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**CITY OF CAMBRIDGE**  
Community Development Department

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To: Yi-An Huang, City Manager  
From: Iram Farooq, Assistant City Manager for Community  
Development  
Date: June 7, 2023  
Subject: Awaiting Report 23-31 regarding potential amendments to the  
Affordable Housing Overlay (AHO)

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The Community Development Department (CDD) has put together the following information in response to the Council's Policy Orders related to proposed amendments to the Affordable Housing Overlay zoning.

***Review of Proposed Amendments to the AHO and Additional Suggested Amendments***

Attached hereto for the Council's consideration is a red line of the Council's offered zoning language as part of Awaiting Report 23-31, for the purpose of language clarity and consistency, and to improve the construction of the overall zoning text.

In consultation with local affordable housing builders, an additional suggested edit was made to the red lined text which allows particularly small lots (5,000 square feet or less) to waive required open space when the lot abuts a Public Open Space that consists of at least 1,500 square feet of contiguous area. The result would allow smaller lots to redevelop under the AHO where providing open space on the lot itself would be infeasible, while ensuring future residents would have access to open space resources directly adjacent to the site.

***Consultation with Local Affordable Housing Builders on Proposed Amendments***

In preparing this response, we consulted with Cambridge affordable housing builders regarding the proposed modifications to the AHO and confirmed their support for the amendments being proposed. They expressed broad interest in exploring ways to maximize the affordable housing benefits of a site by building taller buildings and welcomed the proposed change to the AHO to allow heights of 12 stories in the corridors and 15 stories in the squares. Notwithstanding this interest, builders noted that, for the near future, it is unlikely that many AHO

developments will exceed 11 or 12 stories due to other constraints beyond zoning:

- **Funding:** A fully affordable building of larger size requires substantial financing subsidies from multiple sources. While local funds are more readily accessible, it is challenging to secure the amount of state and federal funding needed to complete a development of that scope.
- **Construction Technology:** At this time the most feasible option for affordable housing construction is light-gauge steel, which has its own limitations as a construction method. It is expected that building technology will keep improving and will provide a wider range of options to make high-rise construction more feasible in the future, including buildings taller than 15 stories. This includes emerging construction technologies such as mass timber, that are emerging and should expand what is feasible, construction-wise, for 100% affordable housing developments.

### ***Viability of Mass Timber Construction Pathways for Affordable Housing***

Mass timber construction, also known as cross-laminated timber (CLT), is construction that uses multiple thick, compressed layers of wood, either nailed or glued together, as structural components to a building. This is not to be confused with heavy timber, which is a traditional construction method using heavy beams to create a framing system.

Mass timber construction is allowed in jurisdictions that have adopted the 2021 International Building Code (2021 IBC). Under this building code, the use of mass timber is allowed for buildings up to 18 stories in height. The Massachusetts Board of Building Regulation Standards (BRRS) is currently considering the adoption of the 2021 IBC, which would include the new mass timber construction pathways (types IV-A, IV-B, and IV-C). BRRS has been meeting since 2022 regarding this potential change, and a vote is expected in Summer or Fall 2023. If approved, mass timber construction will be permitted use in buildings up to 18 stories in Massachusetts.

Two buildings in Massachusetts have already been built using mass timber: UMass Amherst John Oliver Design Building and 201 Hampden Street in Boston. Though mass timber is not yet allowed in Massachusetts, both projects were able to obtain a variance that allowed them to do so.

While mass timber is not yet widely available, it is an emerging technology which could be useful for building affordable housing in the future. We expect that once approved for use in Massachusetts, there will be some time for builders to learn about how best to utilize the technology, and to assess its cost in comparison to other construction types. Staff will continue to monitor the approval of the 2021 IBC and this new construction approach. When the new building code is adopted here, staff will work with affordable housing builders to understand where it might be advantageous to consider this construction approach to build new affordable housing.

***Amend Article 2.000 as follows:***

AHO Corridor – One or more Lots with frontage on one or more of the following streets: Albany Street, Alewife Brook Parkway, Bishop Allen Drive, Broadway, Cambridge Street, Concord Avenue, First Street, Fresh Pond Parkway, Massachusetts Avenue, Memorial Drive, Mount Auburn Street, Prospect Street, and Sidney Street.

AHO Square – One or more Lots located entirely within the confines of the Central Square Overlay District, Harvard Square Overlay District, Lesley Porter Overlay District, or the area bounded by the centerline of Elm Street to the west, the Somerville/Cambridge municipal boundary to the north, the centerline of Windsor Street to the east, and Cambridge Street to the south; but not including ML 81-50, ML 81-101, or ML 81-100.

***Amend Section 11.207 as follows:***

**11.207.5.1 General Provisions**

- (a) For the purposes of this Section, the phrase "District Development Standards" shall refer to the development standards of the base zoning district as they may be modified by the development standards of all overlay districts (with the exception of this Affordable Housing Overlay) that are applicable to a lot.
- (b) District Dimensional Standards shall include the most permissive standards allowable on a lot, whether such standards are permitted as-of-right or allowable by special permit. A District Dimensional Standard that is allowable by special permit shall include any nondiscretionary requirements or limitations that would otherwise apply.
- (c) An AHO Project that conforms to the following development standards shall not be subject to other limitations that may be set forth in Article 5.000 or other Sections of this Zoning Ordinance, except as otherwise stated in this Section.
- (d) An AHO Project containing more than one base zoning district shall follow the requirements of the zoning district that covers the largest percentage of the area of the lot or development parcel, as if the entirety of the lot was served by a single zoning district. Section 3.32 shall generally not apply to development that proceeds under the provisions of this Section 11.207.
- (e) Where an AHO Project may have various applicable Building Height and Stories Above Grade limitations as specified in 11.207.5.2.1, the most permissive height limitations shall generally control. Notwithstanding the provisions set forth in Section 11.207.5.2.1, an AHO Project may match the height of an existing building on an adjacent lot.

**11.207.5.2.1 Building Height and Stories Above Grade.** For an AHO Project, the standards set forth below shall apply in place of any building height limitations set forth in the District Development Standards.

- (a) Where the District Dimensional Standards set forth a maximum residential building height of forty (40) feet or less, an AHO Project shall contain no more than four (4) Stories Above Grade and shall have a maximum height of forty-five (45) feet, as measured from existing Grade. For AHO Projects containing active non-residential uses on the ground floor, the

- maximum height may be increased to fifty (50) feet but the number of Stories Above Grade shall not exceed four (4) stories.
- (b) Where the District Dimensional Standards set forth a maximum residential building height of more than forty (40) feet but not more than ~~fifty (50)~~ sixty-five (65) feet, an AHO Project shall contain no more than ~~six (6)~~ nine (9) Stories Above Grade and shall have a maximum height of ~~sixty-five (65)~~ one hundred (100) feet, as measured from existing Grade, except as further limited below. ~~For AHO Projects containing active non-residential uses on the ground floor, the maximum height may be increased to seventy (70) feet but the number of Stories Above Grade shall not exceed six (6) stories.~~
- (i) Except where the AHO Project abuts a non-residential use, portions of an AHO Project that are within thirty-five (35) feet of a lot district whose District Dimensional Standards allow a maximum residential building height of forty (40) feet or less shall be limited by the provisions of Paragraph (a) above, ~~except that if the AHO project parcel extends into that District, then the height limitation shall only extend thirty five (35) feet from the property line.~~
- (c) Where the District Dimensional Standards set forth a maximum residential building height of more than ~~fifty (50)~~ sixty-five (65) feet, an AHO Project shall contain no more than ~~seven (7)~~ thirteen (13) Stories Above Grade and shall have a maximum height of ~~eighty (80)~~ one hundred and fifty (150) feet, as measured from existing Grade, except as further limited below.
- (i) Except where the AHO Project abuts a non-residential use, portions of an AHO Project that are within thirty-five (35) feet of a district whose District Dimensional Standards allow a maximum residential building height of forty (40) feet or less shall be reduced to a minimum of five (5) Stories Above Grade or a maximum height of sixty (60) feet, as measured from existing Grade, except that if the AHO project parcel extends into that District, then the height limitation shall only extend thirty five (35) feet from the property line.
- (d) An AHO Project within an AHO Square shall contain no more than fifteen (15) Stories Above Grade and shall have a maximum height of one hundred and seventy (170) feet, subject to the height restrictions specified in Section 11.207.5.2.1.c.i above.
- (e) An AHO Project within an AHO Corridor shall contain no more than twelve (12) Stories Above Grade and shall have a maximum height of one hundred and forty (140) feet, subject to the height restrictions specified in Section 11.207.5.2.1.c.i above.
- (f) The Height Exceptions set forth in Section 5.23 of this Zoning Ordinance shall apply when determining the building height of an AHO Project.
- (g) An AHO Project may exceed the allowable height limitations of this Section, without restriction, under the following circumstances, subject to the Residential Density limitations set forth in Section 11.207.5.2.2. If the AHO Project is not subject to an FAR restriction in Section 11.207.5.2.2, then the total allowable floor area shall be calculated by subtracting the required open space from the total lot area, and multiplying the resulting lot area by the maximum number of stories otherwise permitted under this Section:
- (i) Where pre-existing, contiguous Green Area Open Space on a lot will be preserved or expanded, consisting of at least 5% or more of the total lot area.

- (ii) The AHO Project will exceed the minimum required open space as set forth in Section 11.207.5.2.4 of this Article.

#### **11.207.5.2.2 Residential Density**

- (a) Where the District Dimensional Standards establish a maximum floor area ratio (FAR) of less than 1.00, an AHO Project shall not exceed an FAR of 2.00. Otherwise, there shall be no maximum FAR for an AHO Project.
- (b) There shall be no maximum FAR for an AHO Project within an AHO Square or AHO Corridor.
- (c) There shall be no minimum lot area per dwelling unit for an AHO Project.

#### **11.207.5.2.3 Yard Setbacks**

- (a) For the purpose of this Section, the applicable District Dimensional Standards shall not include yard setback requirements based on a formula calculation as provided in Section 5.24.4 of the Zoning Ordinance, but shall include non-derived minimum yard setback requirements set forth in Article 5.000 or other Sections of this Zoning Ordinance.
- (b) Front Yards. An AHO Project shall have ~~a minimum front yard setback of 15 feet, except where the District Dimensional Standards establish a less restrictive requirement, or may be reduced to the average of the front yard setbacks of the four (4) nearest pre-existing principal buildings that contain at least two Stories Above Grade and directly front the same side of the street as the AHO Project, or may be reduced to a minimum of ten (10) feet in the case of an AHO Project on a corner lot. Where the District Dimensional Standards set forth different requirements for residential and non-residential uses, the non-residential front yard setback requirement shall apply to the entire AHO Project if the Ground Story contains a non-residential use as set forth in Section 11.207.4 Paragraph (b) above; otherwise, the residential front yard setback shall apply.~~ no minimum front yard setback.
- (c) Side Yards. An AHO Project shall have no minimum side yard setback. ~~a minimum side yard setback of seven and one-half (7.5) feet, or may be reduced to the minimum side yard setback set forth in the District Dimensional Standards for residential uses that is not derived by formula if it is less restrictive.~~
- (d) Rear Yards. An AHO Project shall have a minimum rear yard setback of ~~twenty (20)~~ fifteen (15) feet, or may be reduced to the minimum rear yard setback set forth in the District Dimensional Standards ~~for residential uses that is not derived by formula~~ if it is less restrictive.
- (e) Projecting eaves, chimneys, bay windows, balconies, open fire escapes and like projections which do not project more than three and one-half (3.5) feet from the principal exterior wall plane, and unenclosed steps, unroofed porches and the like which do not project more than ten (10) feet beyond the line of the foundation wall and which are not over four (4) feet above Grade, may extend beyond the minimum yard setback.
- (f) Bicycle parking spaces, whether short-term or long-term, and appurtenant structures such as coverings, sheds, or storage lockers may be located within a required yard setback but no closer than seven and one-half (7.5) feet to an existing principal residential structure on an abutting lot.

#### **11.207.5.2.4 Open Space**

- (a) Except where the District Dimensional Standards establish a less restrictive requirement or as otherwise provided below, the minimum percentage of open space to lot area for an AHO Project shall be thirty percent (30%). However, the minimum percentage of open space to lot area may be reduced to no less than fifteen percent (15%) if the AHO Project includes the preservation and protection of an existing building included on the State Register of Historic Places.
- (b) The required open space shall be considered Private Open Space but shall be subject to the limitations set forth below and shall not be subject to the dimensional and other limitations set forth in Section 5.22 of this Zoning Ordinance. Private Open Space shall exclude parking and driveways for automobiles.
- (c) All of the required open space that is located at grade shall meet the definition of Permeable Open Space as set forth in this Zoning Ordinance.
- (d) The required open space shall be located at Grade or on porches and decks that are no higher than the floor elevation of the lowest Story Above Grade, except that up to twenty five percent (25%) of the required open space may be located at higher levels, such as balconies and decks, only if it is accessible to all occupants of the building.
- (e) For the purpose of this Affordable Housing Overlay, area used for covered or uncovered bicycle parking spaces that are not contained within a building shall be considered Private Open Space.
- (f) Notwithstanding the foregoing, lots consisting of five thousand (5,000) square feet or less in total lot area that directly abut a Public Open Space consisting of at least one thousand five hundred (1,500) square feet of area shall not have a minimum open space requirement under this Article.