



Cambridge Housing Authority
MODERNIZATION OF 116 NORFOLK STREET
2ND SUBMISSION: VOLUME 2 GRAPHICS

Affordable Housing Overlay Submission
August 26, 2022

HMFH ARCHITECTS



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Table of Contents

VOLUME 2 GRAPHICS

2.1	AHO Matrix Comments	2
2.2	Updated Renderings	4
2.3	Projection Study	9
2.4	Cornice Study	12
2.5	Landscape Plan	13
2.6	Perimeter Walls & Public Art	14
2.7	Fly Ash Information	16

2.1 AHO Matrix Comments

PB/CDD COMMENTS & CHA RESPONSES			
Comment #	Done?	Comment	CHA Response
Building Design			
1		Consideration could be given to maintaining a cornice with a consistent projection that matches the walls below.	PB We looked at this closely and feel that the cornice on the addition should remain as previously shown in order to relate to the existing building. Varying it with the massing would create a more contemporary look rather than speaking to the existing building. The simpler, more regular outline of the cornice helps relate the addition to the simple, regular form of the existing building. By not strictly following the path of the walls below it, the relationship between the cornice and the walls changes as one walks around the building, making the overall form more interesting.
2	X	Consideration could be given to increasing the visibility of the new entrance, and to reducing the intrusion of the addition's second floor into the entry area.	PB We have updated the design in a handful of ways to draw more attention to the entrance and reduce the impact of the overhang at the addition: <ul style="list-style-type: none"> - Increased the width of the entrance to the site on Norfolk Street and left this gap in the site wall open instead of gated in order to indicate this is the main entrance. In addition, we removed a second gate on the Norfolk Street side so after construction the only gap in the Norfolk Street wall will be the main entrance. This will draw attention to the main entrance to the site. - Added ornamental tops on masonry pillars at main entrance of site only for emphasis. - Added signage including an illuminated "116" on the masonry site wall next to the gate. - Moved location of proposed public art from adjacent to the "connector" to the exterior site wall near the entrances to the site, both making the public art more public and help drawing people's eyes to the entrances to the site. - Blended the grade of the south yard so that the landscape merges with the sole path that leads one from the entrance to the site to the entrance of the building This path is fully accessible. - Extended the canopy and added "116 NORFOLK" in blue over the canopy. - We have made the front door larger since our last submission, to announce the entrance. - Raised the height of the soffit of the projection so that it aligns with the underside of the porch. - Relocated the proposed public art from below the projection to the street and now treat the facade under the projection similarly to the area above, helping the projection blend into the rest of the addition.
3	X	Consideration could be given to raising the grade of the lawn adjoining the path to blend the path's slope into the general slope of the lawn as the path ascends to first floor level and providing a more direct path to the entry from Suffolk.	CDD We agree that the slope of the path should be blended into the lawn. The landscape plan blends the path's slope into the general slope so that both the grading of the south yard and path lead people directly to the new entrance. This is the most direct path that does not require a ramp with handrails.
4	X	To give the entrance more emphasis, consideration could be given to a more inventive or playful treatment of the lobby's glazed facades: revising the arrangement of mullions, glazed panels, and solid panels to treat the glazed link as a more significant element in its own right.	CDD We agree that it is important to emphasize the entrance and advance the design of the connection. We have extended the glazing to the existing and new building in order to increase the amount of glazing and make the scale more residential. The curtain wall at the connector has been updated to include a band of metal panels at each floor level alternating with bands of glass. This helps reduce the scale of the curtain wall assembly because it no longer looks so continuous from the ground up to the roof. The depth of some of the curtain wall mullions has been adjusted to emphasize the horizontality of these bands. These changes help the connector relate to the adjacent projection. The horizontal lines of the connector relate to the existing, addition, and entrance. The glass frit design at the entrance has also been updated to allow transparency while providing some privacy for residents picking up letters and packages in the mailroom.
5	X	To reduce the sense of crowding created by the second and third floor projecting element on the west side of the addition, consideration could be given to raising the soffit on its underside to correspond with that of the existing south porch.	CDD We have raised the soffit so that the underside of the soffit aligns with the underside of the porch.
6	X	Consideration could be given to providing a larger canopy above the entry door, and to aligning it with the roof of the existing south porch.	CDD We are expanding the canopy at the entrance to 6' wide by 4' deep and adding the address ("116 Norfolk") in a bright blue above the canopy to draw further attention to the entrance. We explored aligning the canopy with the roof of the existing south porch, however, we felt that crowded the entrance and was too high above the door to protect from rain and serve as a practical canopy.
7		Consideration could be given to reducing the intrusion of the addition's second floor into the entry area. Another suggestion for the entry area was to pull back a portion of units 217 and 317 to create a three-window projection that provides additional visual space	PB We considered this, however, shrinking the projection to three windows, removes 35 square feet from units 217 and 317, reducing them from 370 SF to 335 SF, and making them difficult to furnish. In addition, this would also make units 217 and 317 darker because the second window in the unit (closest to the connector) would be cast in shadow by the bay.
8	X	The [main entrance] door seems small, more of a side door to the building than the main entrance.	CDD We have enlarged the front door and canopy at the main entrance.
9		Consideration could be given to adding a porch on the new entry that relates to the design of the existing porch, thereby signaling the location of the new building entry	PB There is not enough space for a new porch along the addition or at the entrance. We feel a new porch would cramp the entrance by blocking the view to the entrance from Suffolk Street. We also cannot raise the height of the entry given the challenges of connecting the floors of the two buildings while meeting the provision in the AHO that doesn't allow the first floor to be over four feet from the ground (Section 11.207.7.4). Without raising the entry height, we cannot add a porch directly next to the entry without crowding it.
10	X	Consideration could be given to using taller windows, or to giving the blank panels above them a three-dimensional relief treatment.	CDD The proposed windows are large at 7'-1" tall x 3'-2" wide on the first floor, 6'-7" x 3'-2" on the second floor, 4'-11" x 3'-2" on the third floor. (Like on the existing building, the windows get smaller on the second and third floors.) On the first and second floors we have decreased the size of the frame above the windows to improve window to frame proportions. We have also added a reveal detail on the frame above the windows on the first floor. Per 11.207.7.3, at least 20% of the area of building facades facing a public street or a public open space shall consist of clear glass windows. Public-facing facades on the proposed design have a window-wall ration of 22%. By comparison, the window-wall ratio on the existing building is 18%.
Materials			
11	X	Board members requested additional product information on the proposed windows with fly ash frames to ensure they are appropriate for the local climate.	PB We are using TruExterior Siding & Trim, a fly ash product, for the exterior trim at 116 Norfolk, which will be above the brick base, around the windows, the underside of the projection, and at the cornice. Fly ash is an electric generation power plant byproduct that forms cement when combined with water. The product is endorsed by the U.S. Green Building Council (USGBC) for use in construction materials and contains a minimum of 70% recycled content.

PB/CDD COMMENTS & CHA RESPONSES			
Comment #	Done?	Comment	CHA Response
Accessibility			
12	X	Clarification on whether a handrail will be required for the proposed entrance walkway.	PB A handrail will not be required for the proposed entrance walkway due to the gradual slope at less than 1:20 feet.
13	X	Look at path from pick up/drop off space from the street to the site to the entrance. Is it accessible given width of the sidewalks, tree placement, etc?	PB We agree that accessibility is key in designing the entrance route, from the pick-up/drop-off space to the front door. The overall width of the sidewalk is approximately 7'-5", with a 4'-1" width of the sidewalk between the street tree well and the site wall. 521 CMR 22.2 states, "Width of walkways shall not be less than 48", excluding curb stones. An unobstructed path of travel shall be provided which is at least 36" clear, excluding curb stones."Therefore, this area of the sidewalk is accessible and MAAB-compliant.
Parking, Loading and Bike Parking			
14	X	Additional information about the planned management of motor vehicle parking for non-resident building visitors, such as full-time staff, service providers, and nurses	PB Full-time staff, service providers, and nurses will be eligible to park at the Pisani Center, a CHA property less than a half mile from 116 Norfolk. CHA's Operations department will issue Pisani Center parking passes for the Eliot Community Human Services service coordinators as well as CHA staff. There is ample parking available at the Pisani Center during business hours. Finally, people providing services at Cambridge residences qualify for Business Permits that cost \$50 a year for nonprofits and \$200 a year for for-profit organizations. A service provider with this Business Permit can park for 2 hours in permit-only spaces during standard business hours when there is more street parking available.
15	X	Consideration for providing expanded TDM measures	PB People with disabilities and people over 65 are eligible for a 50% discounted MBTA pass. Our service partner, Eliot Community Human Services, is experienced in helping clients apply for this benefit. CHA will pay for residents' choice of 50% discounted MBTA passes for 6 months or a free BlueBikes subscription for 1 year, and Eliot Community Human Services will help residents apply for an ongoing 50% discounted MBTA pass to ensure the MBTA benefit doesn't lapse after 6 months.
16		Is renting spaces possible from the residential lot across the street?	PB CHA reached out to a nearby church, St. Bartholomew's, and were told the church does not have any spaces available to rent as they already share parking with the City. A second church, St. Mary's, did not respond to requests for information on potential parking space rentals. CHA was informed by First Cambridge Realty, the owners of the apartment building across Norfolk Street from 116 Norfolk, that they are not able to rent out parking after 6 PM. As a result, we are not proposing to provide any rental parking spaces to residents. We expect 116 Norfolk to add roughly 5 cars to the neighborhood. Currently, only 3 residents have cars.
Site Design			
17	X	The deteriorated existing wooden fence atop the south brick wall is proposed to be removed. To make the benches in the south lawn that back onto the south wall (which is approximately four feet tall in that location) more inviting to use, consideration could be given to replacing the wooden fence with a lattice that vines could grow on.	CDD Residents and neighbors expressed interest in a visual connection to the 116 Norfolk entrance from the street, so we are not introducing a lattice for vines. Instead, we are proposing a metal picket fence to site atop the masonry wall to allow more light and visibility. This will allow the entrance to be visible from Suffolk.
18		To enhance the north lawn's presence as a useful open space for residents, consideration could be given to creating steps down from the terrace to the site's north yard. The perimeter wall and gate may be sufficient to obviate potential security concerns about creating a second door to the lobby.	CDD We considered this, however, decided against it. Having stairs up onto the terrace but no ramp would create a completely different path from yard to terrace for people with mobility aides, which would not be equitable or accessible. Furthermore, we do not want to create another entry/exit on the terrace for security reasons. We want the terrace to be used, but there are units right next to the terrace, so we do not want it to be an entry/exit point. We are, however, adding plantings in front of the terrace railing to help soften the transition between yard and the terrace.
19		The addition's south setback is atypically large compared to other buildings on Suffolk Street. Consideration could be given to reducing it to the zone minimum.	CDD This larger south setback increases the amount of evening light that will reach the neighbor's house on Suffolk and was added to the project as a result of feedback from neighbors. This setback also gives a larger space for a tree to shade the public way on Suffolk. As the City noted, there is not much room on Suffolk for street trees, so having a setback here also gives us a place we can put a tree bordering Suffolk.
20	X	No loading bays are shown on the site plans, but the Zoning dimensional form notes 1 loading bay. A loading bay is not specifically required and the dimensional form should reflect the loading bay	CDD Thank you for bringing this error to our attention. We have corrected this in the latest dimensional forms.
Sustainability			
21	X	To address embodied carbon, staff suggests that the design team use LEED v.4 or v.4.1 materials and resources credit options and framework and procuring products/materials with a third-party verified environmental product declaration (EPDs).	CDD We have a sustainable design consultant, New Ecology Inc., who is evaluating the project to ensure compliance with Enterprise Green Communities (EGC) standards, the green building criteria that we are pursuing for 116 Norfolk. These standards are similar to LEED which promotes energy efficiency and environmental sustainability. EGC however, is designed specifically for the affordable housing sector by taking into consideration cost-effectiveness, and is the industry standard for affordable housing developments. While certification demands compliance with 40 points considered optional by EGC, CHA is committed to going far beyond this minimum by seeking a total of 96 optional points on top of EGC's mandatory requirements. EGC points regarding embodied carbon reduction are optional, and promote steel, concrete, and insulation with a low global warming potential (GWP), roofing and paving with a high solar reflective index (SRI), and FSC or salvaged wood. We anticipate that the materials purchased for this revitalization will meet EGC criteria. Our materials selection includes the following: 1. Reuse of the existing 4.5 story building 2. Wood structural framing being used in lieu of steel for most of the new building 3. FSC wood for most specified wood products in addition to the modest amount of existing finished wood being reused in the new building. 4. Mineral wool or fiberglass insulation for a large proportion of the building's interior and exterior, both of which have a high percentage of recycled materials and lower GWP than spray foam insulations. 5. New roofing specified as thermoplastic polyolefin (TPO), which is recyclable, and not polyvinyl chloride (PVC). It will also have a high SRI. 6. Concrete mixes with low embodied carbon 7. Concrete masonry that embeds carbon in the curing process 8. Paving which is reflective due to its light color throughout the site with the exception of the brick sidewalks.
22	X	Please show solar panels on next renderings.	PB We have added solar panels on the renderings. They are visible in the aerial renderings, but are not visible in the street-level renderings because their slope has been designed to not be apparent from below.
23	X	Consideration could be given to using a high-SRI roof system, and to providing rooftop PV panels or green roof as part of the initial construction	CDD We will have photovoltaic rooftop panels installed during construction. We plan to design and bid the contract for these solar panels in early 2024.

2.2 Updated Renderings



AERIAL
View without trees

Solar panels

Updated Connector and perimeter wall design to emphasize entrance.

See Sections 2.3 & 2.6 (pages 9-11 & 14-15) for more details.

Slope of path to front entrance is blended into the grading of the south yard landscape.

See Section 2.5 (page 13) for more details.

Studied reducing projection to 3-bay design, but kept 4-bay design given interior unit layout.

Refined west elevation of addition to blend façade below soffit and moved public art to perimeter wall.

See Sections 2.3 & 2.6 (pages 9-11 & 14-15) for more details.

View with trees



NORFOLK ST. & SUFFOLK ST.

View without trees



Color of new building changed to "Hudson Bay Blue," which is less gray and more blue.

Soffit height of projection and column height of existing porch are aligned in order to create one sightline and make the building entrance more spacious. See Section 2.3 (pages 9-11) for more details.

Refined west elevation of addition to blend facade above and below soffit.

Added metal picket fence on existing Suffolk St. perimeter wall in order to balance a sense of privacy and transparency.

View with trees



Widened primary entrance along Norfolk Street and eliminated existing small gate. Access into south yard will be open rather than gated to provide ease of entry for all residents, with and without mobility aids.

Masonry pillars will have ornamental tops for added emphasis.

Illuminated "116" signage to further emphasize main site entrance.

See Section 2.6 (page 15) for more details.

Moved public art to perimeter walls near site entrances. Note: public art in rendering is a stock image. Please refer to Section 2.6 (page 14) for mosaic precedents.



Example artwork, David Fichter

SUFFOLK ST

View without trees



Refined detail of window frames.

- 1st floor: decreased size of frame above window to improve window and frame proportion; added reveal detail.
- 2nd floor: decreased size of frame above window to improve window and frame proportion.

Windows dimensions are designed to relate to the existing building. They are largest on the bottom floor and become smaller on higher floors.

- 1st floor: 7'-1" tall x 3'-2" wide
- 2nd floor: 6'-7" tall x 3'-2" wide
- 3rd floor: 4'-11" tall x 3'-2" wide

View with trees



Mosaic wrapping around corner of perimeter wall at site entrance on Suffolk Street. Note: public art in rendering is a stock image. Please refer to Section 2.6 (page 14) for mosaic precedents.

Added metal picket fence on existing Suffolk St. perimeter wall in order to balance a sense of privacy and transparency.

WORCESTER ST

View without trees



We considered changes to the cornice design, but kept as is. We feel it creates a simpler, more regular outline to match the form of the existing building while providing additional interest to the new building through the detailing at the underside of the cornice.

See Section 2.4 (pages 12) for details.

Window-to-wall ratio is 22% on the new building, versus 18% on the existing building.

View with trees



Public art added on perimeter wall as you approach site from east. Note: public art in rendering is a stock image. Please refer to Section 2.6 (page 14) for mosaic precedents.

NORTH YARD TERRACE

View without trees

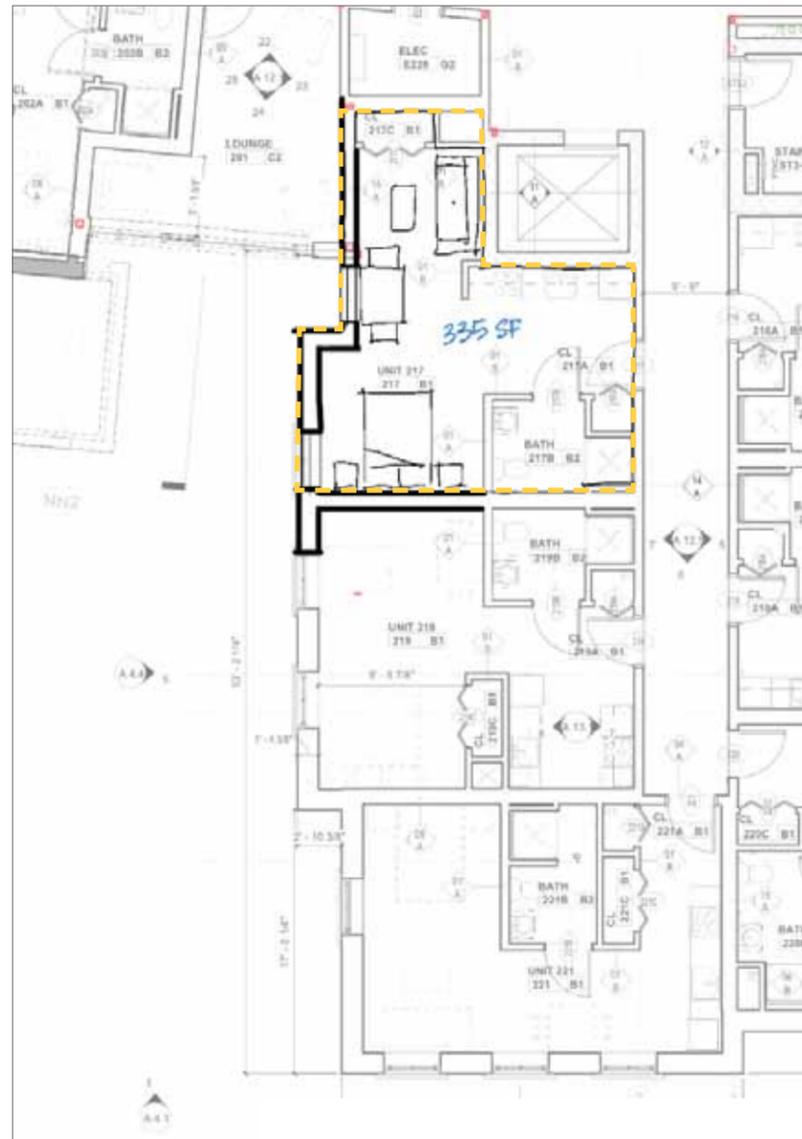


- Expanded glazing in the Connector so that it reads as bands of metal panels alternating with bands of glass at each floor.
- Horizontality of the Connector helps link the existing and new buildings.
- Reduced scale of curtain wall assembly so that it no longer reads as a continuous massing from bottom to top.
- Plantings in front of terrace railing help soften the transition between the yard and the terrace.

View with trees



2.3 Projection Study



3-WINDOW PROJECTION

Units 217 and 317 are reduced from 370 sqft to 335 sqft become difficult to furnish, especially the placement of a dining table.

The 3-bay design reduces the sense of crowding at the Connector, but it creates an alcove that will often be in shadow and reduces natural light to units 217 and 317 which only have two windows.



EXTEND PROJECTION INTO GROUND

Appears more seamless from Norfolk Street.

Heightens sense of crowding at entrance as seen from Suffolk Street.



Updated Design



Previous Design



4-WINDOW PROJECTION & CONNECTOR

Raised the bottom of the projection/soffit height to align with the top of porch columns to create one sightline and reduce the sense of crowding at the main entrance.

Enlarged door (6' wide) and canopy (6' wide x 4' deep).

Added signage on canopy to emphasize entrance.

Increased glazing on Connector so it reads as bands of metal panels alternating with bands of glass at each floor, and reduces scale of curtain wall assembly.

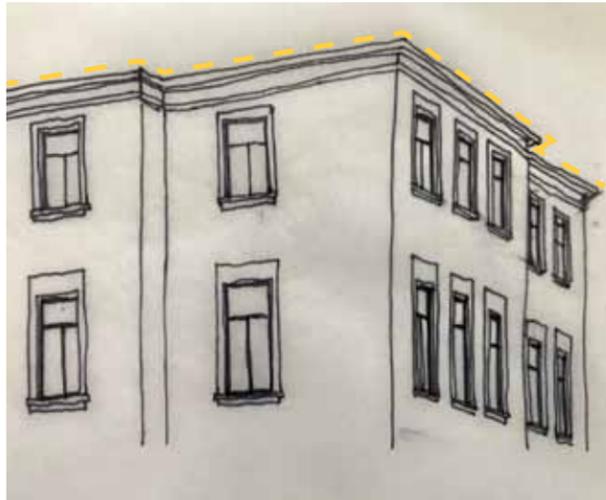
Maintained horizontality of Connector to link the existing and new buildings.

Updated glass frit design at entrance to allow transparency while providing some privacy for residents picking up letters and packages in the mailroom.

Note: Plantings at entry and in front of porch are removed to clarify building design.

2.4 Cornice Study

Cornice relationship to new building massing



Sketch study



Cornice as originally designed

Cornice relationship between new and existing building



Sketch study



Cornice as originally designed

CORNICE

As recommended by the Planning Board, we studied having the cornice line follow the massing below. After review, we propose to maintain the cornice as originally designed. The cornice takes the path that it does in order to give a simpler, more regular, outline to the addition. In this way, it helps relate the addition to the simple, regular form of the existing building. In addition, by not strictly following the path of the walls below it, the relationship between the cornice and the walls changes as you walk around the building, making its overall form more interesting.

2.5 Landscape Plan



Norfolk Street main entrance
(widened double-width, no gate)

Pick-up / Drop-off: Route to front entrance via sloped path is fully accessible.

- Overall sidewalk width is approximately 7'-5", with a 4'-1" width of the sidewalk between the street tree well and the site wall. This complies with the minimum 48" width required for accessibility.

Plantings in front of terrace railing help soften the transition between the yard and the terrace.

Slope of path to front entrance is blended into the grading of the south yard landscape.

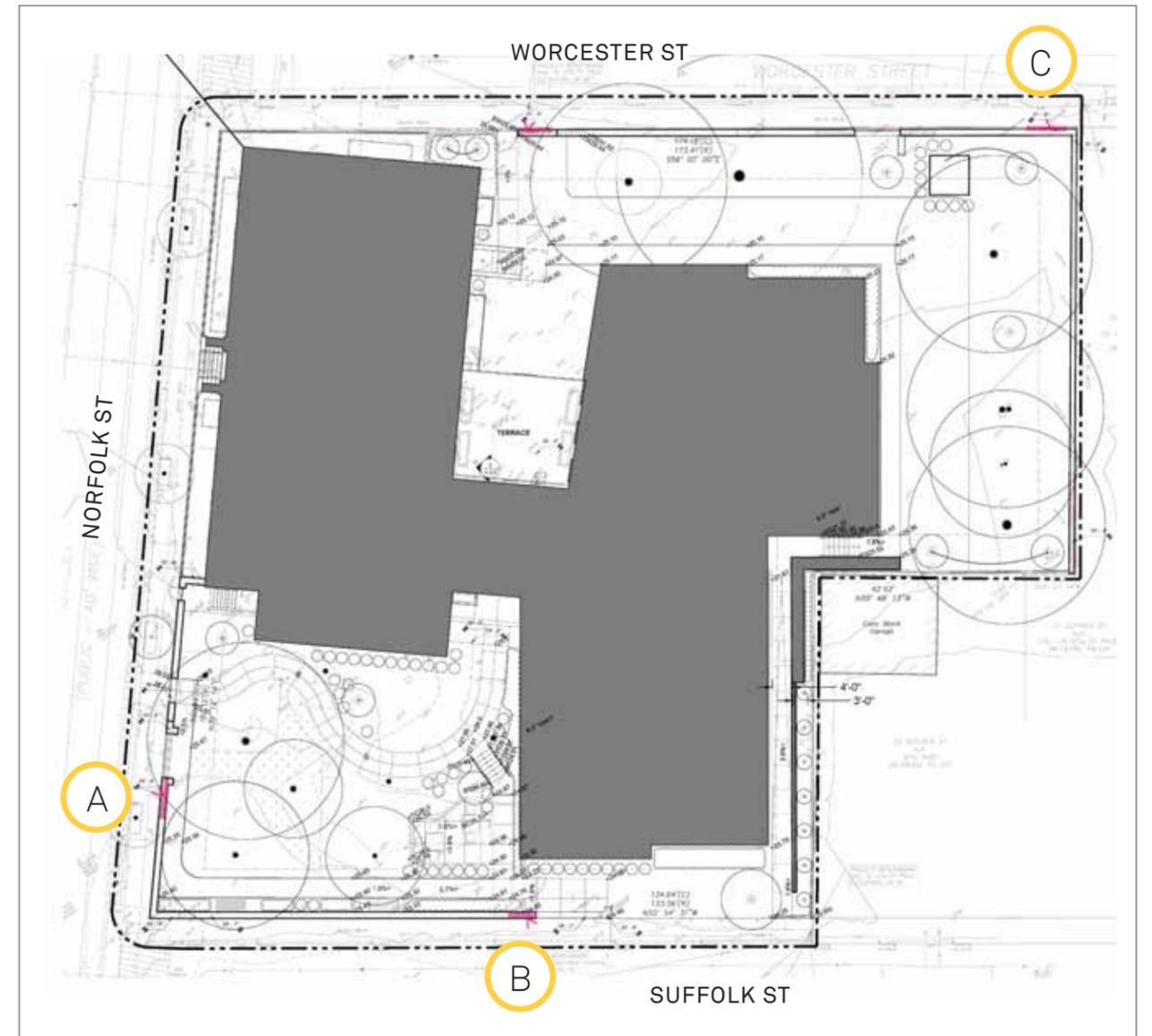
- Most direct path from the street to front entrance.
- Less than 1:20 slope, no ramp or handrails required.

One tree, which our arborist noted as "low vigor" and in "fair / poor" condition that had old storm damage, will be removed and replaced for construction access.



2.6 Perimeter Walls & Public Art

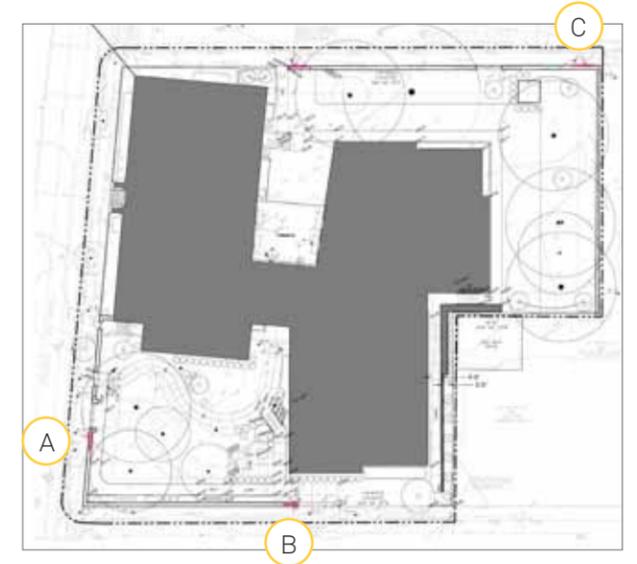
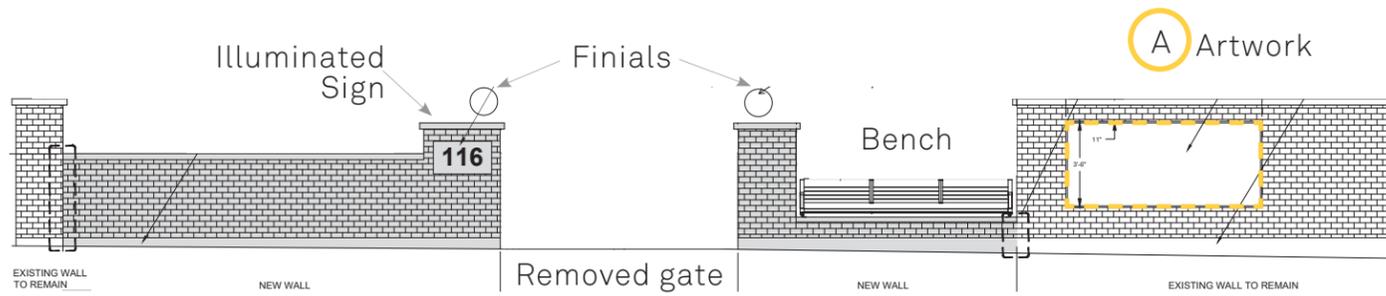
EXAMPLE ARTWORK



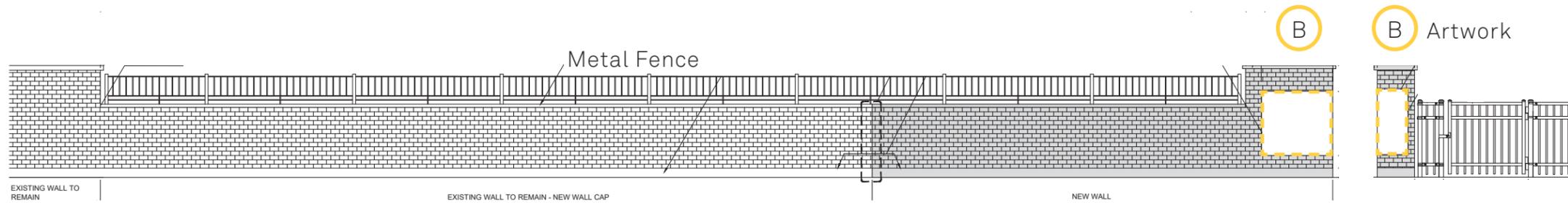
PUBLIC ART LOCATIONS

- A: Next to primary site entrance on Norfolk Street
- B: Wrapping the corner of the perimeter wall, by secondary entrance on Suffolk Street
- C: At northeast corner on Worcester Street

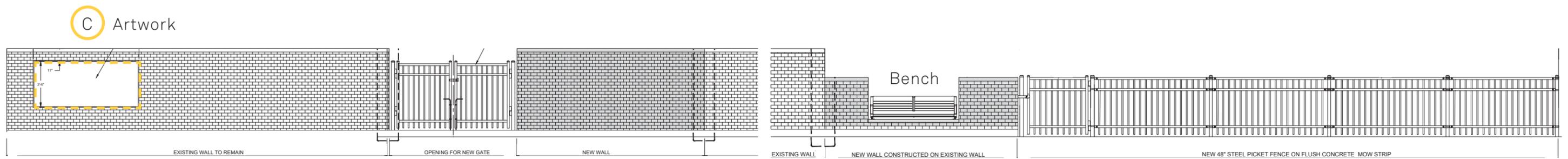
NORFOLK STREET



SUFFOLK STREET



WORCESTER STREET



2.7 Fly Ash Information



Fly ash locations

We are using TruExterior Siding & Trim, a fly ash product, for the exterior trim at 116 Norfolk, which will be above the brick base, around the windows, the underside of the projection, and at the cornice. Fly ash is an electric generation power plant byproduct that forms cement when combined with water. The product is endorsed by the U.S. Green Building Council (USGBC) for use in construction materials and contains a minimum of 70% recycled content.

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Siding & Trim

SUSTAINABILITY LOOKS BEAUTIFUL

TruExterior[®] Siding & Trim products are a sustainable, long-lasting, durable siding solution that offers the look of wood for undeniable curb appeal. Our products are manufactured using renewable energy credits and alternative energy sources. In addition, all wastewater is treated in state-of-the-art water management systems. What's good for the earth is good for our business.

- Sustainable properties of TruExterior products are a result of proprietary polymer chemistry and highly refined, recovered coal combustion products (fly ash), which are endorsed by the U.S. Green Building Council (USGBC) for use in construction materials.
- Contains a minimum of 70% recycled content—verified by SCS Global Services.
- Produced in a state-of-the-art LEED Silver certified facility and may qualify for LEED points.

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TRIM PRODUCT DATA SHEET

- Certificates and Listings**
 - a. Cal Fire (WUI): CA SFM 12-7A-1 Listing No. 8140-2134-0101
 - b. Pre-consumer Recycled Content: SCS Global Certification—Minimum 70%
- Properties**
 - a. Density: ASTM C 1185, 40-50 lb/ft³
 - b. Flexural Strength: ASTM C 1185, > 1600 psi
 - c. Coefficient of Linear Expansion: ASTM D 6341, < 0.000014 in / (in*oF)
 - d. Impact Resistance: ASTM D 6110, > 50 in.
- Performance**
 - a. Fungi Rot: AWPA E10, Brown Rot-Negligible Loss, White Rot-Negligible Loss
 - b. Termite Resistance: AWPA E1, > 9.0
 - c. Water Absorption: ASTM D 570, < 1.5%
 - d. Flame Spread: ASTM E 84, < 200
- Manufacturing Tolerances**
 - a. Width: ± 1/16 in.
 - b. Thickness: ± 1/16 in.
 - c. Length: +2.0 / -0.0 in.

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Product information

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