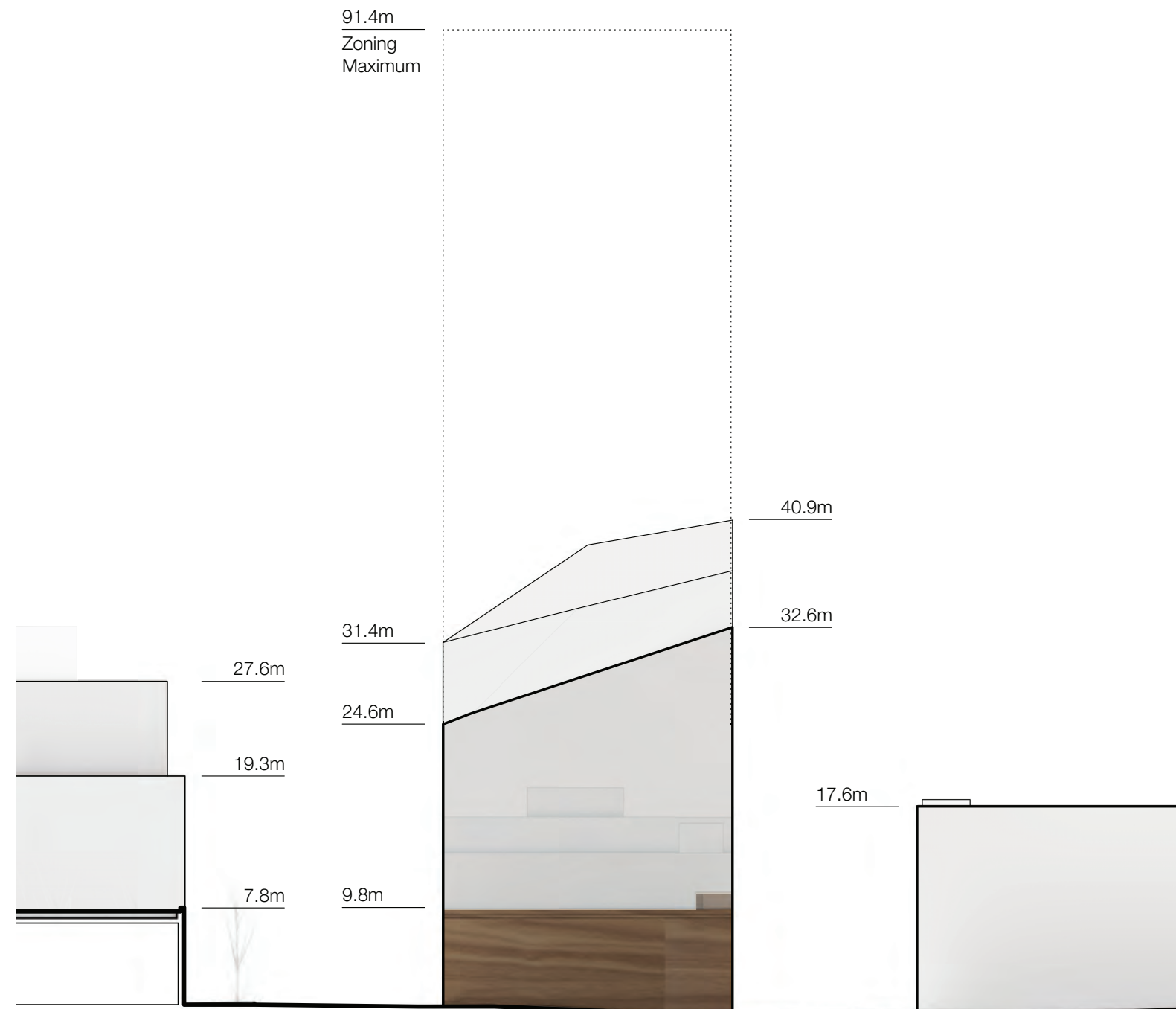


# 2A MINIMIZE SHADOW IMPACT ON OPEN SPACES

## VOLUMETRIC LIMITS IN CONTEXT

### SIDE ALLEY ELEVATION (NE)

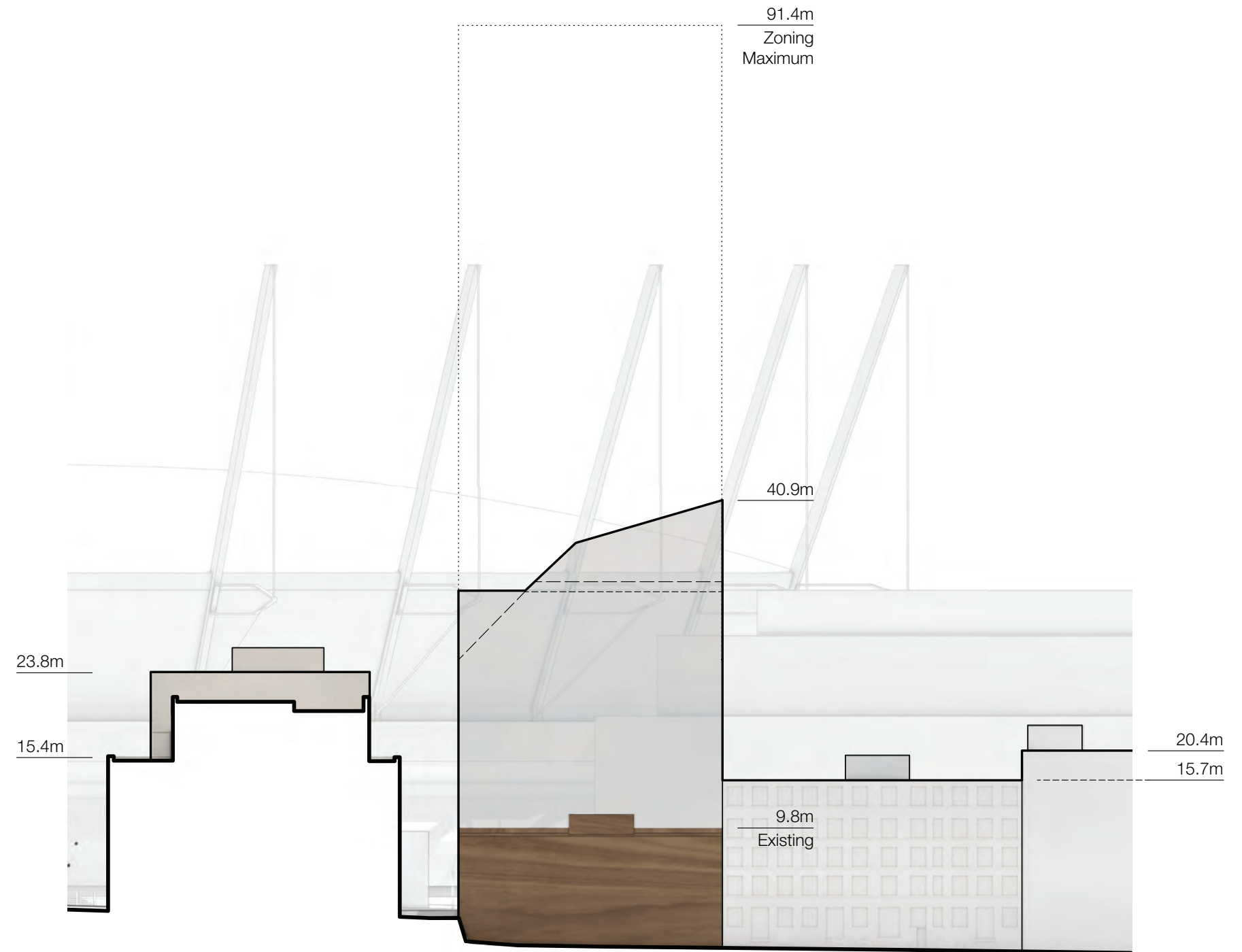
Note: The annotated heights at 837 Beatty Street are taken from the average grade along Beatty Street at approximately 12.8m above sea level. Heights shown for other properties are taken from their respective average grades. This was done to ensure consistency with the application of the zoning bylaw but, when comparing across properties, may result in differing heights for elements at the same elevation above sea level.



## 2A MINIMIZE SHADOW IMPACT ON OPEN SPACES VOLUMETRIC LIMITS IN CONTEXT

### REAR LANE ELEVATION (NW)

Note: The annotated heights at 837 Beatty Street are taken from the average grade along Beatty Street at approximately 12.8m above sea level. Heights shown for other properties are taken from their respective average grades. This was done to ensure consistency with the application of the zoning bylaw but, when comparing across properties, may result in differing heights for elements at the same elevation above sea level.





## 2B RESPOND TO THE HERITAGE CONTEXT

## 2B RESPOND TO THE HERITAGE CONTEXT RETAIN + REHABILITATE THE EXISTING

- Preserve character defining elements and retain as much of the existing structure as possible
- Restore the base of the building, particularly the Beatty Street elevation
- Remove the paint, clean and repoint the brick
- Restore original windows while using modern technology to enhance energy performance
- Approach and full extent of rehabilitation to be determined in coordination with the Heritage Consultant, Donald Luxton & Associates and referring to the Standards & Guidelines for the Conservation of Historic Places in Canada



Beatty Street Elevation, circa 1925  
City of Vancouver Archives 99-1311

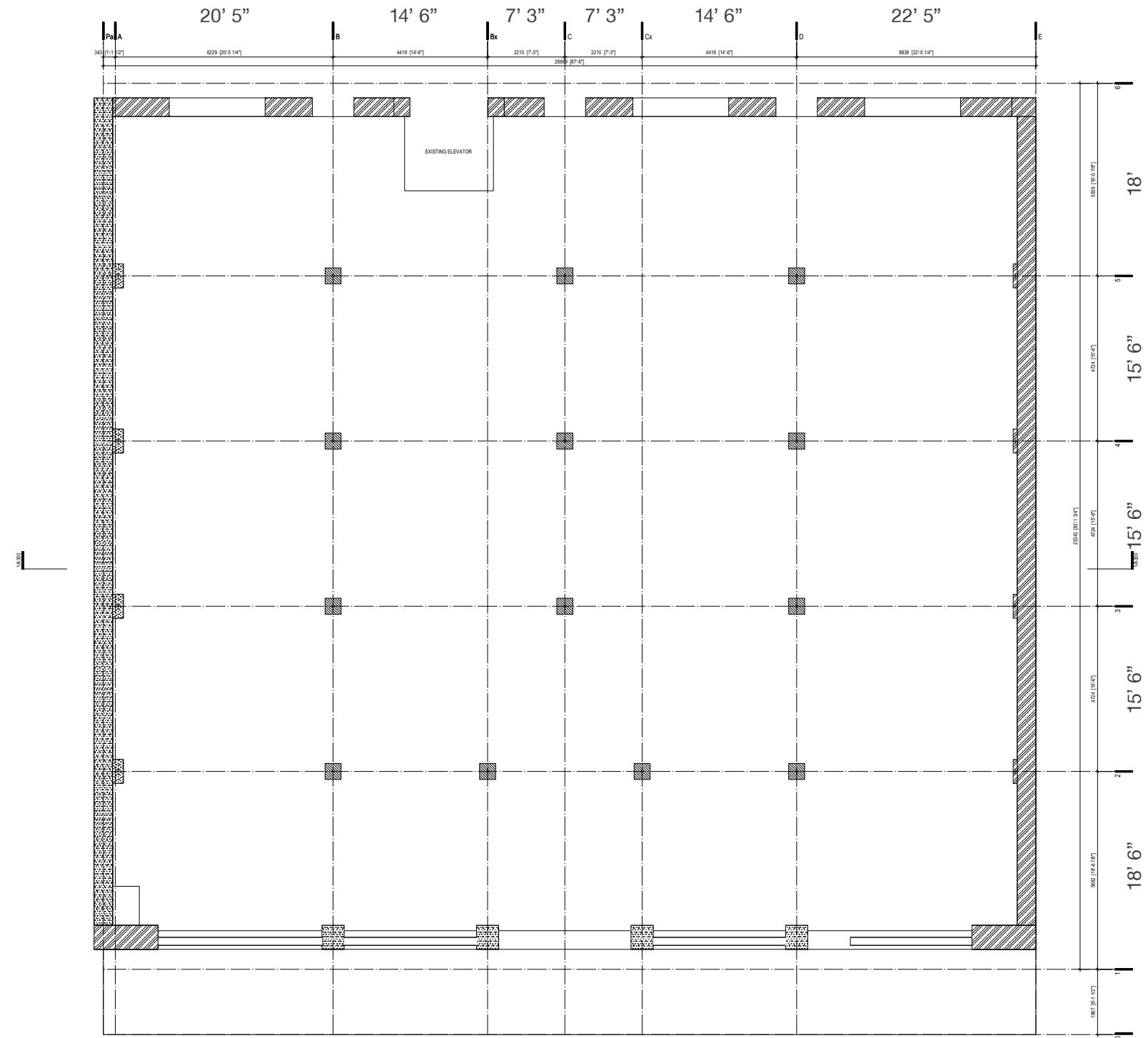


Beatty Street Elevation, 2019

# 2B

## RESPOND TO THE HERITAGE CONTEXT RESPECT THE EXISTING GRID

- The original warehouse's simple, regular structure has made it a durable building with longevity of utility
- Maintain the open, flexible, and adaptable structure of the existing building
- The proposed addition will be aligned with the existing grid, ensuring continuity of form, scale and streetwall
- The existing structure will be used to support the new addition
- A new lateral force resisting system will complement and protect the existing building



## 2B RESPOND TO THE HERITAGE CONTEXT EMBRACE EXISTING STRUCTURAL LANGUAGE

- Wherever possible, preserve the existing heavy timber (posts, girders, beams, & nail laminated floors) and masonry structure
- The new addition will use modern heavy timber construction (glulam posts and beams and dowel laminated floors), reflecting and reinterpreting the existing structural language
- Steel elements are required by code to complete the seismic upgrade



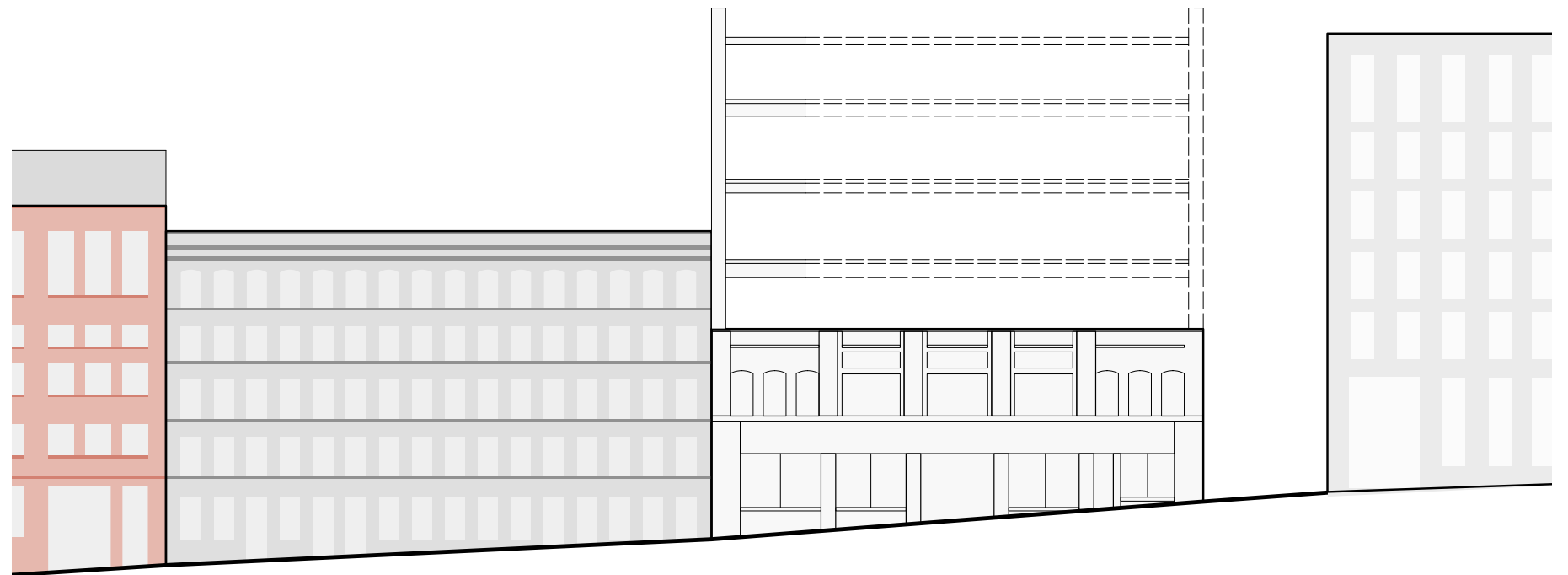
Existing heavy timber construction at 837 Beatty Street



Examples of modern mass timber construction

## 2B RESPOND TO THE HERITAGE CONTEXT EXPAND ON ORIGINAL AMBITIONS

- The existing drawings clearly show the original owner's intent for an additional 4 storeys
- The existing structure of the lower floors was designed to accommodate this future expansion
- Extrude upward from the existing building to preserve and contribute to the consistent street wall of the block
- Bring the face of the addition flush with the existing building to maintain streetwall continuity with the neighbouring building



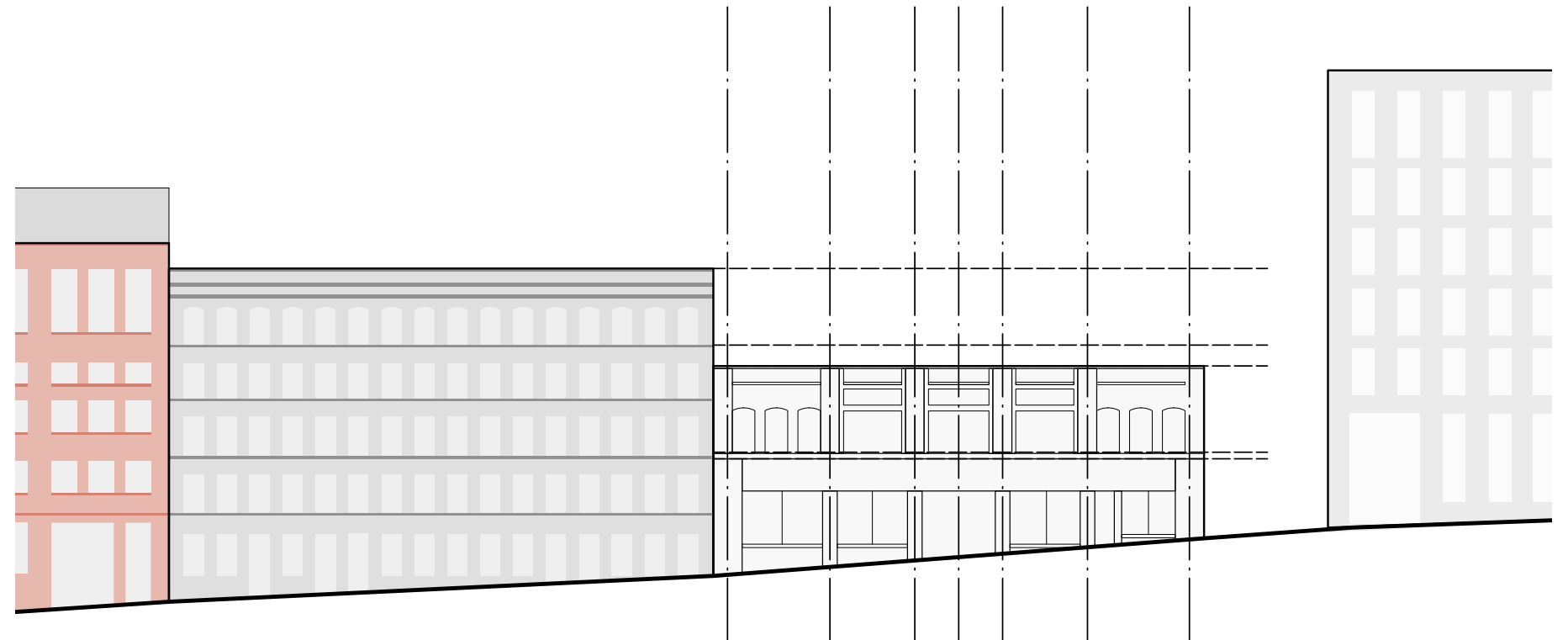
Beatty Street elevation showing the original owner's planned expansion

The Arts & Crafts Building at 576 Seymour Street (left) and the Hudson's Bay Building at 321 Water Street (right) are historical examples of vertical additions, a common practice in the early twentieth century.



## 2B RESPOND TO THE HERITAGE CONTEXT RESPOND TO CONTEXT IN ELEVATION

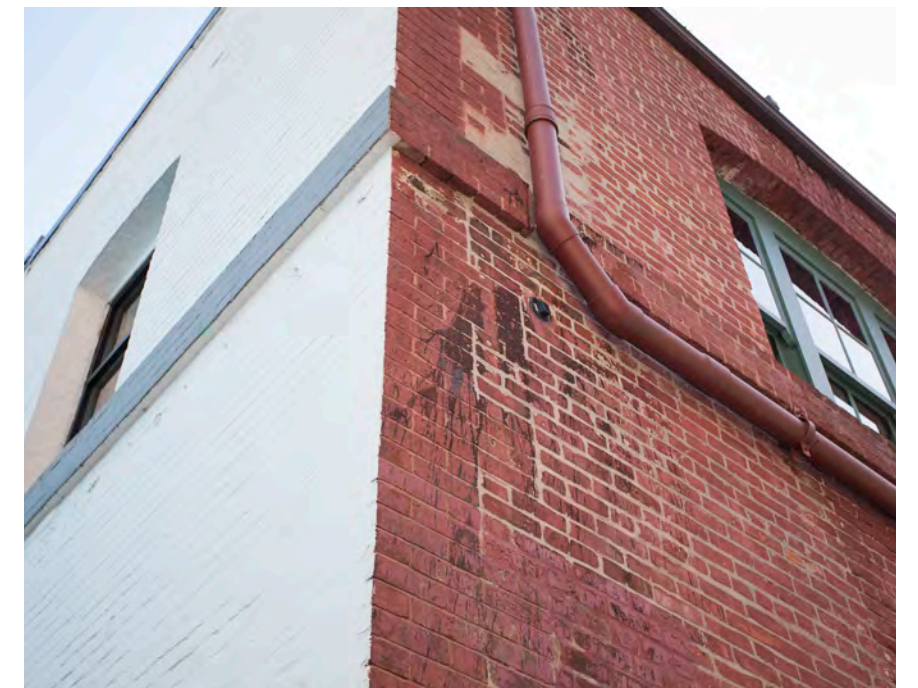
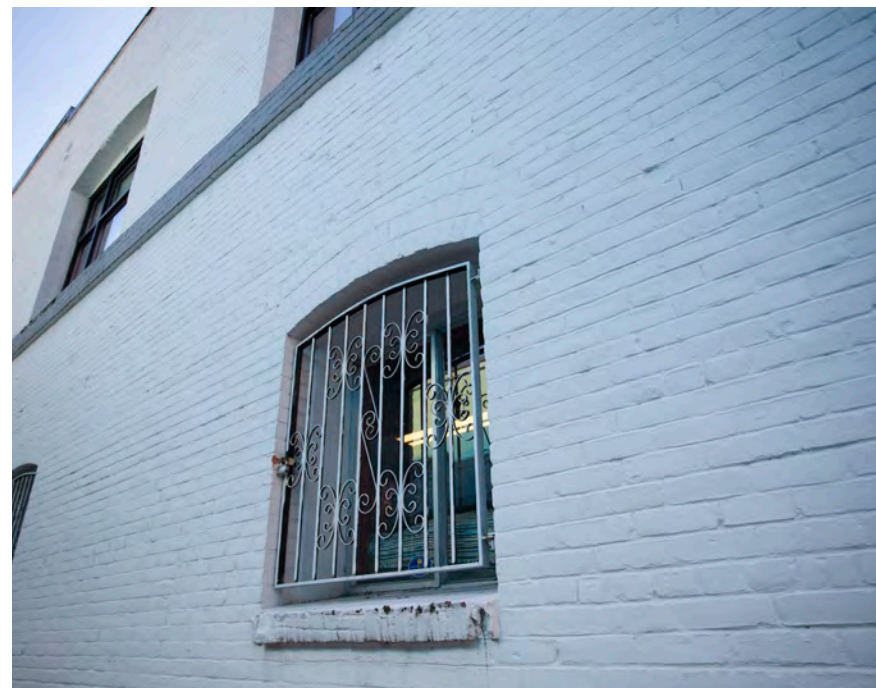
- Use existing key datum lines and structural grids to define an addition that responds to the unique context of the heritage block
- Ensure the rhythm of facade design and openings are responsive to existing street elevation but distinguishable from the heritage context
- Recognize the key role the exterior form plays in defining the urban setting and ensure the addition contributes to the streetwall



Beatty Street elevation showing key horizontal and vertical datum lines

## 2B RESPOND TO THE HERITAGE CONTEXT COMPLEMENT EXISTING MATERIALS

- Make the addition physically and visually compatible with the existing while remaining distinguishable from it
- Use materials that complement the existing exterior palette of the block: brick masonry, concrete and steel

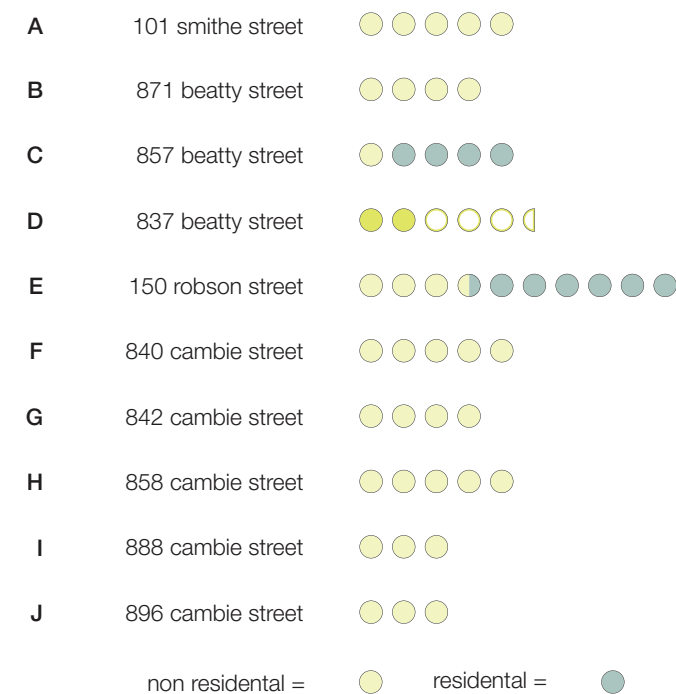




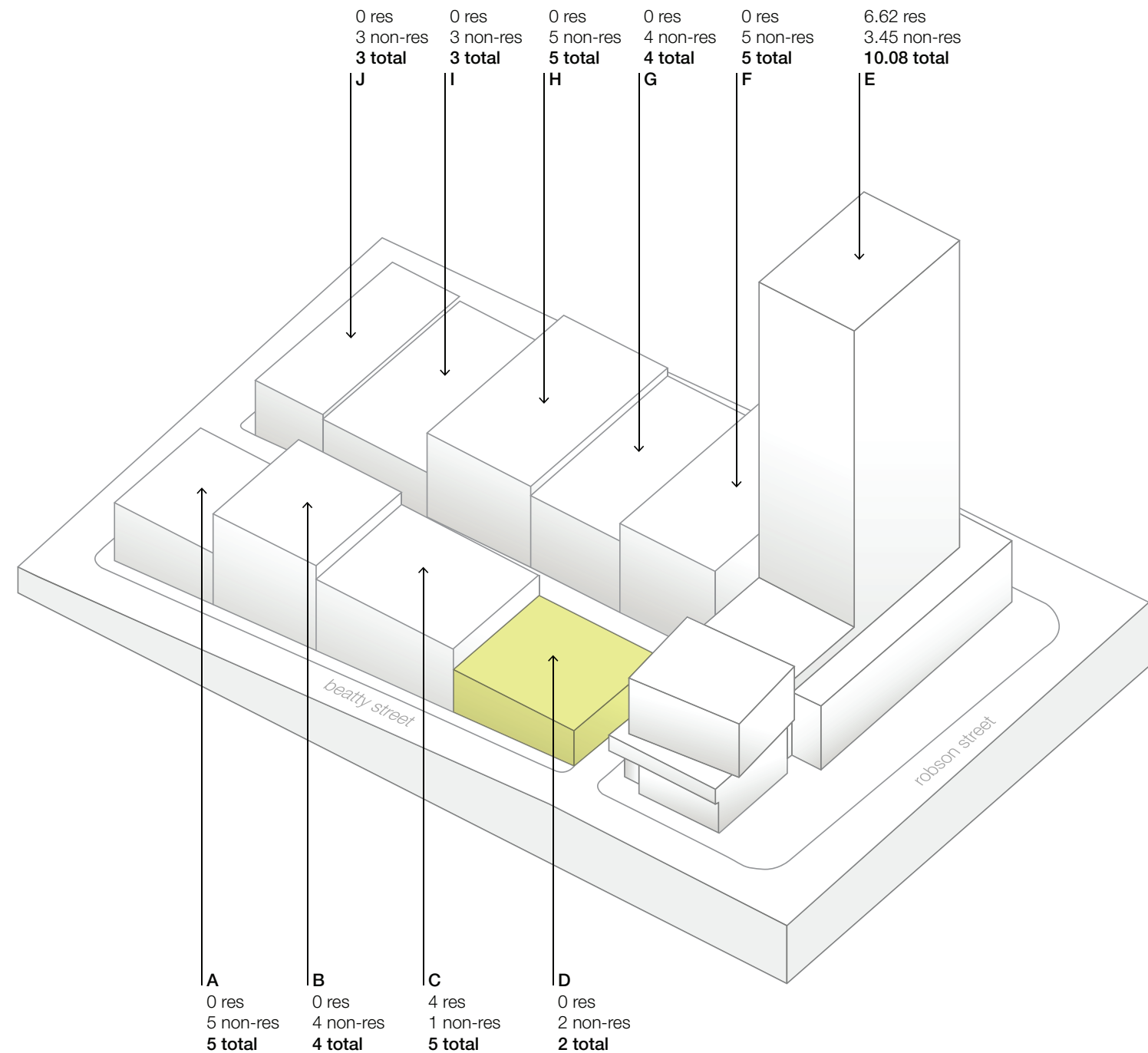
2C INCREASE EMPLOYMENT DENSITY

## INCREASE EMPLOYMENT DENSITY IMPROVE SITE UTILIZATION

- Compared to its neighbours, the 837 Beatty St site is underutilized
- 837 Beatty St is currently 3.5 below the allowable FSR in the Downtown Official Development Plan (and including an additional 0.5 Heritage bonus)
- Reflecting the City's objectives, the site has the potential to support the creation of more commercial employment space while protecting the vernacular heritage of the block
- Redevelopment would enable 837 Beatty St to grow with the changing neighbourhood



DENSITY COMPARISON OF BUILDINGS IN 'BLOCK 68'

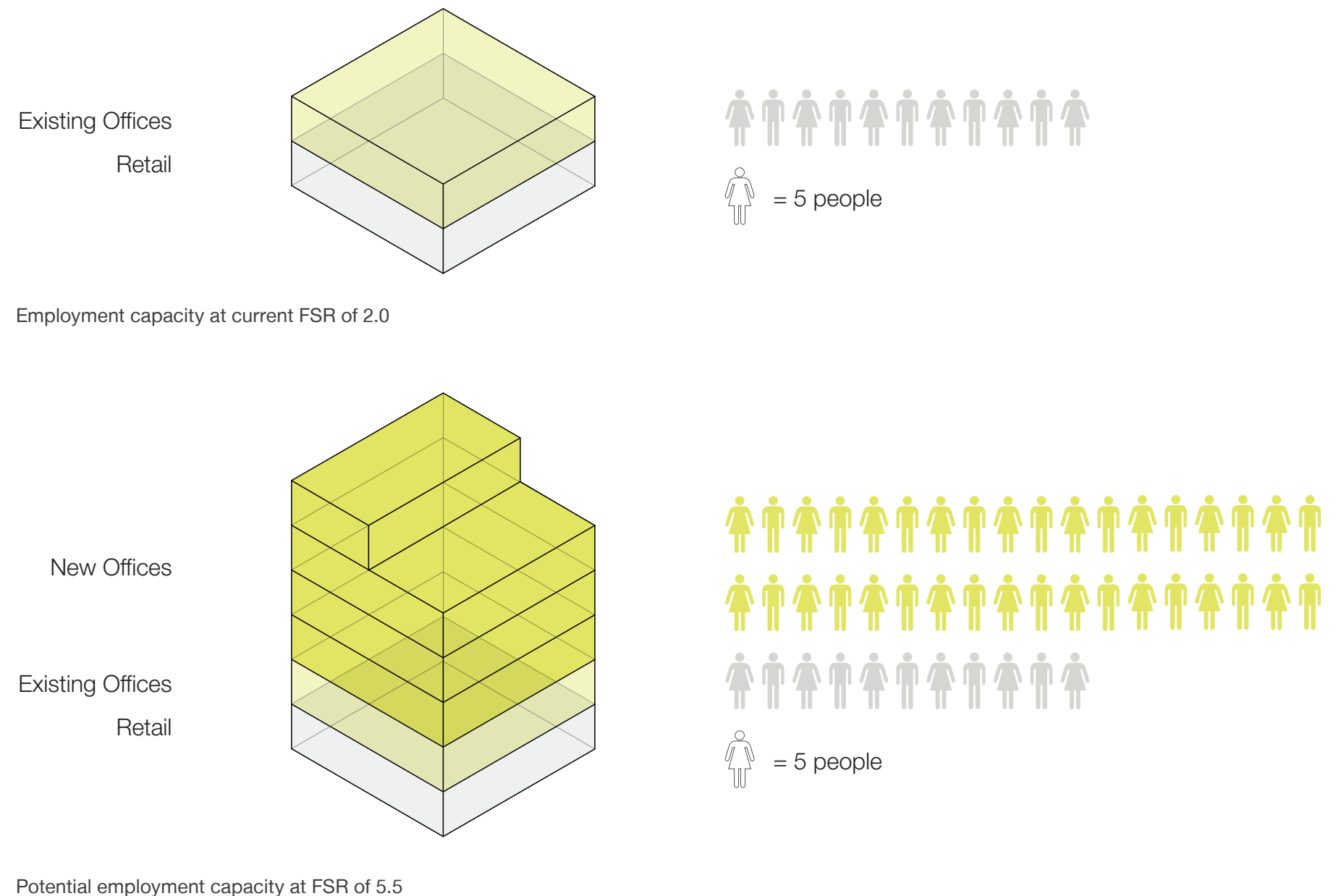


## 2C INCREASE EMPLOYMENT DENSITY CREATE NEW EMPLOYMENT SPACE

- Increasing density from the current FSR of 2.0 to a potential 5.5 significantly increases the employment capacity of the site
- Protecting and enhancing job spaces is a key objective highlighted in the City of Vancouver's Economic Action Strategy. In a neighbourhood experiencing increased residential development, an addition of commercial space helps balance the live/work nature of the area and lessen the dependency on automobiles
- The existing office capacity is 55 people<sup>1</sup>
- The potential office capacity is 234 people
- The additional capacity is 179 people<sup>2</sup>

- Office capacity is determined by taking the leasable floor area and dividing it by the area per person to arrive at an occupant load as prescribed by Section 3.17 of the Vancouver Building Bylaw. Actual office employment numbers will differ from the occupant load, but the occupant load serves as a useful comparison between existing and proposed density.
- For the purposes of this comparison, the retail space at the ground floor and its associated employment have been held constant.

### POTENTIAL EMPLOYMENT INCREASE AT 837 BEATTY ST





## 2D REDUCE GHGI + EMBODIED CARBON

## 2D REDUCE GHGI + EMBODIED CARBON KEY SUSTAINABILITY STRATEGIES



### 01 UPGRADE THE EXISTING BUILDING

- The envelope will be improved through the repair and restoration of windows with higher energy performance than existing
- Mechanical Systems will be provided by the new high-efficiency electric base building systems
- Service water heating will be provided on a floor-by-floor basis with new high-efficiency electric equipment
- All lighting will be replaced with energy conserving LED fixtures



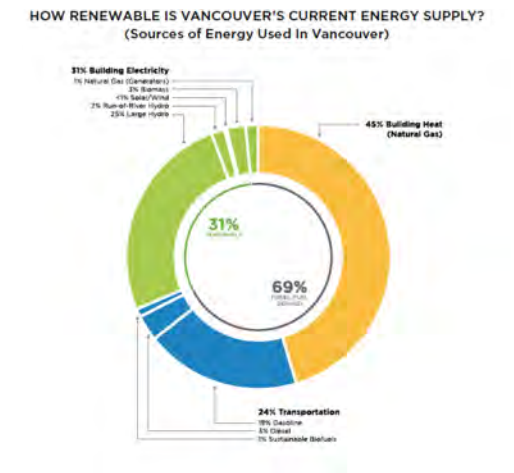
### 02 REHABILITATE + REUSE

- Existing structure in serviceable condition will be rehabilitated, retained or repurposed
- Gaps in the existing floor structure will be filled using repurposed Nail Laminated Timber from other parts of the building
- Existing masonry walls will be retained and repaired



### 03 MASS TIMBER CONSTRUCTION

- The primary structure of the addition will be mass timber
- Wood is a renewable structural material that sequesters carbon rather than expending it
- Site waste is reduced due to optimized offsite prefabrication reducing landfill directed material



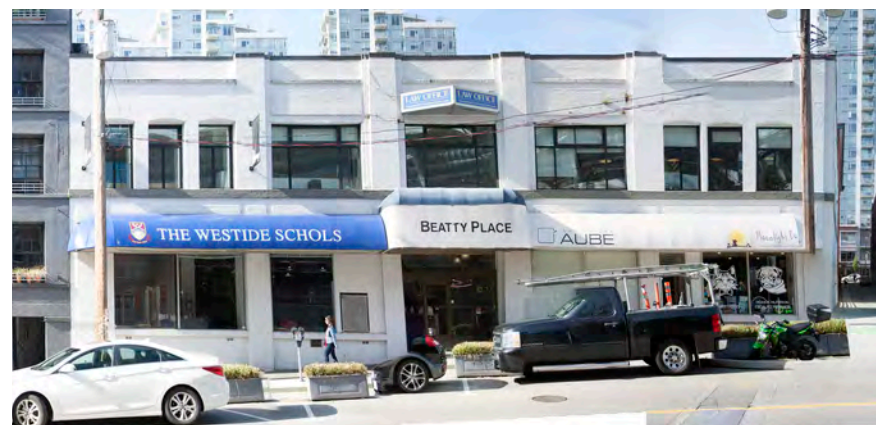
### 04 HIGH EFFICIENCY BUILDING SYSTEMS

- New building systems will be electricity based, removing the need for natural gas service
- High efficiency energy recovery ventilation will be used to provide fresh air and exhaust
- An electric heat pump system will be used to provide heating and cooling to the spaces
- The building will be designed to meet the LEED Gold Standard

## 03 PROPOSED DESIGN

# 3

## PROPOSED DESIGN RETAIN + REHABILITATE THE EXISTING



Current condition of Beatty St elevation

SECOND FLOOR WINDOWS WILL BE RESTORED TO THEIR ORIGINAL DESIGN WITH HIGHER PERFORMANCE GLAZING

GAS METER AND SOLID INFILL PANEL WILL BE REMOVED + STOREFRONT WILL BE RESTORED

CONCRETE FOUNDATION WALLS AND PIERS WILL BE REPAIRED AND REPAINTED AND DECORATIVE 'CAPITALS' WILL BE RESTORED

PAINT WILL BE REMOVED AND BRICK WILL BE CLEANED, REPAIRED AND REPOINTED THROUGHOUT

LARGE FABRIC AWNING WILL BE REMOVED AND LOCALIZED OVERHANGS AT ENTRANCES STUDIED



STOREFRONT GLAZING WILL HAVE A HERITAGE CORRECT TRANSOM AND LARGE OPEN GLAZING BELOW TO ACCOMMODATE MODERN RETAIL REQUIREMENTS

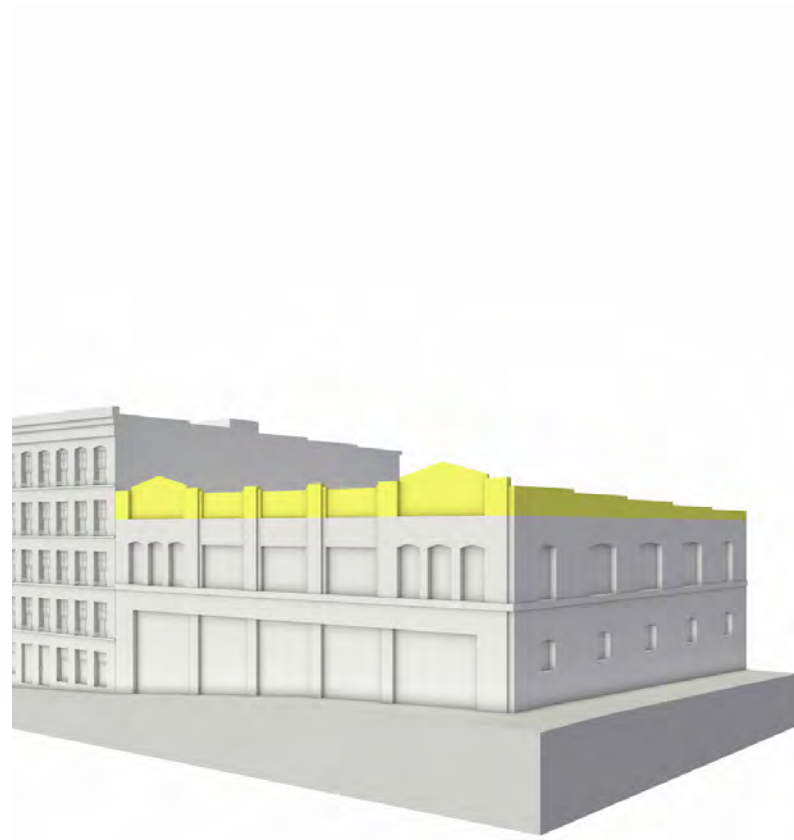
METAL SILLS WILL BE REMOVED AND CONCRETE SILLS REPAIRED

LARGE ENTRANCE DOORS REFERENCE THE ORIGINAL OVERSIZED SLIDING DOORS

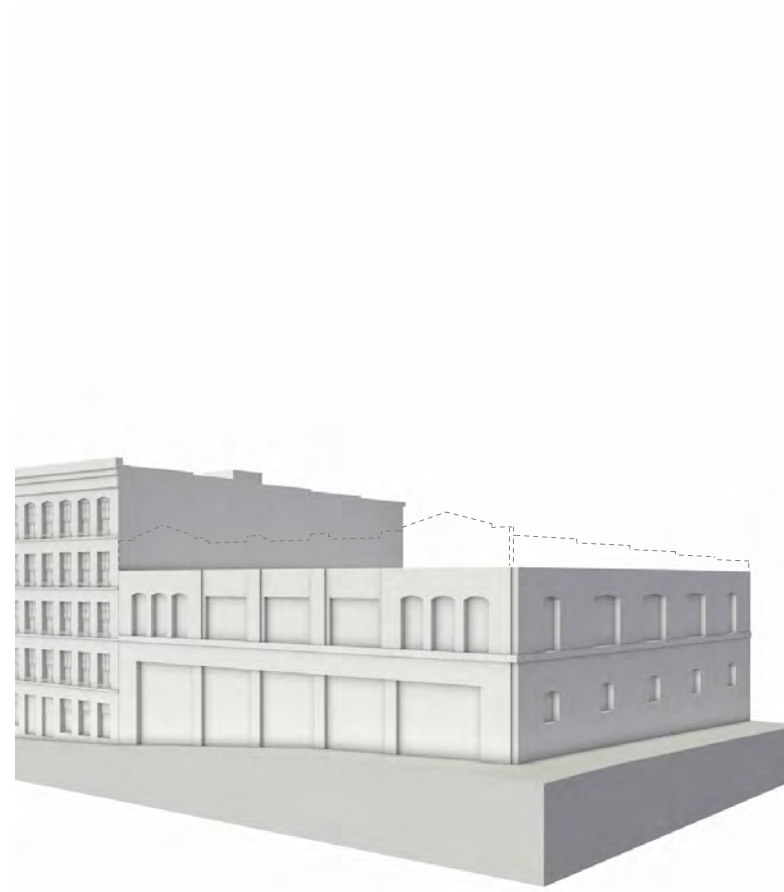
FALSE PIER WILL BE REMOVED AND STOREFRONT RESTORED

# 3

## PROPOSED DESIGN EXPAND ON ORIGINAL AMBITIONS



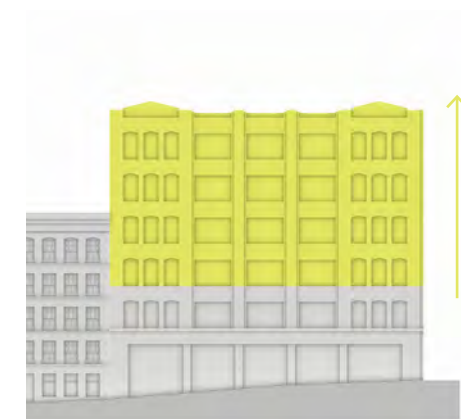
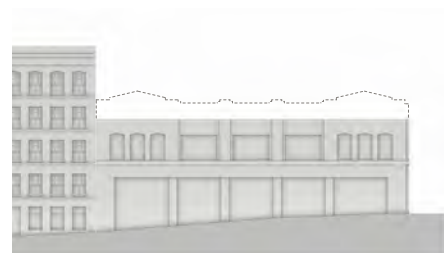
- Original 1911 building



- Anticipated extent of parapet removed to facilitate planned vertical addition



- Planned vertical addition, based on existing drawings

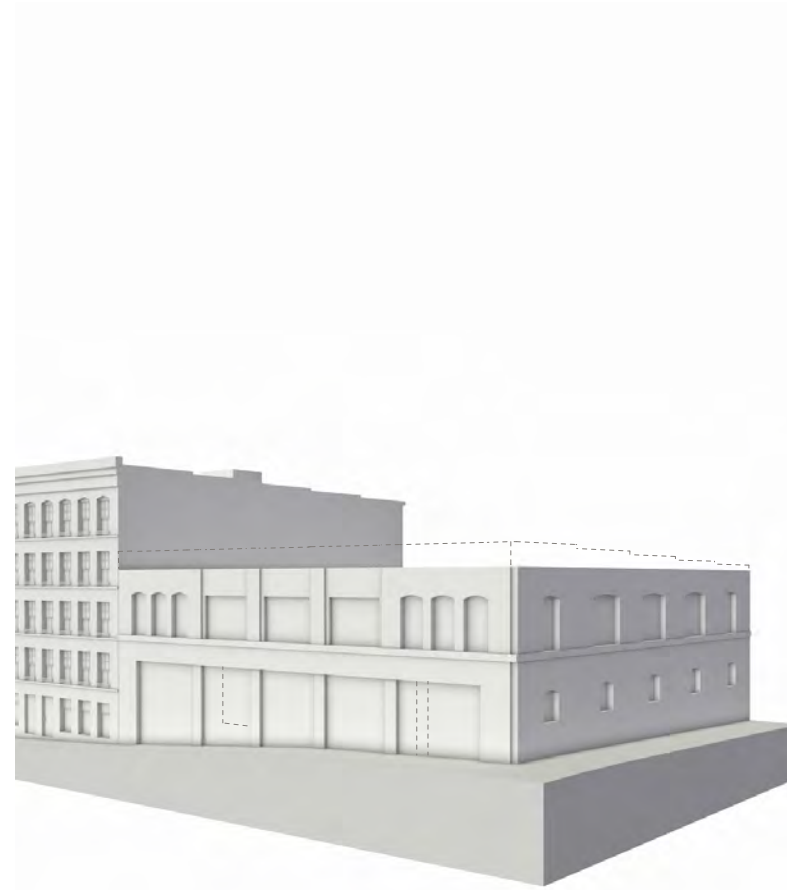


# 3

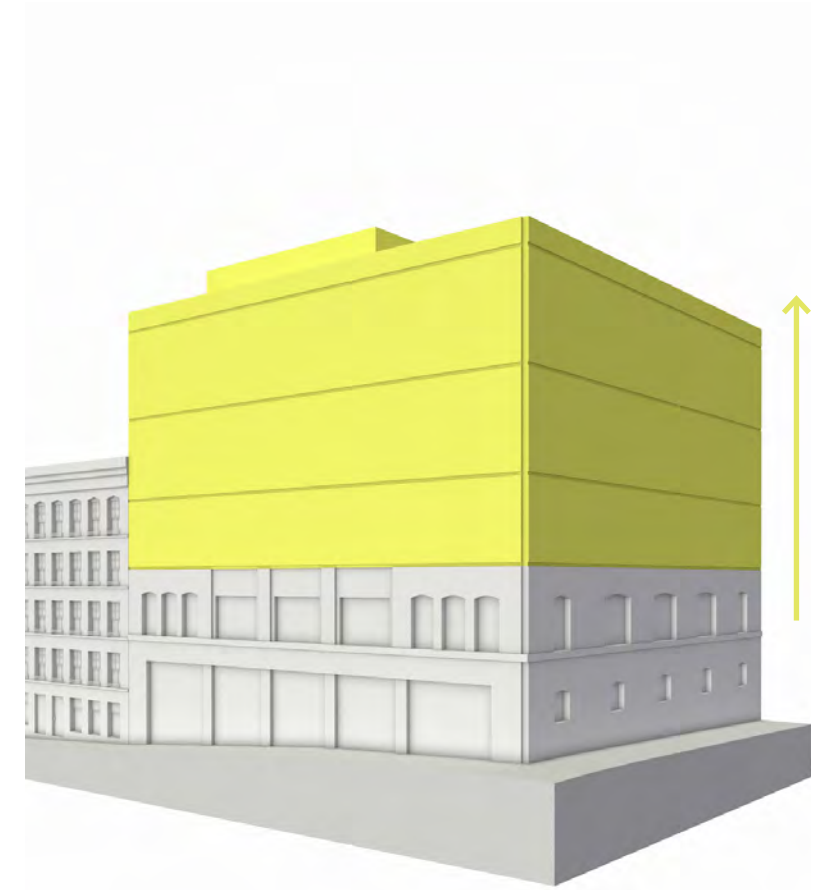
## PROPOSED DESIGN EXPAND ON ORIGINAL AMBITIONS



- Current condition with shorter parapet and without articulated roofline expression at the end bays



- Removal of remaining parapet to the original third floor sill line facilitates the proposed vertical addition
- Rehabilitation of existing base building including restoration of brick, concrete and fenestration elements
- Removal of non-original facade features, including gas meter and solid infill panel, false pier and fabric awning



- Proposed massing based on an extruded form from the existing building
- The removal of the parapet provides a clean horizontal datum between the existing building and proposed massing at the original third floor sill line



# 3

## PROPOSED DESIGN RESPECT THE EXISTING GRID & STRUCTURAL LANGUAGE

- The proposed new structure will align with the existing column grid
- The new addition will use modern mass timber beams and columns and laminated timber floors to reflect the existing structural language
- As well as the mass timber structure, steel elements will be required to provide code compliant lateral resistance
- Wherever possible the existing heavy timber (posts, girders, beams, & nail laminated floors) and masonry structure will be retained and rehabilitated



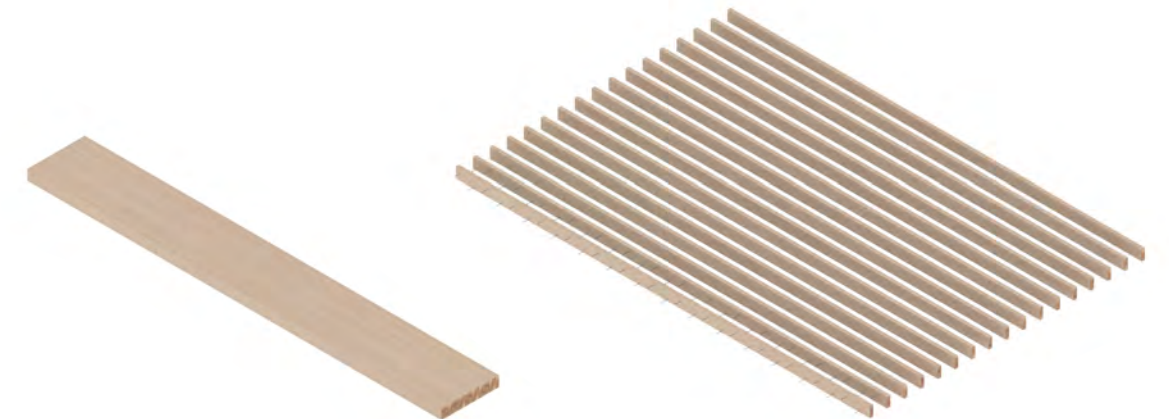
# 3

## PROPOSED DESIGN RESPECT THE EXISTING GRID & STRUCTURAL LANGUAGE

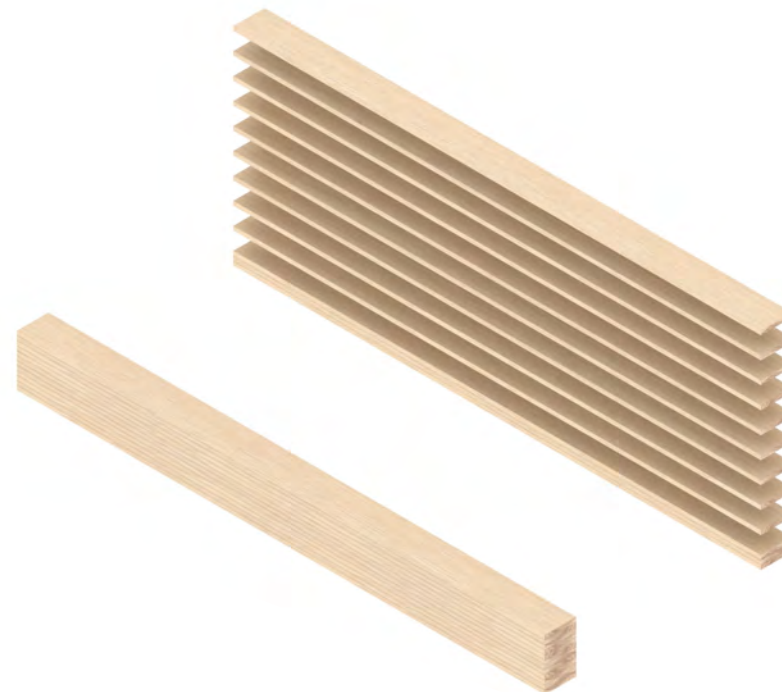
- The existing heavy timber structure is composed of large solid wood beams and columns, and nail laminated floors composed of dimensional lumber
- The existing structure is reinterpreted for the proposed addition using modern technology
- The modern expression of heavy timber beams, previously sourced from large, old growth trees, is Glue Laminated Timber (Glulam), which combines many, smaller pieces of timber into a stable, consistent structural member
- Although Nail Laminated Timber (NLT) is still produced today, it is being replaced by Dowel Laminated Timber (DLT) which has several advantages over its predecessor, including being composed entirely of wood with no metal components, and having improved structural capacity and fire performance due to the consistency of its makeup



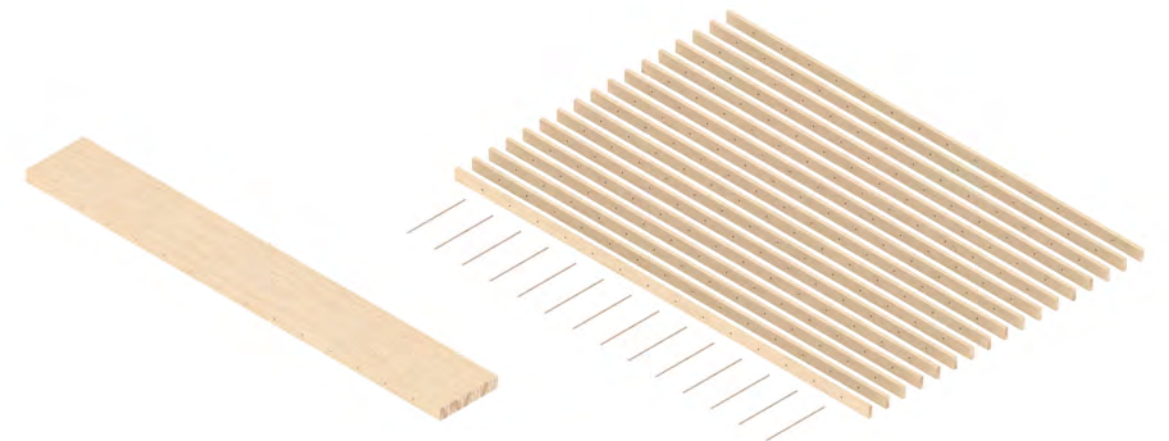
OLD HEAVY TIMBER BEAM



OLD NAIL LAMINATED TIMBER (NLT)



NEW GLUE LAMINATED TIMBER (GLULAM)

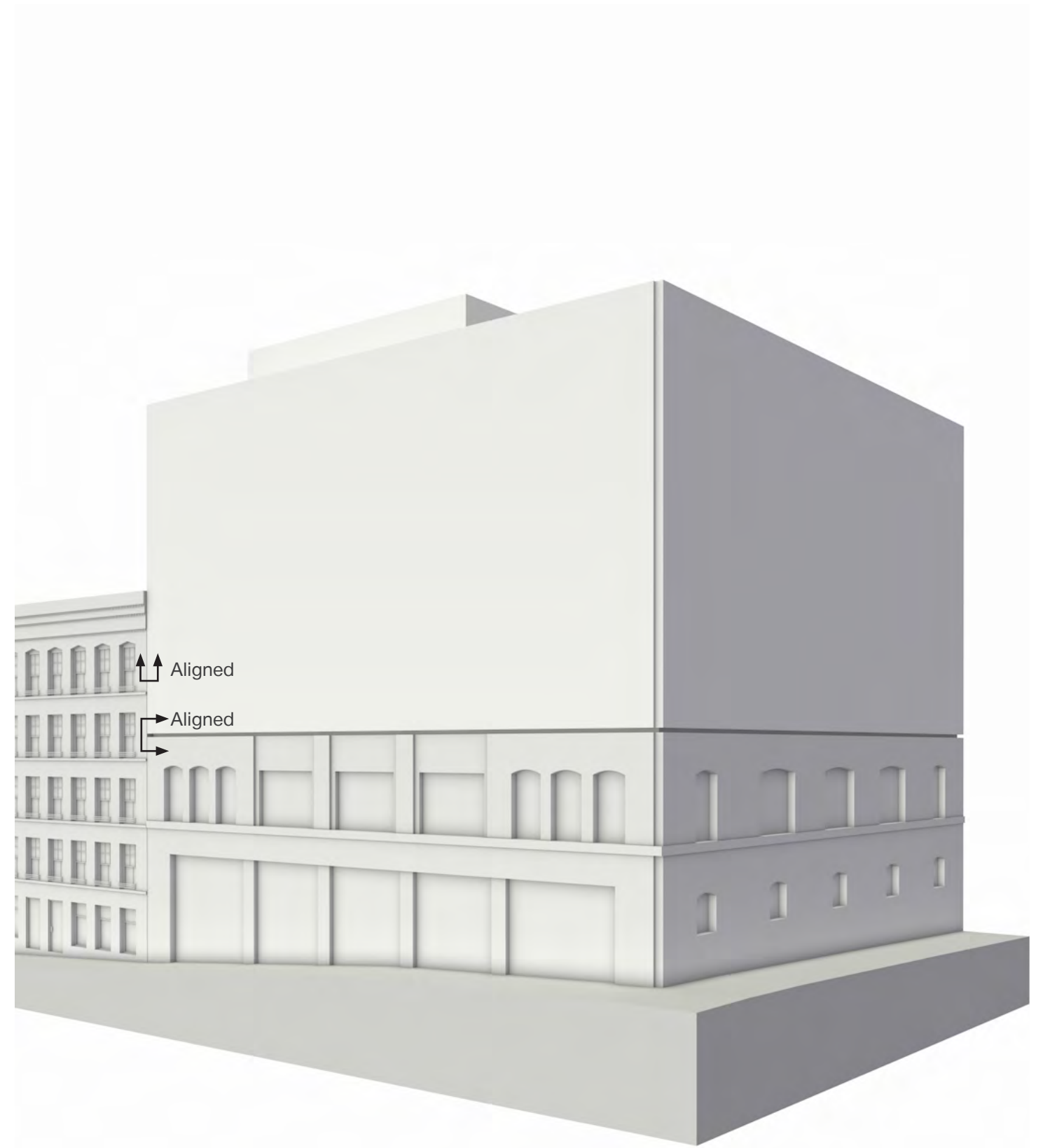


NEW DOWEL LAMINATED TIMBER (DLT)

# 3

## PROPOSED DESIGN RESPOND TO CONTEXT IN ELEVATION

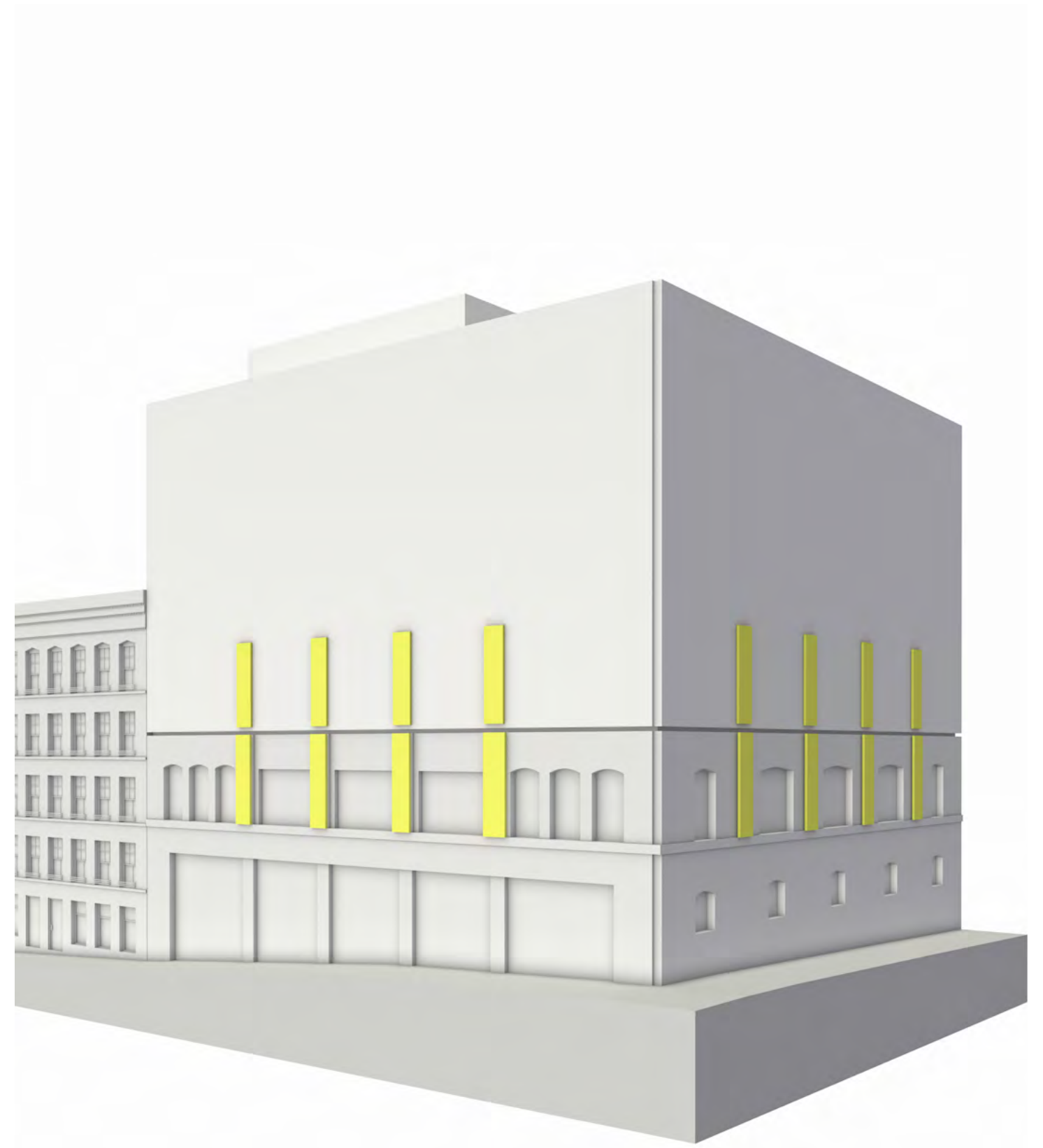
- The proposed massing will align with the face of the existing building below to emphasize the continuous street wall along Beatty St



# 3

## PROPOSED DESIGN RESPOND TO CONTEXT IN ELEVATION

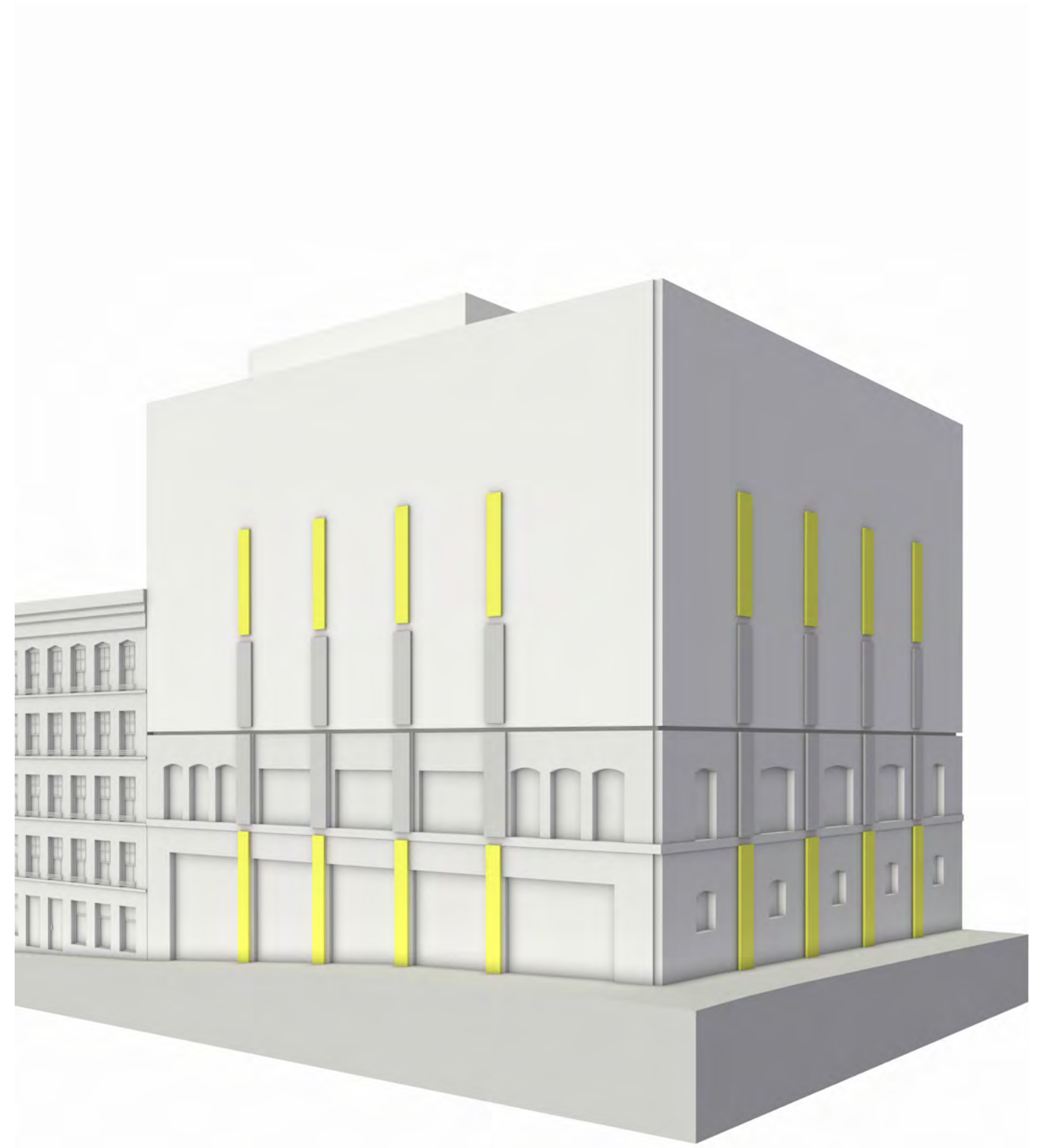
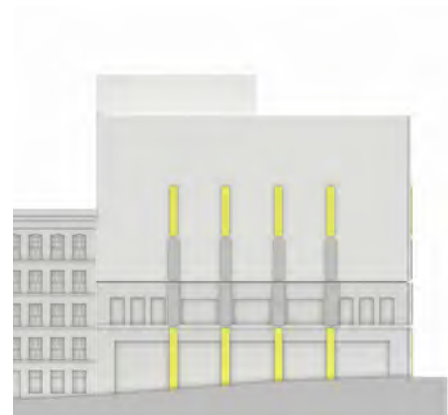
- The relationship between the vertical piers and structural grid of the existing building is expressed in the new addition



# 3

## PROPOSED DESIGN RESPOND TO CONTEXT IN ELEVATION

- As the piers reduce in width from level two down to ground on the front facade, the width of the new vertical piers of the addition reduce as they move upward, lightening the building
- Piers on the side elevation remain wider to achieve code and energy compliance



# 3

## PROPOSED DESIGN RESPOND TO CONTEXT IN ELEVATION

- The top floor piers on the front facade continue the tapered approach to complete the gradient

