



CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT

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To: Ordinance Committee

From: CDD Staff

Date: February 2, 2017

Re: **Central Square Restoration Zoning Petition – Massing Studies**

This memo contains an overview of a series of massing studies that have been prepared by the City's urban design consultant, Over,Under. (See attached document). The diagrams illustrate, at a conceptual level, potential massing outcomes under the proposed Central Square Overlay District standards. The massing studies are based on several assumptions which are detailed on page 2 of the attached document.

Based on a review of these diagrams, the following conclusions can be made:

- Full buildout of the proposed FAR is not always achieved as zoning heights and setbacks are a limiting factor, as are current Massachusetts State Building Code requirements.

Business B Zone (BB)

- For a typical lot in the Business B Zone, the FAR permitted under the proposed zoning (4.0 plus 1.2 inclusionary bonus) could be achieved with a 7-story building, assuming that the building footprint on the lot could be maximized.
- However, in recent developments, buildings have rarely been built to a height between 70 and 80 feet due to increased construction costs associated with "high rise" building code requirements for buildings taller than 70 feet. Thus, the more economically feasible outcome would be a 6-story building, even if it could not accommodate the full possible FAR. A 6-story building with maximum lot coverage would have about 10-15% less floor area than a 7-story building.
- Achieving the proposed full FAR requires setback relief and would not allow for much open space at ground level.
- Waiving the step-back requirement above 60 feet could provide additional setbacks at grade and therefore greater potential for open space, though it is still difficult to accommodate the full FAR (See Scheme 1B).

Business A Zone (BA)

- In the Business A Zone, given existing height limits and setback requirements, it was difficult to achieve a development outcome with an FAR that is greater than what would be allowed under current zoning, and unlikely that an FAR of 4.0 plus 1.2 inclusionary bonus could be achieved.

Central Square Analysis

FEBRUARY 2017

over,under



- FAR=5.2 (Proposed FAR of 4 + 1.2 inclusionary bonus). Developers will try to maximize new FAR.
- These sites were tested at full allowable height of 80', even though current codes make it more expensive to build above 70'.
- Residential components are double loaded corridor buildings with a total depth of 65'-75'.
- Average unit size is approximately 1000 sq ft (~850 net + ~18% gross).
- All parking below grade.

Assumptions



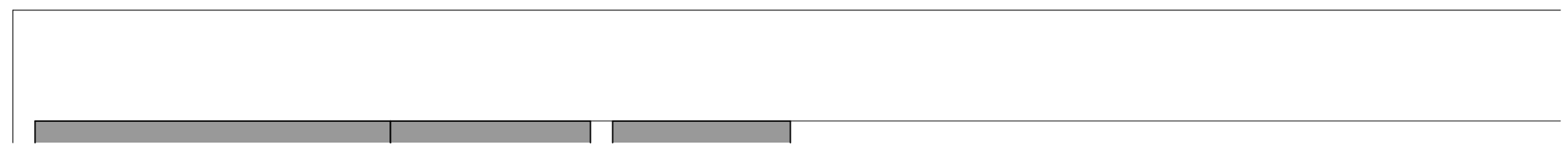


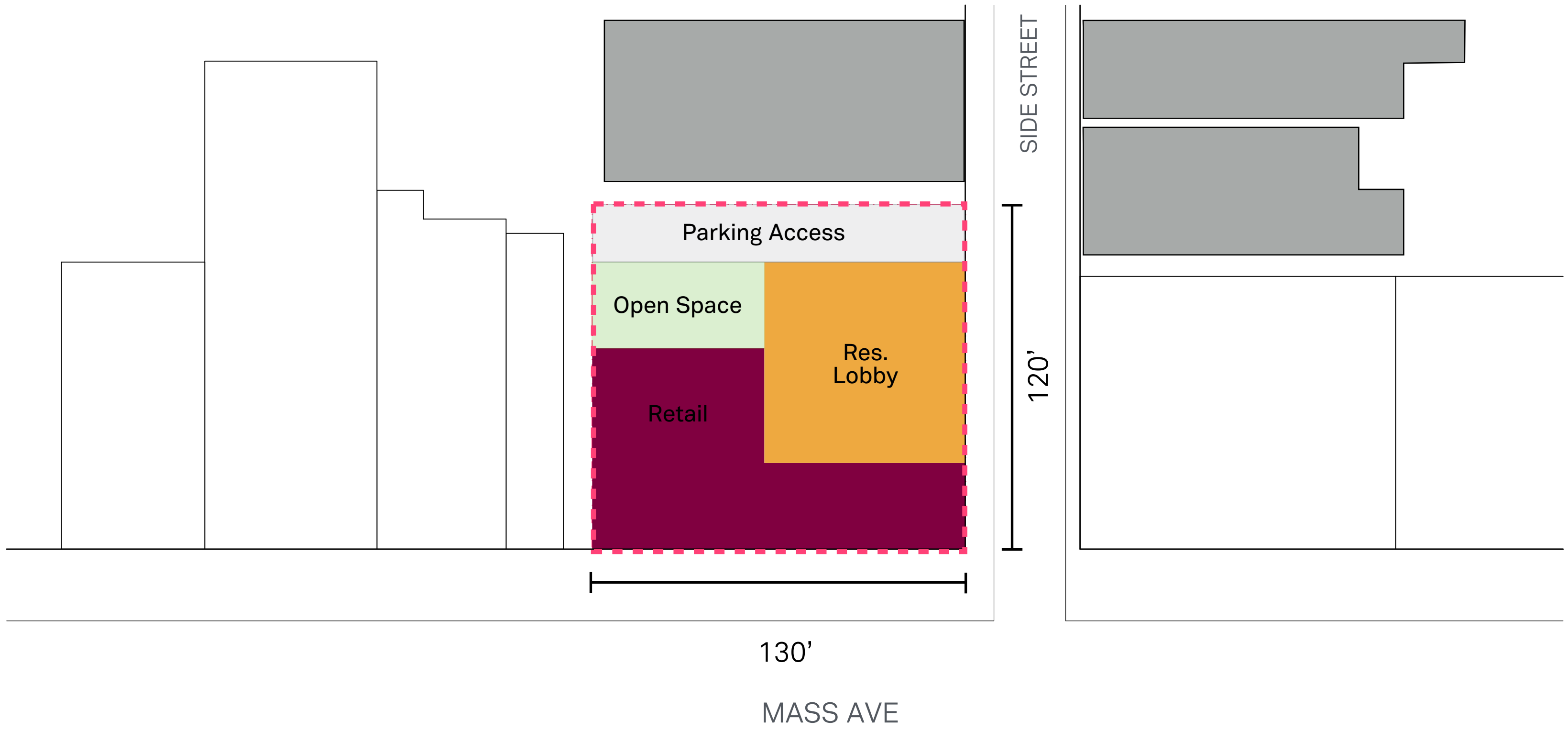
1. Corner Lot Business B



Scheme 1 Site Plan

SIDE STREET



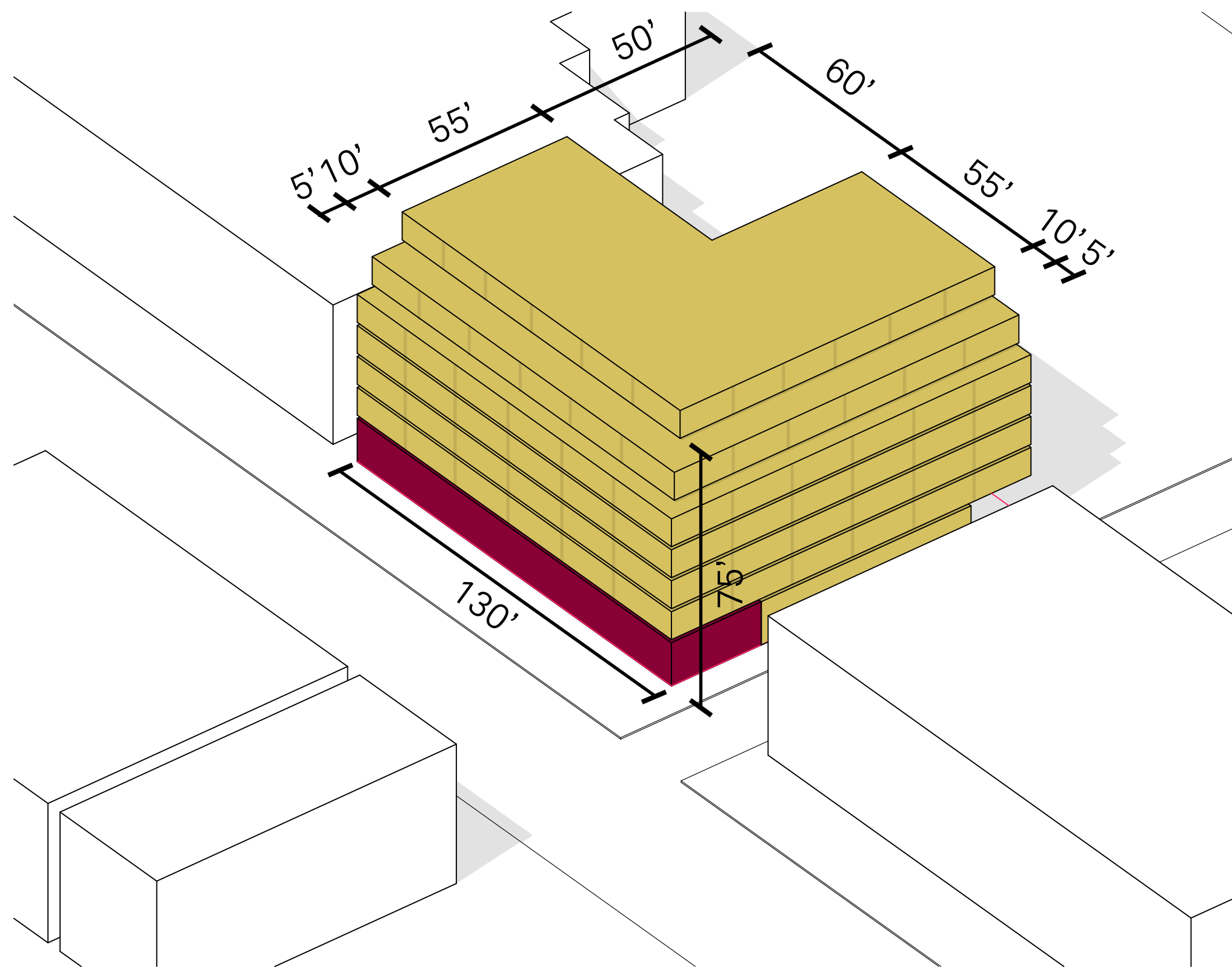


Scheme 1A Ground Floor Plan Diagram

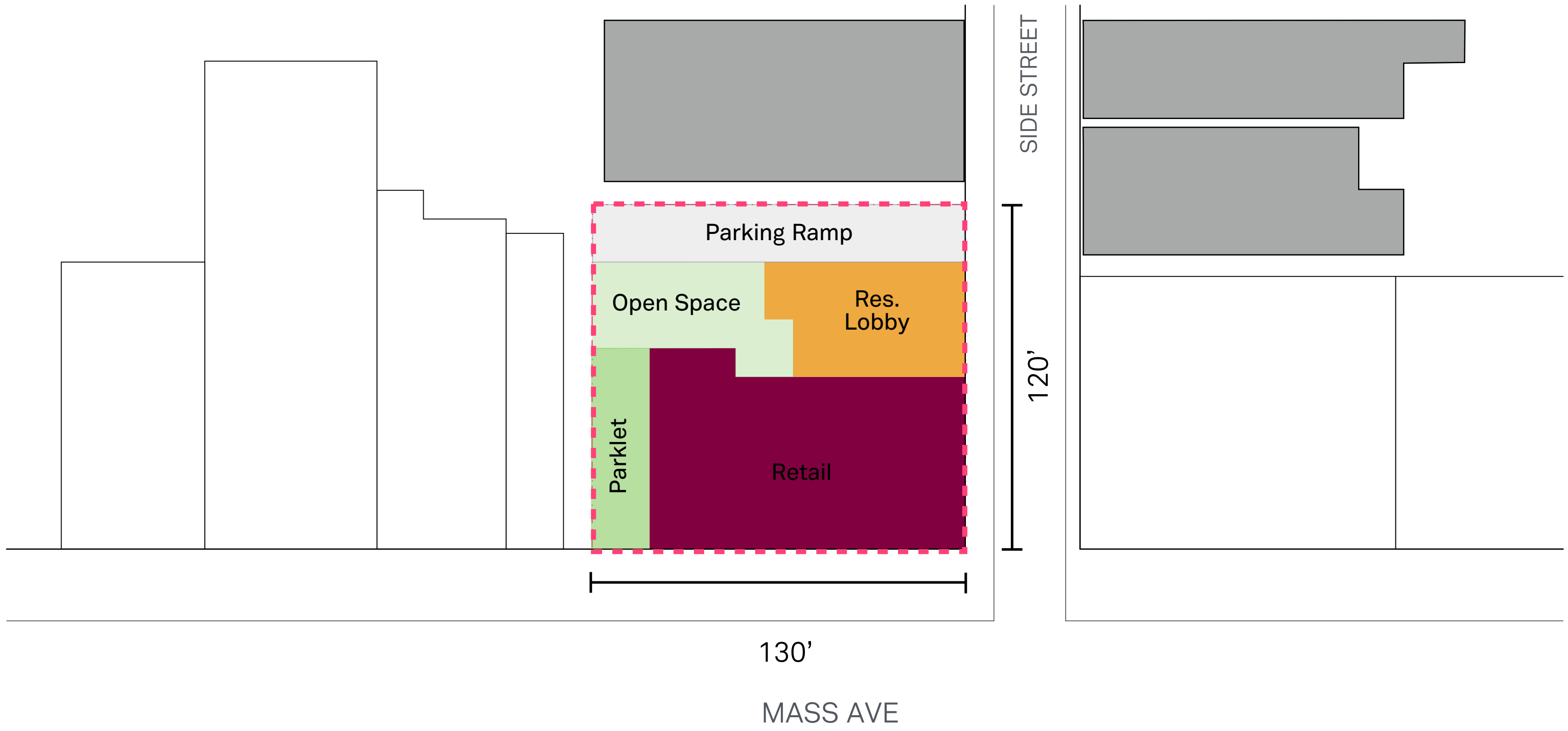
SIDE STREET

Zoning District = BB
 Site Area= 15,600 sq ft
 Proposed Zoning GFA= 81,120 sq ft
 Proposed Zoning FAR= 5.2
 Achieved FAR= 5.2
 Achieved GFA= 82,050 sq ft
 (12,600 typical floor)
 Stories= 7 (1 Retail, 6 Residential)
 Unit Count~ 70
 Parking Required~35 (1 level U/G)

✓ Full FAR achieved
 ✓ Upper floors conform to 45° step back after 60'



Scheme 1A Massing



Scheme 1B Ground Floor Plan Diagram

TERTIARY ST

Zoning District = **BB**

Site Area= **15,600 sq ft**

Proposed Zoning GFA= **81,120 sq ft**

Proposed Zoning FAR= **5.2**

Achieved FAR= **4.8**

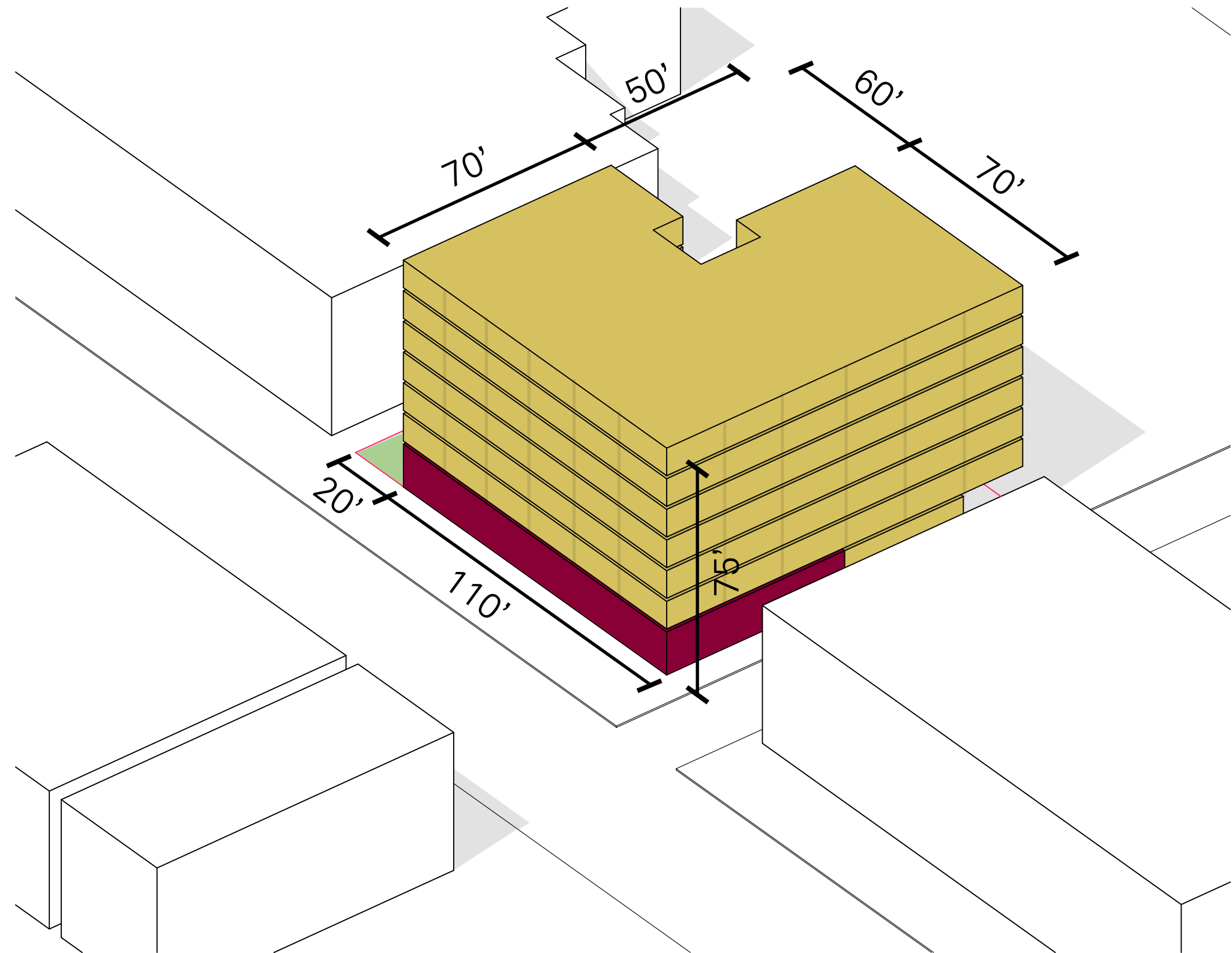
Achieved GFA= **74,900 sq ft**
(10,900 typical floor)

Stories= **7 (1 Retail, 6 Residential)**

Unit Count~ **65**

Parking Required~**33 (1 level U/G)**

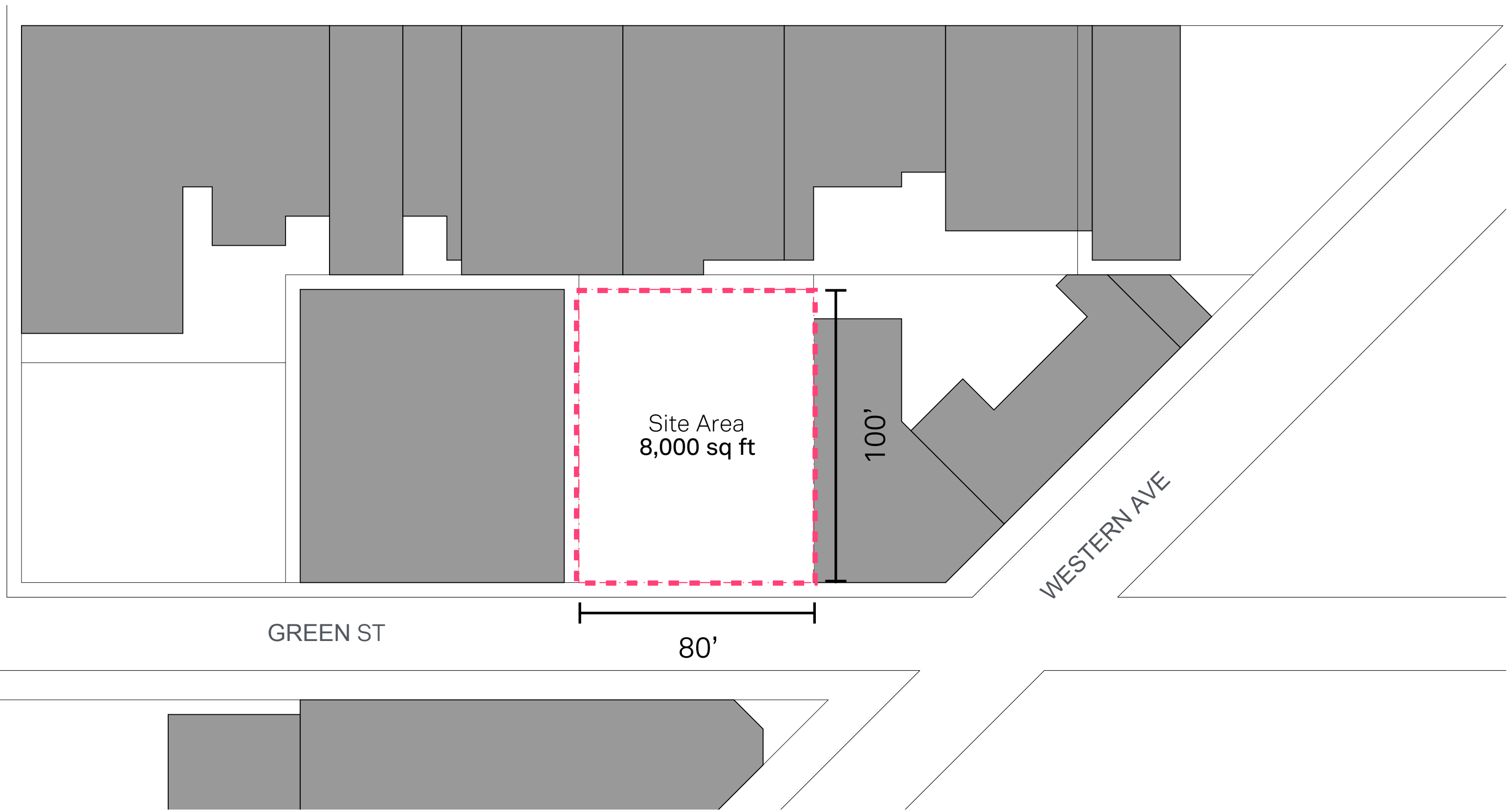
- ✓ Proposed FAR nearly achieved
- ✓ Upper floors **do not** conform to 45° step back after 60'
- ✓ In exchange, side setback creates public parklet on primary street



Scheme 1B Massing

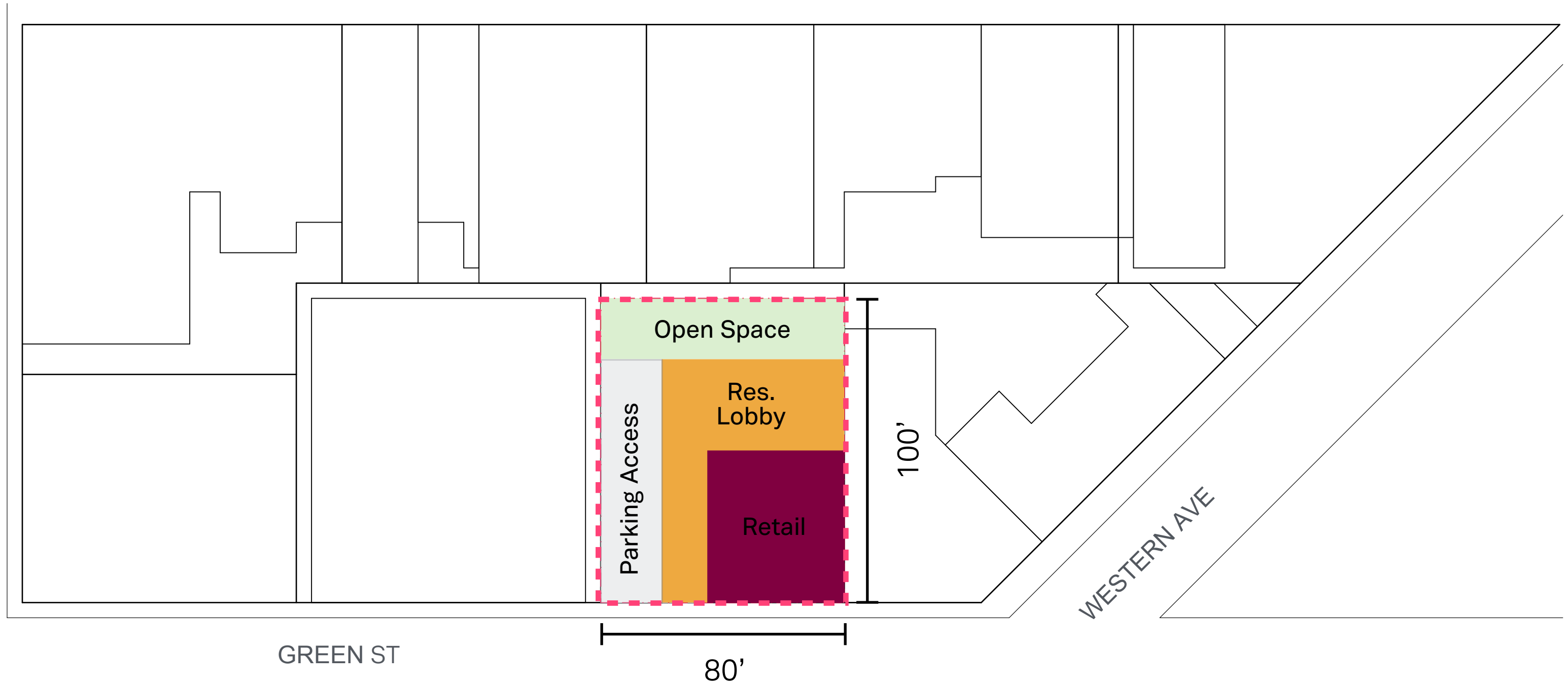


2. Infill Lot Business B



Scheme 2 Site Plan





Scheme 2 Ground Floor Plan Diagram

Zoning District = **BB**

Site Area= **8,000 sq ft**

Proposed Zoning GFA= **41,600 sq ft**

Proposed Zoning FAR= **5.2**

Achieved FAR= **5.2**

Achieved GFA= **41,600 sq ft**
(6,400 typical floor)

Stories= **7 (1 Retail, 6 Residential)**

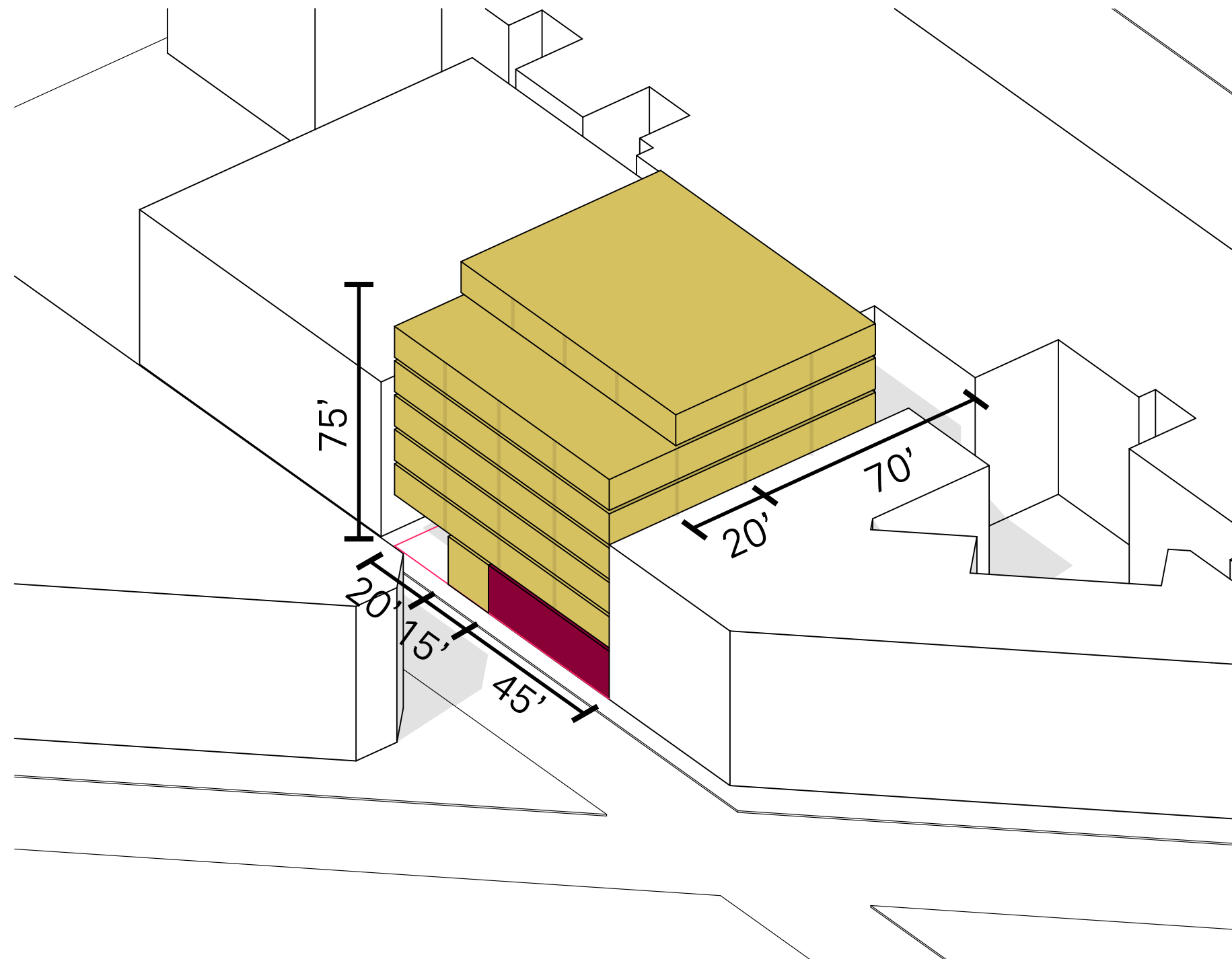
Unit Count~ **36**

Parking Required~**18 (1 floor U/G)**

✓ Full FAR achieved

✓ Opening for parking ramp access

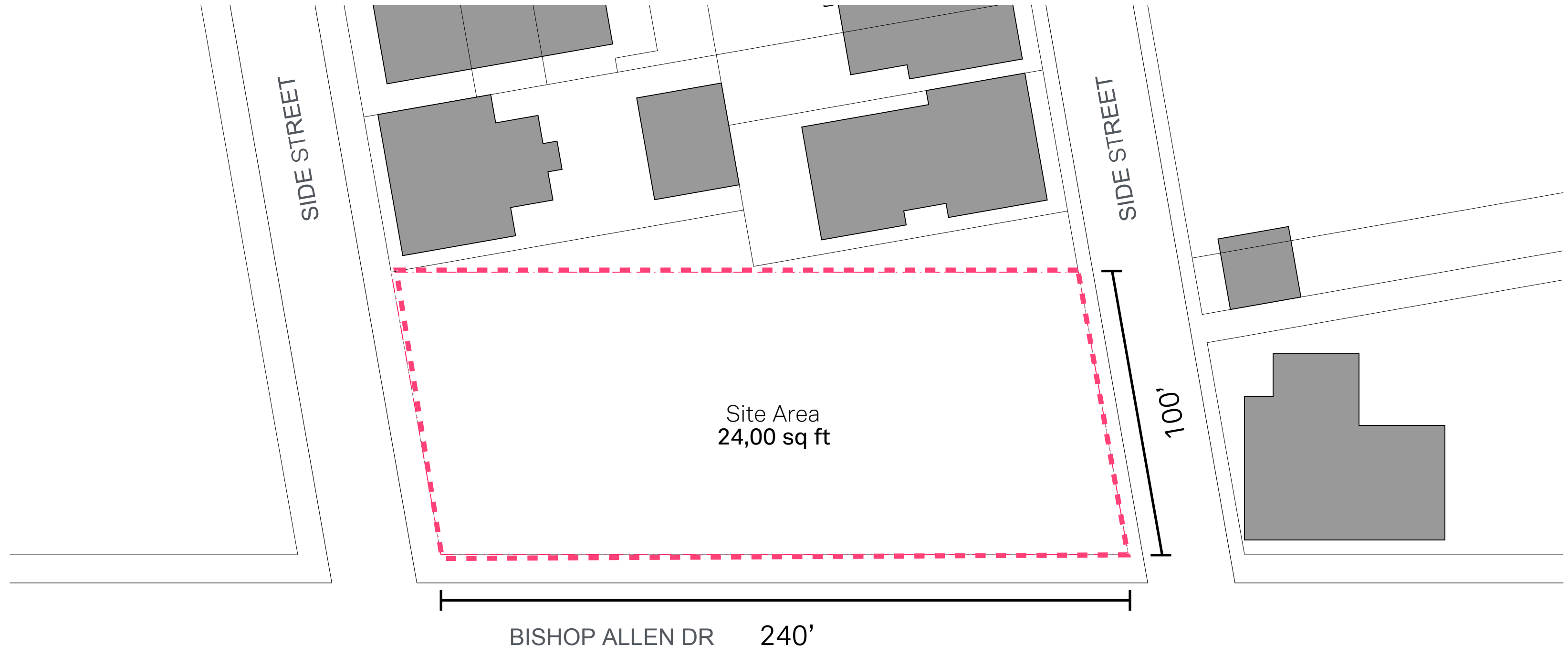
✓ Upper floor communal terrace



Scheme 2 Massing

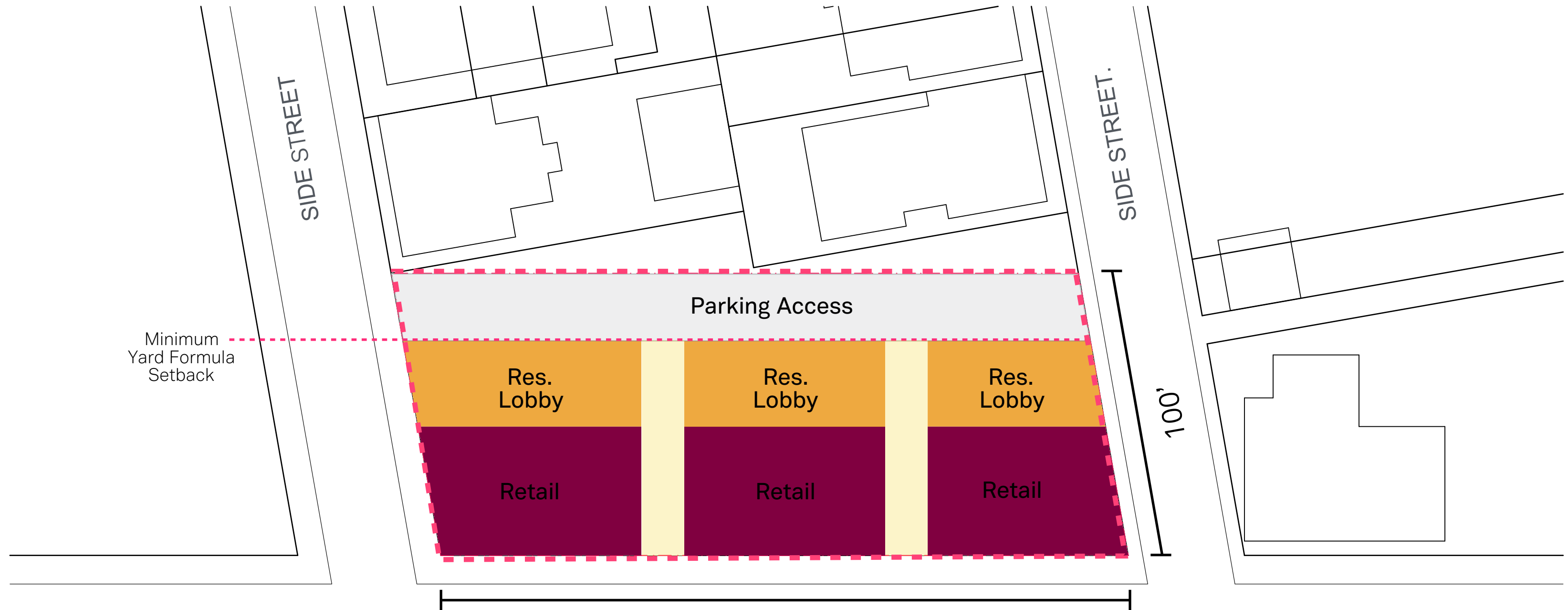


3. End Lot Business A



Scheme 3 Site Plan

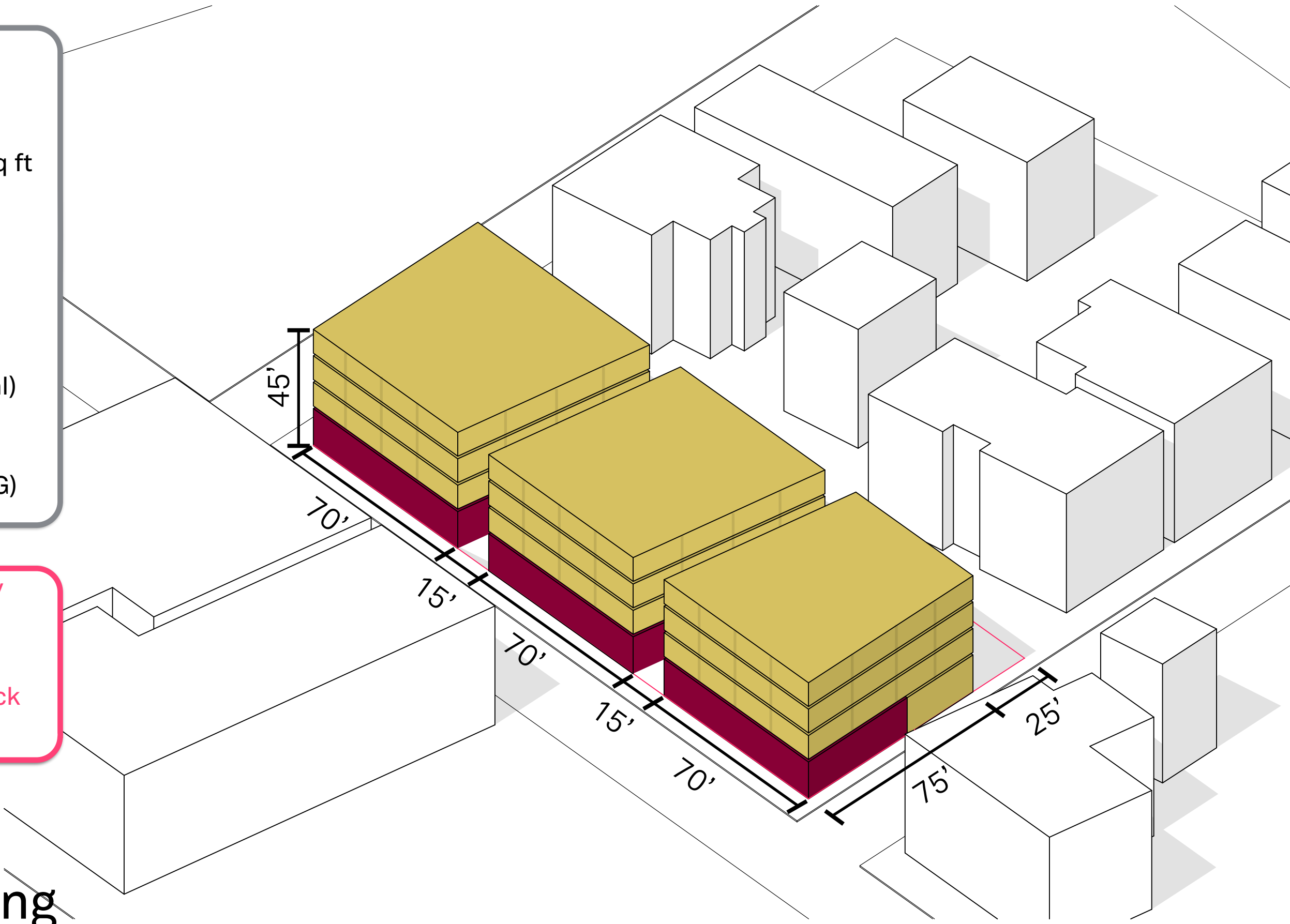




Scheme 3 Ground Floor Plan Diagram

Zoning District = **BA**
 Site Area= **24,000 sq ft**
 Proposed Zoning GFA= **124,800 sq ft**
 Proposed Zoning FAR= **5.2**
 Achieved FAR= **2.6**
 Achieved GFA= **63,000 sq ft**
 (15,750 sq ft per floor)
 Stories= **4 (1 Retail, 3 Residential)**
 Unit Count~ **47**
 Parking Required~**24 (1 Level U/G)**

- ✓ FAR under current zoning barely achieved
- ✓ Corridors between massings
- ✓ Massing conforms to yard setback formula $(L+H/4)$



Scheme 3 Massing