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## CITY OF CAMBRIDGE

Community Development Department

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To: Planning Board

From: CDD Staff

Date: June 29, 2022

Re: Affordable Housing Overlay Design Consultation **AHO-5, 116 Norfolk Street**

### Overview

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Submission Type:	Affordable Housing Overlay (AHO) Advisory Design Review
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Applicant:	Cambridge Housing Authority (CHA) and 116 Norfolk Apartments LLC
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Zoning District(s):	Residence C-1
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Proposal Summary:	Rehabilitation, conversion, and expansion of an existing building with 38 single-room occupancy (SRO) apartments into 62 affordable studio apartments. The total Gross Floor Area (GFA) of the development is 43,100 square feet. The rehabilitated existing building height will remain at approximately 54 feet and the proposed addition height will be approximately 45 feet. The development will include no off-street parking spaces, 36 long-term bicycle parking spaces, and 4 short-term bicycle parking spaces. The building proposes additional space for resident amenities, as well as office space for CHA administrative staff and resident services program staff. It will also include renovations to an existing courtyard, open space, outdoor porch, and perimeter brick wall.
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Planning Board	Review and comment on conformance with AHO
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Action:	Development Standards, City Development Guidelines for the proposal area, Design Guidelines for AHO, and Citywide Urban Design Objectives.
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Memo Contents:	CDD Zoning Report & Urban Design Report
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Other Staff Reports:	Department of Public Works (DPW), in separate document.
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### 11.207.5 – 11.207.7 AHO Development Standards

Development Standard	Requirements for AHO Project in Residence C-1
Building Height & Stories Above Grade	<ul style="list-style-type: none"> <li>• 4 Stories Above Grade or 45 feet for new construction.</li> <li>• Existing building height is allowed for preservation/reuse.</li> </ul>
Density	<ul style="list-style-type: none"> <li>• Maximum FAR of 2.00, except in the case of a preservation/reuse project.</li> <li>• There is no minimum lot area per dwelling unit for an AHO Development.</li> </ul>
Yard Setbacks	<ul style="list-style-type: none"> <li>• For new construction: 10' Front Yard, 7.5' Side Yard, and 20' Rear Yard.</li> <li>• Front yards may be reduced to the average of the four (4) nearest pre-existing principal buildings on the same side of the street.</li> <li>• Existing building setbacks are allowed for preservation/reuse.</li> </ul>
Open Space	<ul style="list-style-type: none"> <li>• Generally 30% of lot area.</li> <li>• Existing open space is allowed for preservation/reuse; minor reductions are permitted in order to adapt building to meet accessibility standards.</li> </ul>
Existing Buildings	<ul style="list-style-type: none"> <li>• The required dimensional characteristics of the existing building and site shall be those existing at the time of conversion to an AHO Development.</li> <li>• Certain modifications may be permitted as-of-right to an existing building for an AHO Development.</li> </ul>
Parking and Bicycle Parking	<ul style="list-style-type: none"> <li>• There is no minimum off-street parking required for an AHO Development.</li> <li>• For AHO Developments of twenty (20) or more units, if less than 0.4 spaces per dwelling unit are provided, specific Transportation Demand Management (TDM) measures are required, including complimentary annual Bluebikes memberships or 50% discounted MBTA passes for six months, and providing transit information to each household within the AHO Development.</li> <li>• Bicycle parking is generally required per Article 6.100; in an existing building, bicycle parking spaces meeting zoning standards are not required but are encouraged to be provided to the extent practical given the limitations of the existing structure.</li> </ul>
Site Design and Arrangement	<ul style="list-style-type: none"> <li>• Front yards may be landscaped or hardscaped but cannot be used for off-street parking.</li> </ul>

Development Standard	Requirements for AHO Project in Residence C-1
	<ul style="list-style-type: none"> <li>• Pedestrian entrances shall be visible from the street.</li> <li>• Buildings with front facades in excess of 250' in length shall provide forecourts to break up massing.</li> <li>• Existing buildings may maintain existing conditions; alterations are allowed if they do not increase nonconformance with standards.</li> </ul>
Building Facades	<ul style="list-style-type: none"> <li>• Building facades facing public streets shall have a minimum percentage of glazing.</li> <li>• Building facades shall incorporate projections/recesses at regular intervals to promote visual interest.</li> <li>• Facades of ground stories shall have expanses of no more than 25' with no windows or pedestrian entryways.</li> <li>• Existing buildings may maintain existing conditions; alterations are allowed if they do not increase nonconformance with standards.</li> </ul>
Ground Stories and Below Grade	<ul style="list-style-type: none"> <li>• Ground stories with non-residential uses must have a height of at least 15' and a depth of 35'.</li> <li>• Existing buildings may maintain existing conditions; alterations are allowed if they do not increase nonconformance with standards.</li> </ul>
Mechanical Equipment, Refuse Storage and Loading Areas	<ul style="list-style-type: none"> <li>• New mechanical equipment shall be generally screened from view. Rooftop mechanical equipment must be set back from the roof line equal to its height.</li> </ul>
Environmental Design Standards	<ul style="list-style-type: none"> <li>• Green Building Requirements as set forth in Article 22 shall generally apply to AHO Developments.</li> <li>• AHO Developments are exempt from the Green Roofs Ordinance.</li> </ul>

## AHO Design Guidelines

Site Design Objectives	
Response to Context	<ul style="list-style-type: none"> <li>• Design site layouts to harmonize with the neighborhood context.</li> </ul>
Open Space & Landscape Design	<ul style="list-style-type: none"> <li>• Design open space to enhance the lives of residents and the broader community by offering aesthetic and environmental benefits.</li> <li>• Offer useful amenities to residents, provide opportunities to minimize the impact of new development on neighbors' privacy and quality of life, and contribute to the beauty of the city.</li> </ul>
Circulation	<ul style="list-style-type: none"> <li>• Promote non-motorized mobility by prioritizing pedestrian-friendly and bike-accessible site design.</li> </ul>
Parking	<ul style="list-style-type: none"> <li>• Minimize the impact of parking and driveway.</li> </ul>

Utilities	<ul style="list-style-type: none"> <li>Minimize the visual, acoustical, and environmental impacts of essential utilities and services.</li> </ul>
Outdoor Lighting	<ul style="list-style-type: none"> <li>Provide lighting for safety and functionality while minimizing energy use, light pollution, and other negative impacts.</li> </ul>
Public Art	<ul style="list-style-type: none"> <li>Enrich the visual environment and strengthen the sense of place by incorporating art.</li> </ul>
<b>Building Design Objectives</b>	
Massing	<ul style="list-style-type: none"> <li>Configure massing for compatibility with the prevailing or desired pattern of neighboring buildings and open spaces. In established neighborhoods, relate to the existing pattern of streets and other open spaces, and prioritize compatibility with existing buildings. In evolving areas, configure new developments to help realize the City's vision for urban form.</li> </ul>
Facades	<ul style="list-style-type: none"> <li>Design facades to enhance and enliven the public realm. In established areas, emphasize compatibility and reinforce sense of place. In evolving residential and commercial districts, contribute to the transformation of urban form by setting precedents for design excellence.</li> <li>Where appropriate, incorporate ground level retail spaces and common areas to foster a lively enliven the urban environment.</li> <li>Provide daylight to interior spaces, avoid excessive energy use, and protect the privacy of residents of neighboring buildings.</li> <li>Design facades to relate to the residential scales and patterns of Cambridge's diverse and historic neighborhoods.</li> <li>Design street facades to offer a sense of civic presence and human scale, and visual interest as appropriate to their role in defining public space.</li> </ul>
Architectural Details, Materials, Color, and Finishes	<ul style="list-style-type: none"> <li>Use materials that are warm, inviting, and compatible with surrounding existing buildings and the neighborhood context. Develop building facades of high-quality, durable materials and with colors, finishes, and textures appropriate to building contexts.</li> </ul>
Building Interiors	<ul style="list-style-type: none"> <li>Affordable housing, like all housing, should serve the needs of its residents while contributing to the residential character and sense of neighborhood within the area at large.</li> </ul>
<b>Sustainable Design Objective</b>	
Site and Building Design	<ul style="list-style-type: none"> <li>Achieve resilience measures to the maximum extent possible, including energy efficiency and measures to promote the health and wellness of residents.</li> </ul>

The complete set of Design Guidelines for Affordable Housing (28 July 2020) can be found at:

[https://www.cambridgema.gov/-/media/Files/CDD/Housing/Overlay/zngamend\\_aho\\_designguidelines\\_20200728v2.pdf](https://www.cambridgema.gov/-/media/Files/CDD/Housing/Overlay/zngamend_aho_designguidelines_20200728v2.pdf)

### 19.30 Citywide Urban Design Objectives [SUMMARIZED]

Objective	Indicators
New projects should be responsive to the existing or anticipated pattern of development.	<ul style="list-style-type: none"> <li>• Transition to lower-scale neighborhoods</li> <li>• Consistency with established streetscape</li> <li>• Compatibility with adjacent uses</li> <li>• Consideration of nearby historic buildings</li> </ul>
Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.	<ul style="list-style-type: none"> <li>• Inhabited ground floor spaces</li> <li>• Discouraged ground-floor parking</li> <li>• Windows on ground floor</li> <li>• Orienting entries to pedestrian pathways</li> <li>• Safe and convenient bicycle and pedestrian access</li> </ul>
The building and site design should mitigate adverse environmental impacts of a development upon its neighbors.	<ul style="list-style-type: none"> <li>• Location/impact of mechanical equipment</li> <li>• Location/impact of loading and trash handling</li> <li>• Stormwater management</li> <li>• Shadow impacts</li> <li>• Retaining walls, if provided</li> <li>• Building scale and wall treatment</li> <li>• Outdoor lighting</li> <li>• Tree protection (requires plan approved by City Arborist)</li> </ul>
Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.	<ul style="list-style-type: none"> <li>• Water-conserving plumbing, stormwater management</li> <li>• Capacity/condition of water and wastewater service</li> <li>• Efficient design (LEED standards)</li> </ul>
New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.	<ul style="list-style-type: none"> <li>• Institutional use focused on existing campuses</li> <li>• Mixed-use development (including retail) encouraged where allowed</li> <li>• Preservation of historic structures and environment</li> <li>• Provision of space for start-up companies, manufacturing activities</li> </ul>
Expansion of the inventory of housing in the city is encouraged.	<ul style="list-style-type: none"> <li>• Housing as a component of large, multi-building development</li> <li>• Affordable units exceeding zoning requirements, targeting units for middle-income families</li> </ul>
Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.	<ul style="list-style-type: none"> <li>• Publicly beneficial open space provided in large-parcel commercial development</li> <li>• Enhance/expand existing open space, complement existing pedestrian/bicycle networks</li> <li>• Provide wider range of activities</li> </ul>

## **Zoning & Development Staff Report**

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### **Affordable Housing Overlay (AHO) Zoning**

This development is proposed to be consistent with the AHO standards set forth in Section 11.207 of the Zoning Ordinance. The AHO provides for an as-of-right approval pathway, meaning that if it complies with the requirements in Section 11.207, including requirements for all units to have permanent affordability restrictions, it does not need to obtain a special permit or other discretionary zoning approval. The AHO provides some relaxed zoning requirements and additional flexibility compared to the base zoning, as summarized in the introductory section of this memo.

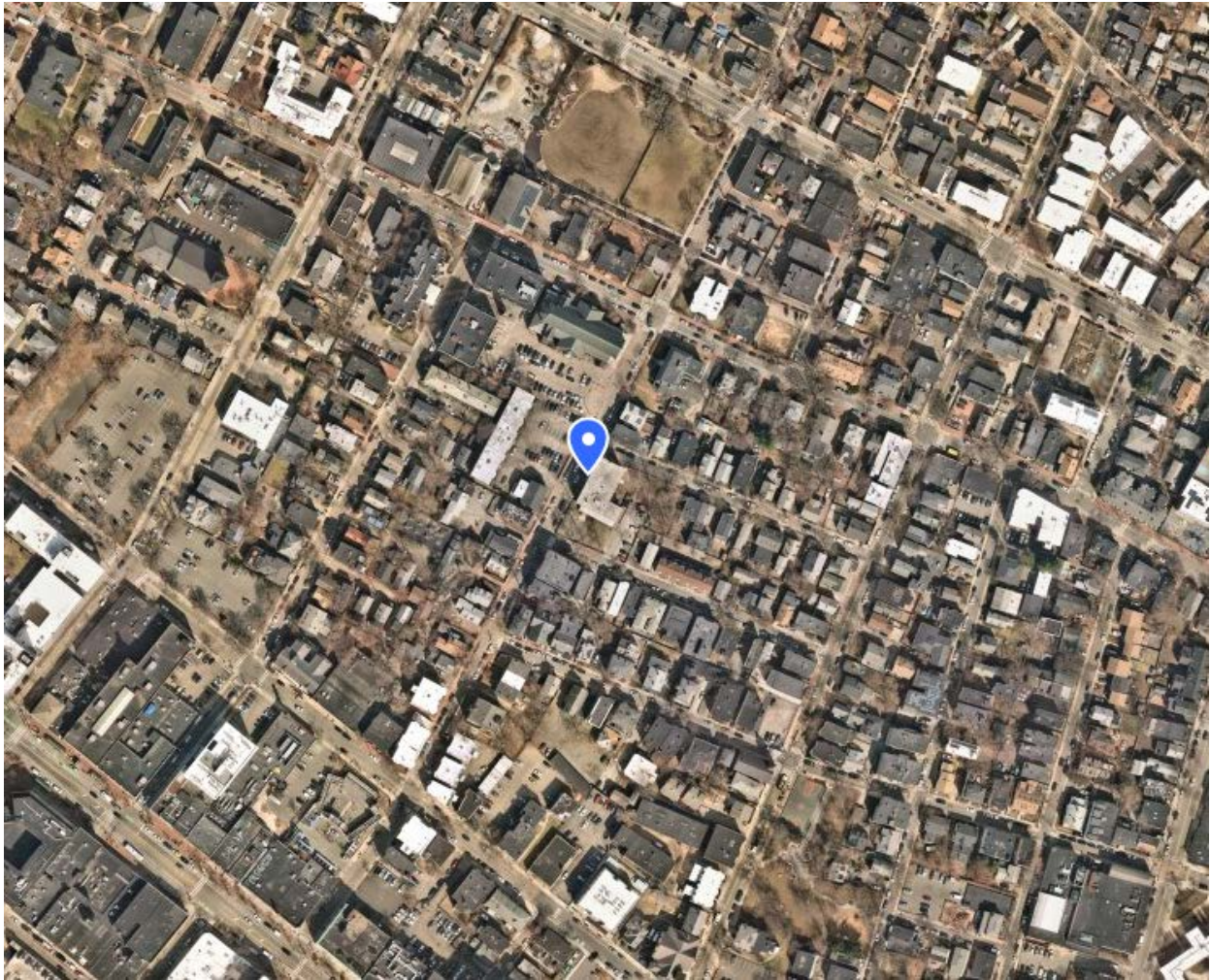
The purpose of the advisory design consultation process by the Planning Board is to review the proposal and comment on its general conformance with the City's urban design objectives, including design guidelines created specifically for the AHO, and make suggestions for improvement. After the first design review session, the developer will make a revised submission responding to the Planning Board's comments, and the Planning Board will make a final advisory report. Upon completion of the Planning Board's advisory design consultation process, the developer may apply for a building permit.

### **Site & Zoning Context**

#### **Site Context**

The site is located on Norfolk Street in the center of the Port neighborhood. It is close to Central Square (approximately 1,000 feet to the MBTA Red Line Station) and to smaller commercial areas along Prospect Street and Broadway. Most of the surrounding area is residential in character and made up of a mix of single-, two-, and multifamily houses with three stories above grade, typically built to front and side lot lines.

Notable neighborhood features include: Central Square; Fletcher Maynard Academy and Cambridgeport School; and Sennott Park, Greene Rose Heritage Park, Clement G. Morgan Park, and Squirrel Brand Park.

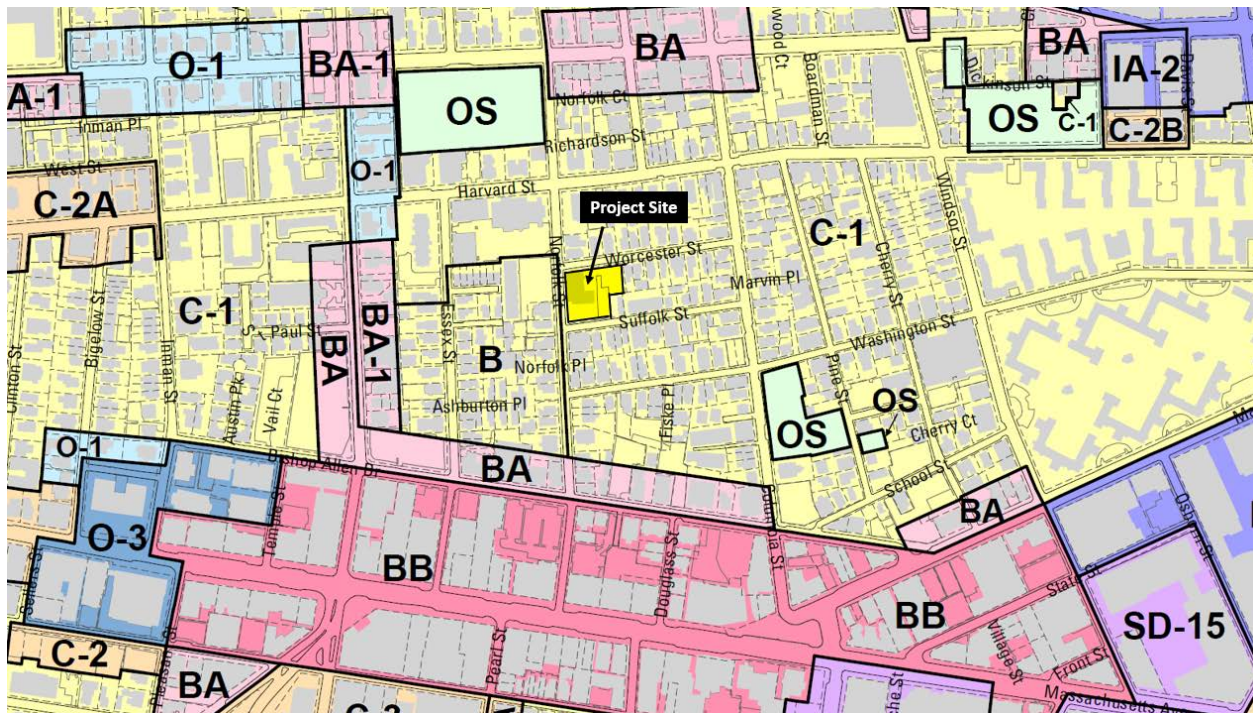


*Aerial image showing development patterns and land use context of 116 Norfolk Street (Nearmap March 23, 2022)*

### **Site Zoning**

The site is zoned Residence C-1 and is across the street from a Residence B district. The Residence C-1 district permits detached single-family, two-family, townhouse, and multifamily dwellings as-of-right. Limited institutional uses for public parks, municipal libraries, educational uses on property owned or leased by the Commonwealth, and other governmental facilities may be permissible either as-of-right or by special permit under the Institutional Use Regulations (IURs) in Section 4.50 of the Zoning Ordinance.

Residence C-1 is a moderately permissive residence zoning district in Cambridge, with a 35-foot height limit and with requirements for FAR, lot area per dwelling unit, and open space that allow low-moderate density buildings.



Section of the Zoning Map showing the Residence C-1 zoning district and surrounding zoning districts  
(City of Cambridge January 26, 2021)

## Comments on Proposal

### Project Description

The Cambridge Housing Authority (CHA) is proposing to expand and renovate their existing historic property at 116 Norfolk Street. The current building, a former convent, contains 38 single-room occupancy (SRO) units. The CHA is proposing to reconfigure those units into studio apartments and to build a rear addition to create up to a total of 62 studio apartments under the provisions of the [Affordable Housing Overlay](#) (AHO).

The total Gross Floor Area (GFA) of the development is 43,100 square feet. The rehabilitated existing building height will remain at approximately 54 feet and the proposed addition height will be approximately 45 feet. The development will include no off-street parking spaces, 36 long-term bicycle parking spaces, and 4 short-term bicycle parking spaces. The building proposes additional space for resident amenities, as well as office space for CHA administrative staff and resident services program staff. It will also include renovations to an existing courtyard, open space, outdoor porch, and perimeter brick wall.

The smaller 3 ½ story East Wing of the existing building will be demolished to accommodate the new addition with a linking structure to act as a bridge between the existing building and the addition. The existing main building entrance will be relocated to this link and will be accessed via an up-sloped pathway through the existing private courtyard at the southwest corner of the site. The northern side of the link will provide interior access to a raised exterior terrace that is not accessible from the northern courtyard.

All current residents will have the right to return after construction, and new residents will be accepted from the City's Coordinated Access Network (C-CAN) for people experiencing homelessness in Cambridge. The conversion from a Single Room Occupancy model to studio apartments with private kitchen and bathroom facilities is to be supported by a broader expansion of onsite social services for residents. Staffing will change from one part-time case manager to four full-time case managers with services to be provided by Eliot Community Human Services. These services include individual plans for each resident, that may aid with addiction, education, health, vocational training, money management or other skills that support long-term housing.

### **Consistency with AHO Development Standards**

The AHO development standards applicable to this project are summarized in the table in the introductory section of the memo. The following commentary provides a high-level overview of how the AHO standards compare to this development proposal:

- Use
  - Per the AHO regulations, the proposal for a multifamily dwelling with attendant accessory uses is allowed as-of-right. Furthermore, under AHO regulations the typical procedures for a Multifamily Special Permit do not apply as they otherwise would for a multifamily project in a Residential C-1 district with 12 or more units.
- Dimensional Standards
  - The AHO allows the existing building to remain at a non-conforming height of 54' and may be considered 5 stories above grade under Cambridge zoning because portions of the lowest story extend more than 4 feet above grade. The proposed addition will be built to the 45' height and 4 story above grade limits established by the AHO in this district. Submitted plans show that the highest point of the lowest floor in the addition is exactly 4 feet above grade, making it a story below grade.
  - The AHO sets an FAR limit of 2.00 in this district, and the proposal is below that limit with an FAR of 1.71. The AHO does not limit the number of affordable dwelling units that can be built.
  - The AHO allows for a reduced front yard setback of 10 feet in the case of a project on a corner lot. The existing structure will maintain non-conforming front yard setbacks of 5 feet along Norfolk Street and 3 feet along Worcester Street. The façade of the new addition will maintain a compliant 12-foot front yard setback along Suffolk Street.
  - The AHO allows for a 7.5-foot side yard setback. The western side of the site is defined as the side yard and maintains a compliant 9-foot setback from the neighboring lot line.
  - The proposed private open space will cover 44% of the lot area, which exceeds the minimum requirement of 30% in the AHO. 40% of the lot area is permeable open space at grade and the remaining 4% is located above grade.
- Design Standards

- The AHO establishes a number of design standards for facades facing public streets, such as minimum glazing requirements, façade recess/projection requirements, and landscaping requirements. These standards do not apply to existing buildings, so for this proposal, they are required only for the building additions along Worcester Street and Suffolk Street. By providing a fenestration that is twenty-two percent (22%) of the façade area facing a public street or open space, the developer satisfies the AHO standards that require a minimum twenty percent (20%) of these façade portions to consist of clear glass windows. The applicant's Green Building Report notes a window-to-wall ratio for the entire project of fifteen percent (15%).
- Per AHO requirements, private living spaces within dwelling units may only be in Stories Above Grade for new construction or additions to existing structures. As noted above, the proposed addition will have a story below grade containing common facilities for residents of the building but no dwelling units. The applicant proposes to maintain residential units in the lowest level of the existing building, which has a finished floor partially below grade as noted above. Occupied stories with finished floors below grade would be discouraged in new construction, but are permitted by the AHO as maintenance of an existing condition. A memo from DPW is attached.
- The AHO design standards also require rooftop mechanical equipment to be set back from roof edges and screened from ground-level view on public streets and abutting residential lots. The developer has stated their intent to locate the rooftop mechanicals so as not to be visible from the street without the use of screening. Staff note that the submitted view of equipment from 105 Norfolk Street exposes a small portion of the rooftop mechanical equipment. Staff additionally note that it is not uncommon for the final rooftop mechanical equipment to be larger than initially anticipated at this early design stage. The applicant might consider slight revisions to the mechanical layout and/or considering screening treatments to share with the Planning Board at the second advisory design consultation session in case it is required to comply with the AHO.
- Parking and Short-Term Drop Off Loading Areas
  - No off-street parking is required or provided. Given the conditions of the site and decisions to position the building in a way that minimizes the loss of street trees along Worcester Street, there is not much space left on the site to locate AHO-compliant parking. The AHO requires that any developments over twenty (20) units providing less than 0.4 off-street parking spaces per dwelling unit implement prescribed TDM measures. This development is therefore required to provide a TDM plan including measures to offer either a free annual BlueBikes membership or a 50% discounted MBTA pass for six months and to provide transit information on site and at the start of occupancy. Submission and approval of a TDM plan is still pending.
  - If no off-street parking is provided for an AHO project of at least 20 units, the Cambridge Traffic, Parking, and Transportation Department shall certify to the Superintendent of Buildings that the Project has access to either on-street or off-street facilities that can reasonably accommodate passenger pick-up and drop-off by motor vehicles and short-term

loading by moving vans or small delivery trucks. Such certification would be made at the building permit stage. TP+T staff have reviewed this project with the developer and believes these activities can reasonably be accommodated on-street.

- 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 be amended to reflect the site plan.
  - The AHO generally requires bicycle parking for new construction but allows for some flexibility in the required quantity (e.g., allowing a Bluebikes station to count towards long-term bike parking requirements) and location (AHO developments may place bicycle parking anywhere on the lot or an adjacent lot under common control). The proposal for 35 long-term spaces and 4 short-term spaces meets the minimum requirements for the 35 new units to be constructed in the addition. No additional bicycle parking is proposed for the existing building; the AHO does not require bicycle parking in existing buildings but encourages it to the extent feasible given the existing conditions. The bicycle parking that is provided still needs to meet the location, access, and layout standards of Section 6.100.
- Environmental Design Standards
    - This proposal is subject to the City's Green Building Requirements as set forth in Section 22.20 of the Zoning Ordinance. The proposal is meeting this requirement by targeting Enterprise Green Communities 2020 certification, which is encouraged in the City's climate planning goals. A Green Building Report has been submitted to the City. Prior to obtaining a building permit for the project, the City must verify that the necessary documentation has been submitted to certify compliance with the standards in Section 22.20.
    - The recently adopted Green Roofs Requirement is not applicable to an AHO project, but the proposal does include a "PV-ready" roof to accommodate solar panels to be procured during construction. The building will additionally use all-electric energy systems.

## Urban Design Staff Report

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### Overview

This Affordable Housing Overlay project consists of the renovation of the historically significant building at 116 Norfolk Street and the construction of an addition to it. Originally constructed in 1907 as the Notre Dame Convent for the nearby St. Mary's Roman Catholic Church, it was designed by architect Edward T.P. Graham, notable for several beautifully designed ecclesiastical buildings in Cambridge. The building was converted to housing for the elderly in 1975 and currently provides 38 single room occupancy affordable units.

Together, the proposed renovation and addition will provide 62 studio apartment units, plus an administrative office suite, four lounges, a laundry, and a fitness room. As part of the project, the rear ell of the existing building will be demolished. The Cambridge Historical Commission does not consider the rear ell significant under the Demolition Delay Ordinance.

The existing building is 54 feet tall. While it is larger than most of the buildings in the neighborhood, its gracious facades, presence on the street, and its south lawn with canopy trees overlooked by the building's large porch and framed by a brick perimeter wall all contribute to the neighborhood's urban fabric. At 45 feet tall, the proposed addition steps down toward the neighboring residential buildings. The addition's massing is also stepped in plan, breaking down its bulk to further increase its compatibility in scale. The addition is sited to preserve the south lawn and to minimize removal of the site's large trees. Thirty-six long-term bicycle parking spaces are provided in the building's basement level; four short term spaces are provided on site. No on-site vehicular parking is proposed.

The applicant met with staff as the design was being developed; the current design reflects staff suggestions.

### Consistency with AHO Design Guidelines

The project is generally compatible with the AHO guidelines. The addition is distinguished from the existing historic structure by materials, details, and form. A glazed element containing the new lobby separates the addition from the existing building. The addition's facades are unremarkable but compatible with those of the neighborhood: clad with a combination of siding and shingles, with vertical format punched windows at a fairly low window-to-wall ratio, and with a brick base that relates to the high brick foundation walls typical in the area. Its massing is articulated to increase its compatibility in scale with the typical two- and three-story buildings of the context.

The addition is sited to preserve the site's most significant open space - the south lawn - and in fact, by occupying the existing parking lot, has the potential to enhance the lawn by defining and activating its eastern edge. Most of the site's large trees will be preserved. Seating areas are provided in the south lawn, and sidewalk-facing benches are provided in the existing brick perimeter wall.

The landscape of the currently underutilized north yard will be improved. The large north and east setbacks of the addition's north wing will preserve significant existing trees. Site lighting will be no more than needed for safety and functionality. Public art is proposed in the form of a mosaic mural.

While the guidelines recommend that entrances be located wherever possible to address public streets, The project proposes to relocate the building entry from its current location on Norfolk Street to the new glazed lobby between the existing building and the addition. This seems a logical response to the overall arrangement of the complex, but in its proposed location, the entrance seems understated and more obscure than would be ideal, see the discussion below.

## **Urban Design Comments**

### ***Site Design***

The existing building adjoins the Norfolk Street sidewalk at the western end of the site, with its main entrance in the center of the Norfolk Street façade. The addition will be located in the eastern portion of the site, set back from the site boundaries, and consists of a northern and southern wing. It will replace an existing surface parking lot. The existing building and the addition will be linked by a new glazed element that accommodates the first-floor lobby and upper-floor lounges.

The existing south lawn on the Suffolk Street frontage can be looked into by pedestrians on the sidewalk, yet is given a sense of privacy by the brick garden wall along its perimeter. The large and gracious south-facing porch connects the building mass and the open space and is a wonderful amenity for the building's residents. Together, the lawn, the building, and the porch linking them gives the facility a grand and accommodating character, elevating the quality of life for residents and creating a landmark in the neighborhood.

### ***Site Circulation, the South Lawn, and Building Entry***

The existing arched building entrance in the center of the Norfolk Street façade will be decommissioned and a new lobby created in the glazed link between the existing building and the addition, accessed via paths through the south lawn. By locating the addition at the eastern portion of the site, the proposed design preserves the south lawn and most of its trees, but shortens the existing porch to about half its current length. While the location of the lobby and entrance between the new and existing portions of the facility seems appropriate, the new entrance seems unduly obscure: its façade is unassuming and recessed into the nook between the existing and new buildings, the actual doorway seems under-scaled, more like a side door than the new main entrance. Consideration could be given to giving the entry more emphasis by:

1. 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.
2. Providing a more direct path to the entry from Suffolk Street.
3. Revisions to the design of the glazed link's facades, see below for suggestions.

The existing flight of steps up to the south porch is removed, allowing the new entry path to curve closer to the porch, but eliminating the direct connection between the porch and the south lawn.

4. To maintain a sense of connection between the existing porch and the south lawn, consider retaining the existing steps, or introducing a set of steps at the porch's east end, descending to the level of the new building entry.

#### Perimeter Site Wall

The existing brick wall at the perimeter of the site is one of its most appealing features. It is tight to the sidewalk line, ranges from above head-height to about four feet tall on different parts of the site, and is provided with wrought iron gates. It transforms what would otherwise be fairly ordinary yards into accessible, yet slightly mysterious, special places. The proposed design preserves the wall and modifies it with a new gated entrance to the south lawn from Norfolk Street, the installation of a street-facing bench in the existing opening in that wall, another bench on Worcester Street, and a gate for access to a new transformer on the north side of the site. These changes all seem fine.

5. 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.

#### North Terrace

A north facing terrace is provided off the lobby/link, overlooking the north yard.

6. 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.

#### Setbacks

At 12', the addition's south setback is atypically large compared to other buildings on Suffolk Street.

7. Consideration could be given to reducing it to the zoning minimum.

#### Trees

The existing street trees on Norfolk Street are at a fairly large spacing; there are none on the adjoining portions of Worcester and Suffolk Streets. New trees are proposed within the site.

8. Staff is available to review species, locations, and planting standards.
9. While the sidewalk on Suffolk Street appears to be too narrow to accommodate street trees, additional trees could be considered on Norfolk Street and the western part of Worcester Street. The city is studying the possibility of transforming Suffolk Street into a shared street, which may create additional possibilities for street trees.

### **Building Design**

#### Massing

The addition's massing is stepped in plan, articulating its south, east, and north facades into recessed siding-clad elements and projecting shingle-clad projecting elements whose dimensions are roughly compatible in scale with nearby residential buildings. The cladding materials relate to typical materials in the context.

10. The cornice, however, runs in a straight line, flush with the projecting shingle clad elements, and overhanging the recessed siding-clad elements. Consideration could be given to giving the cornice a consistent projection above the walls below.

### South Porch

The building's long south-facing porch is one of its most appealing features, connecting the building's interior to the south lawn. The proposed design removes the existing steps between the lawn and the porch.

11. Consideration could be given to retaining the existing steps.

### Building Entrance

The new lobby, glazed on both its north and south sides, links the existing building and the proposed addition. The entrance is recessed into a nook between the existing building and the addition, behind the plane of existing building's south façade. A tile mosaic mural is proposed on the west side of the new addition to help lead one to the entrance. The overhanging second floor of the addition projects into the south approach to the entrance and seems to diminish its significance. The link's façade is treated as glazed curtainwall. Its strong horizontal zones of aluminum panels and fritted glass reflect interior floor levels and give the appearance that the link is stretched between the existing building and the addition. The actual door seems small, more of a side door to the building than the main entrance.

12. 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.
13. If the floor of the second- or third-floor lounge was held back from the façade, creating a double height slot of space, the more vertical façade expression thereby allowed would give the link more presence as a significant element between the existing building and the addition.
14. 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.
15. Consideration could be given to providing a larger canopy above the entry door, and to aligning it with the roof of the existing porch or the overhang on the west façade of the addition.
16. Consideration could be given to creating a vertical reveal where the lobby/lounge facades meet the existing building and the addition, slightly separating the glazed link from them to give it its own identity.
17. To collaborate with the existing south porch in framing and activating the south lawn, to offer additional amenity to residents, and to incorporate steps and a ramp up to the first-floor entry level, consideration could be given to providing a porch along the west side of the addition.

### Windows

The windows of the existing building are fairly new and are proposed to remain, except at the ground level units where new larger windows are proposed. The addition will have energy efficient tilt-turn windows with blank panels above them to match the overall height of the windows in the existing building.

18. Consideration should be given to using taller windows, or to giving the blank panels above them a three-dimensional relief treatment.

#### *The Facility's Programmatic Spaces*

The project provides a community room with kitchen on the first floor, lounges on the first, second, and third floors, a fitness room on the fourth floor, plus administrative suites that appear to be suitable for the facility's supportive services program, CHA offices, and the property manager. While small, the unit plans seem well laid out.

#### *Mechanical and Service*

Rooftop mechanical is set back and seems to be out of view. The transformer is located in the north part of the site, but within the brick perimeter wall. The building's trash/recycling room will be accessed via a path along the east edge of the site.

19. An evaluation could be done of whether acoustical screening for the rooftop mechanical would be beneficial.

#### *Parking*

No on-site vehicular parking is provided. 36 spaces of long-term bicycle parking are provided in two ground floor bike storage rooms. 4 short-term spaces are located by Suffolk Street.

#### *Environmental Impacts*

Shadow impacts are limited, mostly affecting the property immediately to the east of the site. The building's setback from the intervening property line has been increased to 9 feet from the AHO minimum of 7.5 feet. The proposed site lighting is limited to that needed for safety and functionality, and for subtly accenting the building entrance.

#### *Sustainability*

At 15%, the window-to-wall ratio is fairly low. Triple pane tilt-turn windows are proposed for the addition. Alternatives to PVC clad windows are being reviewed. The roof will be "solar ready". The building is designed to accommodate future electric domestic hot water. Underground stormwater storage tanks will be constructed.

20. Consideration could be given to using a high-SRI roof system, and to providing rooftop photovoltaic panels or a green roof as part of the initial construction.

Staff appreciates that the project incorporates the rehabilitation of an existing building. It is important to demonstrate commitment in reducing environmental impacts of building materials and products i.e., reducing embodied carbon in addition to operational carbon at the early stages of design, and staff would also recommend the following:

21. Estimate embodied carbon and recycled contents from products and construction materials involved in the rehab work and make the information available during the design development and/or construction document phases.

22. To address embodied carbon, staff suggests that the design team use the 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).

### **Consistency with Citywide Urban Design Objectives**

The project will be compatible with the City Urban Design Objectives. It preserves the elegant and substantial historical building on the site. While the addition is taller and bulkier than many of the nearby residential buildings, it mediates in scale between them and the existing building. Its materials are appropriate for the context. It preserves the site's south lawn and most of the large existing trees in the site. Mechanical equipment will be mounted on the roof and mostly or entirely hidden from view. The transformer will be site mounted, but inside the existing perimeter site wall. Most importantly, the project will increase the city's inventory of affordable housing.

### **Recommendations**

The following are recommendations for further study:

1. Materials and colors.
2. Configuration of paths and other paved areas.
3. Plant list and planting standards.
4. Possible street trees.
5. Coordination of any work on the sidewalk along Suffolk Street with the city's on-going study of options to create a shared street.
6. Details of changes to the existing perimeter site wall.
7. Design of the link between the existing building and the addition, typical windows, and the cornice.
8. Review dimensions and clearances for bicycle parking.
9. Involve the Cambridge Arts Council with planning for public art.

## Green Building Requirements

### 116 Norfolk Street Green Building Report – Certification for Affordable Housing Overlay (AHO) Review Stage

**Status:** The Community Development Department (CDD) received the Green Building Report (GBR) for the AHO review stage for 116 Norfolk Street Pursuant to Section 22.25.1 of the Zoning Ordinance, CDD staff have reviewed the project's GBR and provide the following Determination, Summary of Compliance, and Comments.

**CDD Determination:** The documentation provided by the Applicant is adequate and demonstrates compliance with the Green Building Requirements applicable to the AHO review stage. A revised submission, with additional documentation will be required at the Building Permit and Certificate of Occupancy stages.

**Project Summary:** This project is subject to the City's Green Building requirements, which mandate that projects meet the standards of one of the authorized Green Building Rating Systems listed in Section 22.23. The applicant is using the Enterprise Green Communities Rating criteria checklist and is required to achieve the minimum criteria for certification. Based on the documents submitted, the project is expected to achieve the mandatory and optional credit points required for certification.

#### Summary of Compliance:

##### Green Building Professional Affidavit Certification

Robert Baker, of New Ecology, Inc., has been identified as the Green Building Professional for the project. The affidavit states that this professional has reviewed all relevant documents for this project and confirm to the best of their knowledge that those documents indicate that the project has been planned and designed to meet the Green Building Rating Program requirements of Section 22.24 under Article 22.20 of the Cambridge Zoning Ordinance by pursuing the Enterprise Green Communities. The Enterprise Green Communities certification does not offer credentialing. Therefore, per the definition of "Green Building Professional" in Article 2.000, the Green Building Professional has demonstrated experience as a consultant providing third-party review on at least three (3) projects that have been certified using the Enterprise Green Communities Building Rating Program.

##### Rating System Checklist, Rating System Narrative, and Net Zero Narrative

- Rating System: Enterprise Green Communities – Version: 2020; New Construction and Substantial Rehab Project.
- ASHRAE Version (Stretch Code standards): 90.1-2013 w/ MA Amendments
- Improved energy performance of baseline standard used compared to ASHRAE standard 90.1-2013: 10%
- Energy Cost Savings (LEED project - compared to baseline reported in EA): - 83.4%
- Energy Use Savings (LEED project - reduction compared to baseline reported in EA): 16.3%
- Total energy cost/year: \$118,593
- Site EUI (Stretch Code standards): 40.79 kBtu/SF-yr

- Source EUI (Stretch Code standards): 92.48 kBTU/SF-yr
- GHG Intensity: 2.79 kg CO2/sf
- GHG emissions reduction proposed: 7.6%
- GHG emissions total: 147.6 mtCO2e
- Solar Ready: Yes
- Solar Capacity: 28.8 kW
- Solar Ready (Roof area): 5,800 sf
- Assuming the PV is installed at the site and the building performs based on modeling, the estimated onsite renewable energy production would be 8.4%.
- Building Envelope:
  - Window-to-Wall Ratio: 15%
  - Triple-glazing used: No
  - Window U-value Renovation: 0.416
  - Window U-value Addition: 0.27
- To achieve Enterprise Green Communities Certification, all projects must achieve compliance with the Criteria mandatory measures applicable to that construction type (New Construction and Substantial and Moderate Rehab). New Construction projects must also achieve at least 40 optional points, and Substantial and Moderate Rehab projects must also achieve at least 35 optional points:

<ul style="list-style-type: none"><li>○ Integrative Design – 0 points</li><li>○ Location + Neighborhood Fabric – 22 points</li><li>○ Site Improvement – 10 points</li><li>○ Water – 0 points</li><li>○ Operating Energy – 18 points</li></ul>	<ul style="list-style-type: none"><li>○ Materials – 33 points</li><li>○ Healthy Living Environment – 13 points</li><li>○ Operations, Maintenance + Resident Engagement – 0 points</li><li>○ <b>Total optional credit points = 96 points</b></li><li>○ <b>35 of 40 Mandatory Criteria met</b></li></ul>
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- Based on the credit points, the Project is considered substantial rehab and has met the criteria for Enterprise Green Communities certification.

#### Advisory Comments:

1. Staff applaud the design team on using electricity for heating, cooling, and cooking, but would suggest the team explore extending its electric service to heat DHW, and to reach out to Eversource and/or Mass Save for potential subsidies or grants available for energy efficiency.
2. Staff believes it is important to demonstrate commitment in reducing environmental impacts of building materials and products i.e., reducing embodied carbon in addition to operational carbon at the early stages of design. Staff appreciate that the project incorporates the rehab of an existing building. This is a positive aspect in reducing environmental impacts and especially reducing embodied carbon and staff would also recommend the following:

- Staff recommends that the design team to estimate embodied carbon from products and construction materials and processes involved in the rehab work and to make the information available during the design development and/or construction document phase.
  - To address embodied carbon, staff suggests that the design team use the 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).
  - Provide the specification section on sustainable development requirements including sections VOC content restrictions, product requirements, sustainable design reporting etc.
3. Staff suggests that the design team use historically appropriate windows that maximize thermal performance in aluminum frames with thermal-break system for energy efficiency.
  4. CDD staff highly recommend maximizing the EGC rating optional points for building materials and resources. Specifically, pursue recycled content and ingredient transparency in building products, using responsible sourcing of materials, and using regional materials.
  5. Staff highly recommend pursuing several criteria in the EGC rating related to healthy living, including universal design, promoting physical activity, and healing.
  6. There are several criteria in the EGC rating related to healthy living, including universal design, promoting physical activity, and healing. Staff highly recommend for pursuing these criteria and the applicant has noted there are possible opportunities to gain additional points in these topic areas.
  7. Provide an update on the anticipated energy loads, greenhouse gas emissions, and energy cost savings at the Building Permit and Certificate of Occupancy stages.