence of wear or deterioration. Roof gutters and downspouts are damaged or missing throughout, causing mold growth on the brick walls. Cracking and dislodged bricks, along with deteriorated mortar joints, throughout the building contribute to the compromised structural integrity of the building as well as safety risks, including a high risk of falling bricks.

2. Previous Site Use(s) and Any Previous Cleanup / Remediation

Originally constructed between 1900 and 1904, Building 105 was historically used by the United States Navy for the forging of anchor chain and parts until 1974, when the former Charlestown Navy Yard was closed and declared surplus. Following the closure, ownership of Building 105 was transferred to the current property owner, the BRA, while ownership of the former forging equipment and machinery was transferred to the National Parks Services (NPS). During Building 105's seventy years of use by the US Navy, forging operations used materials and produced byproducts that contaminated the building structure, equipment, concrete floor slab, and soil and groundwater beneath the building. Contaminants detected at the Site include polychlorinated biphenyls (PCBs), petroleum hydrocarbons,

DRAFT APPLICATION ([CLICK HERE FOR LINK](#))

- Public comments must be received by 11/01/2024 to be included in the application
- BRA (Planning Department) will apply for the grant by deadline on 11/14/2024.

THANK YOU

HAVE QUESTIONS?

YOON CHA

Real Estate Development Officer

yoon.cha@boston.gov

JAY RUGGIERO

Community Engagement Manager

jason.ruggiero@boston.gov

PROJECT WEBISTE

bit.ly/ChainForge

Public Comments close 11/01/2024

NEXT PUBLIC MEETING

[November/December](#)

to further discuss draft RFP





B

APPENDIX



HISTORIC PHOTOS



HISTORIC PHOTOS



CHAIN FORGE (BUILDING 105)

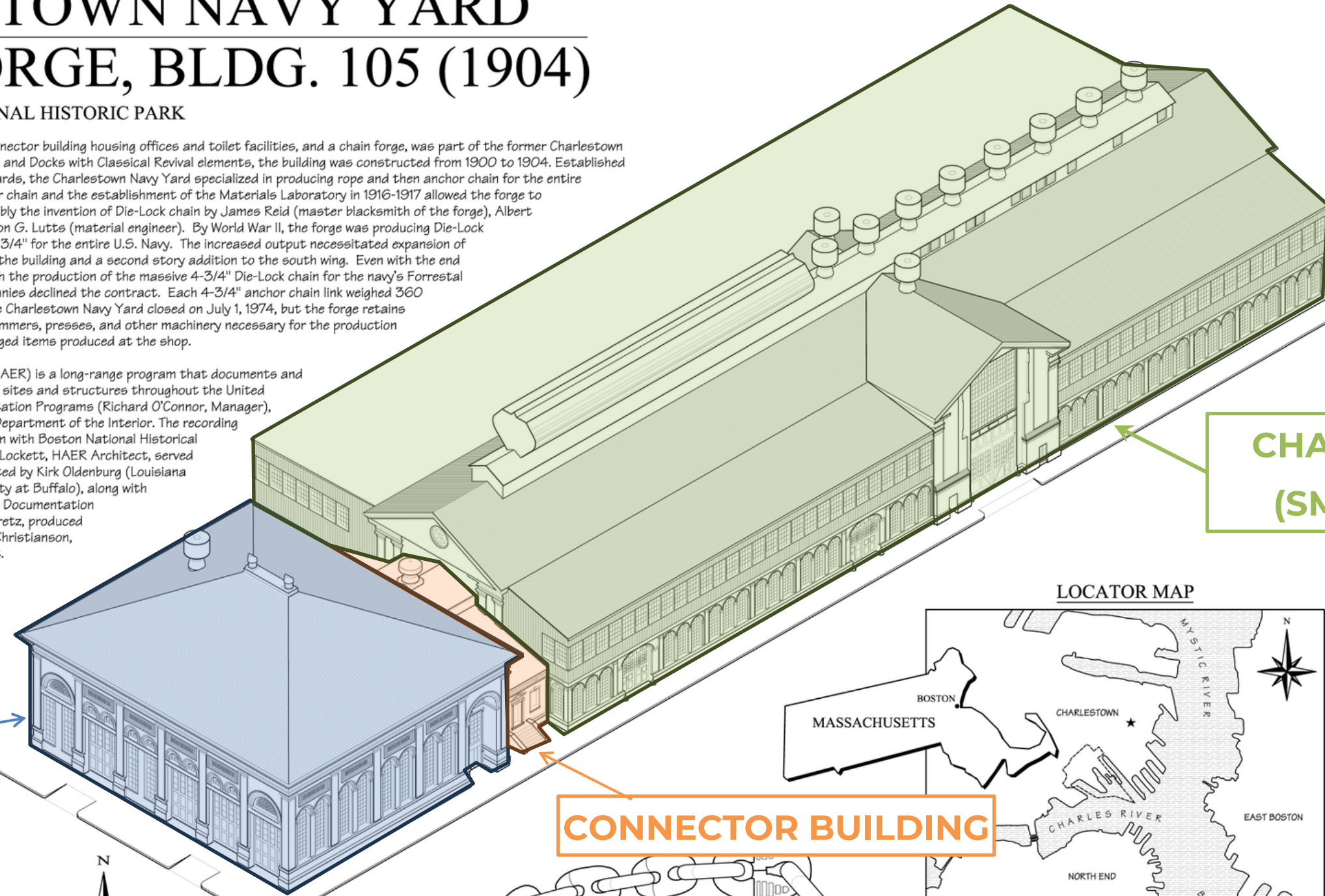


CHARLESTOWN NAVY YARD CHAIN FORGE, BLDG. 105 (1904)

BOSTON NAVY YARD NATIONAL HISTORIC PARK

Building 105, comprised of a powerhouse, connector building housing offices and toilet facilities, and a chain forge, was part of the former Charlestown Navy Yard. Designed by the Bureau of Yards and Docks with Classical Revival elements, the building was constructed from 1900 to 1904. Established in 1800 as one of the country's first naval yards, the Charlestown Navy Yard specialized in producing rope and then anchor chain for the entire U.S. Navy. The yard's specialization in anchor chain and the establishment of the Materials Laboratory in 1916-1917 allowed the forge to develop innovations in chain production, notably the invention of Die-Lock chain by James Reid (master blacksmith of the forge), Albert M. Leahy (leadingman blacksmith), and Carlton G. Lutts (material engineer). By World War II, the forge was producing Die-Lock anchor chain in sizes ranging from 3/4" to 3-3/4" for the entire U.S. Navy. The increased output necessitated expansion of the forge with a wing on the north façade of the building and a second story addition to the south wing. Even with the end of World War II, the chain forge continued with the production of the massive 4-3/4" Die-Lock chain for the navy's Forrestal class of aircraft carriers when private companies declined the contract. Each 4-3/4" anchor chain link weighed 360 pounds and measured 2'-4 1/2" x 17 1/4". The Charlestown Navy Yard closed on July 1, 1974, but the forge retains a nearly complete inventory of the forges, hammers, presses, and other machinery necessary for the production of the Die-Lock chain, anchors, and other forged items produced at the shop.

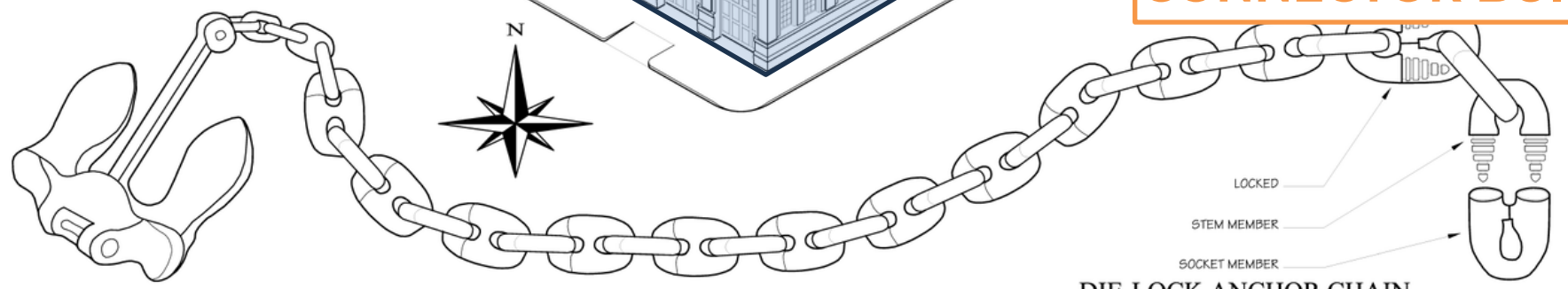
The Historic American Engineering Record (HAER) is a long-range program that documents and interprets historically significant engineering sites and structures throughout the United States. HAER is part of Heritage Documentation Programs (Richard O'Connor, Manager), a division of the National Park Service, U.S. Department of the Interior. The recording project was undertaken in 2013 in conjunction with Boston National Historical Park (Cassius Cash, Superintendent). Dana Lockett, HAER Architect, served as project leader. The field work was completed by Kirk Oldenburg (Louisiana State University) and Emily Warren (University at Buffalo), along with Paul Davidson and Daniel DeSousa (Heritage Documentation Programs). Jet Lowe, assisted by Renee Bieretz, produced the large-format photography, and Justine Christianson, HAER Historian, produced the written report.



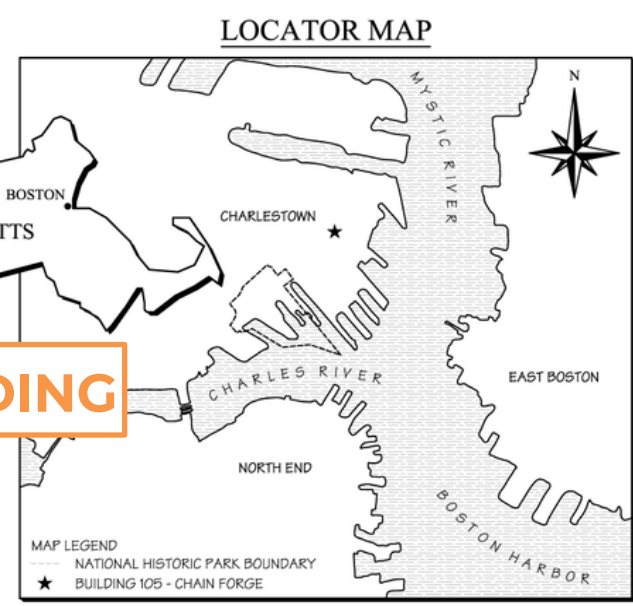
POWERHOUSE

**CHAIN FORGE
(SMITHERY)**

CONNECTOR BUILDING



DIE-LOCK ANCHOR CHAIN



Building 105 is located at latitude: 42.376258 and longitude: -71.052419. The coordinate represents the structure's southwest corner. This coordinate was obtained on August 1, 2013, using Google Earth, imagery dated April 9, 2013. Building 105 has no restriction on its release to the public.

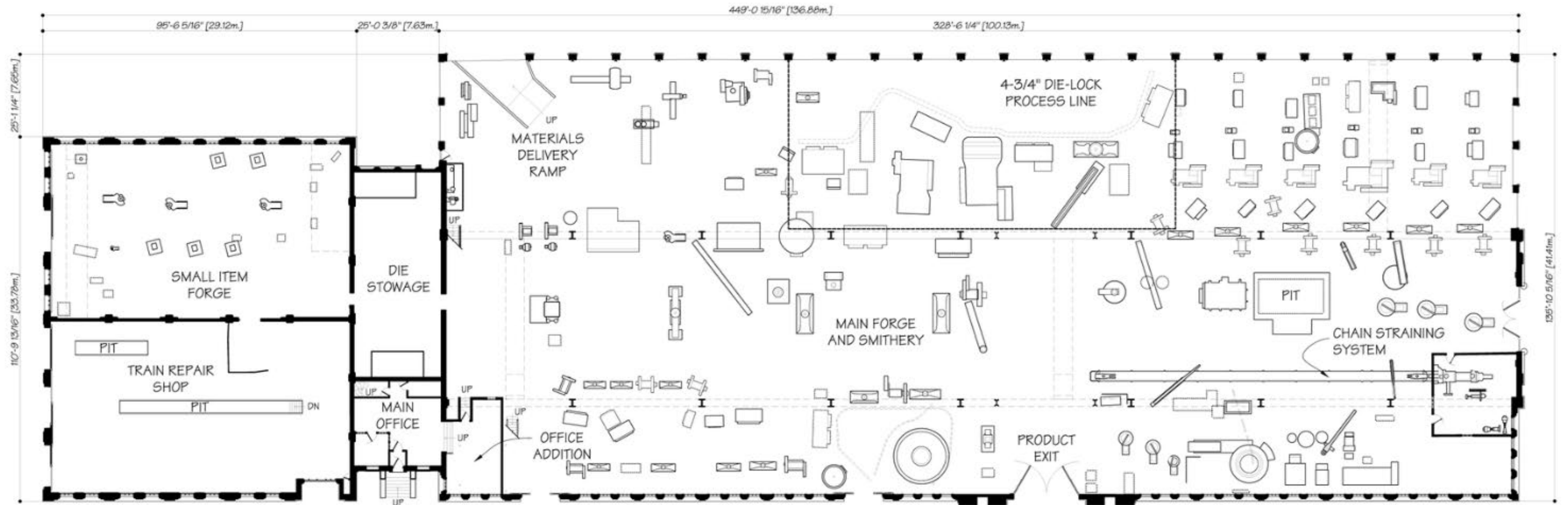
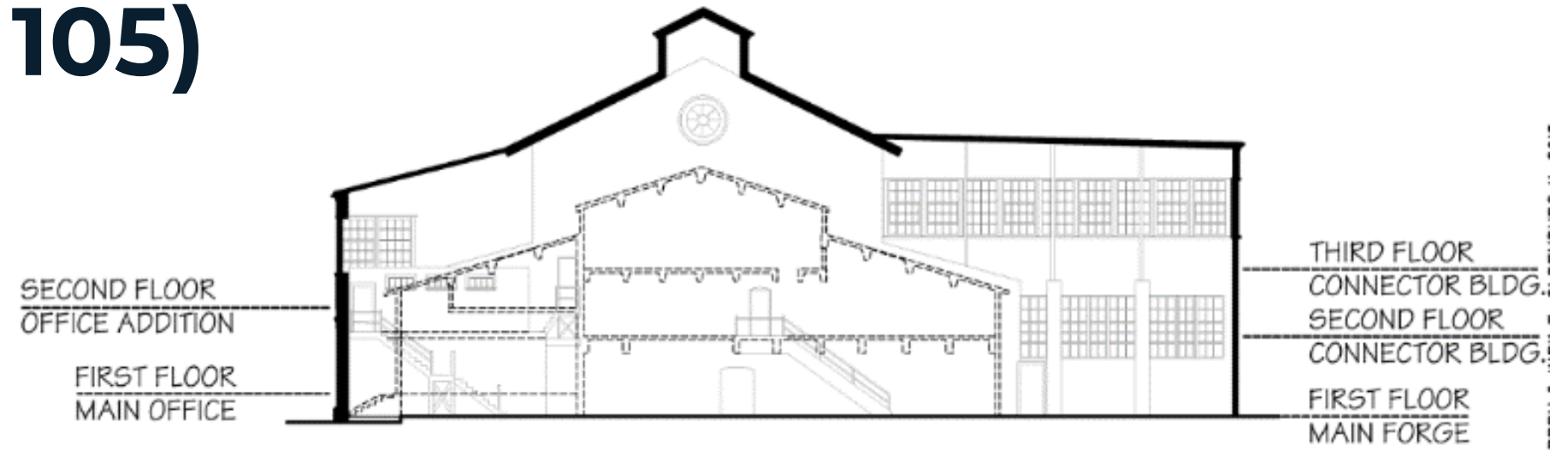
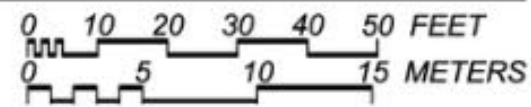
DELINEATED BY: EMILY R. WARREN & KIRK E. OLDENBURG II, 2013
 RECORDING PROJECT
 NATIONAL PARK SERVICE
 UNITED STATES DEPARTMENT OF THE INTERIOR
 CHARLESTOWN NAVY YARD
 CHARLES RIVER
 SUFFOLK COUNTY
 MASSACHUSETTS
 SHEET 1 OF 7
 HISTORIC AMERICAN ENGINEERING RECORD
 MA-90-3

CHAIN FORGE (BUILDING 105)



PLANS

SCALE: 1/16" = 1'-0"



FIRST FLOOR

NOTE: Machinery is shown in its original operational position.
See sheet 5 of 7 for machine identification.