

MIDTOWN GREEN

INTRODUCTION

Office space in our urban centers is currently underutilized as people choose to continue to work from home long after the risks from the COVID pandemic have subsided. Meanwhile, the affordable housing crisis continues in urban areas across the country. The long boom in commercial real estate has culminated with significant new premier office properties coming to market just as the demand for overall office space is being questioned. The worst fears for these new properties have not come to pass. The office market is seeing a flight to quality and the most desirable tenants are looking to attract talent to their organizations through workplace strategies that prioritize experience and interaction in great spaces, vibrant neighborhoods, and with top class amenities that only the latest crop of office product provide. This leaves older office properties to bear the brunt of the reduced office demand.

These market shifts are also coming at the same time that society is realizing the significant impacts that buildings life cycle carbon emissions have on climate change. Environmental regulations such as New York's Local Law 97 are increasing financial pressure on old inefficient buildings to upgrade their building systems or otherwise face fines. Combined with the flight to quality, this leaves many older assets at risk of becoming stranded assets. The fines for poor energy performance are coming just at the time when tenants are heading to the new towers coming to market across town.

In years past, it was often cheaper to simply demolish old assets and rebuild them to whatever program the market most demanded. The significant contribution of embodied carbon from construction on overall yearly carbon emissions brings into question the responsibility of such an action. The lowest carbon structure is the one we already have.

The importance of place and neighborhood became all too clear during the reopening after COVID. Neighborhoods which had a healthy mix of residential, office, retail, food and beverage, and outdoor spaces thrived while central business districts planned around offices and the amenities that serve the daytime workers languished as tenants accomplished their work remotely. Conversely, daytime activity in the vibrant mixed use 24-hour neighborhoods reached new heights as those living in there preferred (and had the option) to stay at home and work remotely most, if not all, days. Workdays began to include walks in parks, lunch or coffee at a sidewalk cafés, and eliminated time-consuming commutes. Central business districts and the restaurants which relied on the lunch crowd became ghost towns.

This combination of shrunken office demand, aging building stock, climate change, lack of affordable housing, and desirability of balanced mixed use neighborhoods presents an opportunity for reinvention of our business districts. Conversion of underutilized and out-of-date office properties to residential can create vibrant 24-hour, 7-day neighborhoods and improve building energy performance resulting in increased asset value over the long term.

GUIDING PRINCIPLES

HIGHEST AND BEST USE: Provide the greatest value for the residents and tenants and building owners long-term.

HOLISTIC: Consider all aspects of a 2mil SF office-to-residential conversion, including population impacts to the urban realm, health and wellness and well-being of building occupants.

FLEXIBLE: Provide a flexible framework for phasing the building uses from commercial to residential, giving the building owners flexibility to respond to an ever-changing market.

FUTURE-PROOFED: Provide a solution that makes the project viable considering energy use into the future.



CHALLENGES

The conversion of existing buildings to residential program is not new. New York City has seen waves of conversions over the years: Soho and its famous loft conversions, the Financial District following 9/11 and again after the closures of super storm Sandy, and now after COVID. Past conversions were driven by economic considerations to minimize changes to the base building envelope and structure. Legal light and air requirements drive apartment layout and are often not compatible with the deep lease spans typical in postwar office buildings (or Soho warehouse lofts). The resulting apartment layout is either tailored towards a luxury product with double sized loft style rooms or towards a pack 'em in shotgun style apartment approach where each unit is a skinny puzzle piece winding its way across the lease span in a 10 ft strip to reach its sole window. The extra depth of the lease span is used for walk through galley kitchens and awkward home offices which are often used dangerously as interior bedrooms with no access to light or air.

FLOOR LAYOUT

New apartment buildings often follow the ~ 65ft deep double loaded corridor bar building typology with ~28ft deep apartments on either side of a central corridor. Office buildings often have 45-60ft lease spans (the distance between building core and façade). From an apartment layout point of view, an ideal conversion would entail stripping off the outer layer of the office lease span to bring the units into the efficient idealized range. This has historically been cost prohibitive.

FACADE

The new climate regulations add an important new factor with improved energy efficiency requirements and reduced life-cycle carbon emissions. Many of today's underutilized office buildings were built

from 1950's through 1980's and have single pane glazing and poorly insulated facades at the end of their useful lives. It is now necessary to replace the building façade as part of these conversions which opens up the opportunity to find a balance between minimizing massing adjustments and optimizing quality apartment layouts. A new approach to conversions is therefore now viable whereby surgical adjustments to overall building massing can be made which drastically increase the quality of the apartment spaces. Floor area cut out at lower floors could be replaced with additional floors above if it can be cleverly arranged to fall within existing structural capacity or if structure below can be selectively strengthened to carry the extra floors.

ELEVATORS

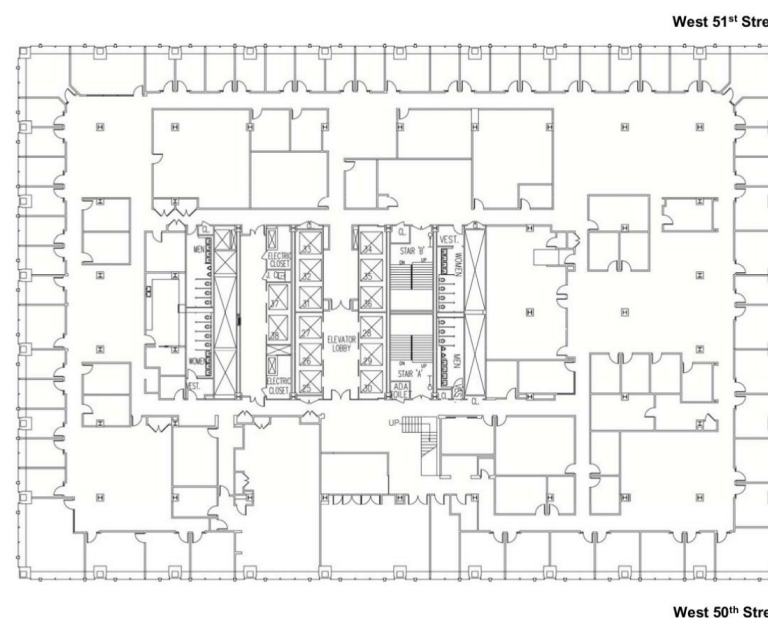
Office buildings require approximately twice as many elevators as residential buildings for similar floor area. Tall office buildings often have a zoned elevator approach where the low, mid, and high zone elevator banks run express from the lobby level to the zone of floors they serve. In an office building with three zones of elevators, it would be likely possible to likely eliminate one full zone of elevators. The existing elevators would need to be modified to stop at new floors and the old elevators would either be deconstructed and filled in or more likely simply closed up and lost as shaft space. An efficient conversion will need to consider where the elevator banks currently drop off and adjust the floor plan layout to take advantage of the extra leasable space. Should additional floors be added as part of a residential conversion, either a new elevator shaft and system will need to be installed to service the new floors or one of the old shafts would need to be extended, the elevator machine room relocated to new roof level, and the elevator ropes replaced for new lengths.



1633 Broadway



Existing facade



Typical existing upper floor plan



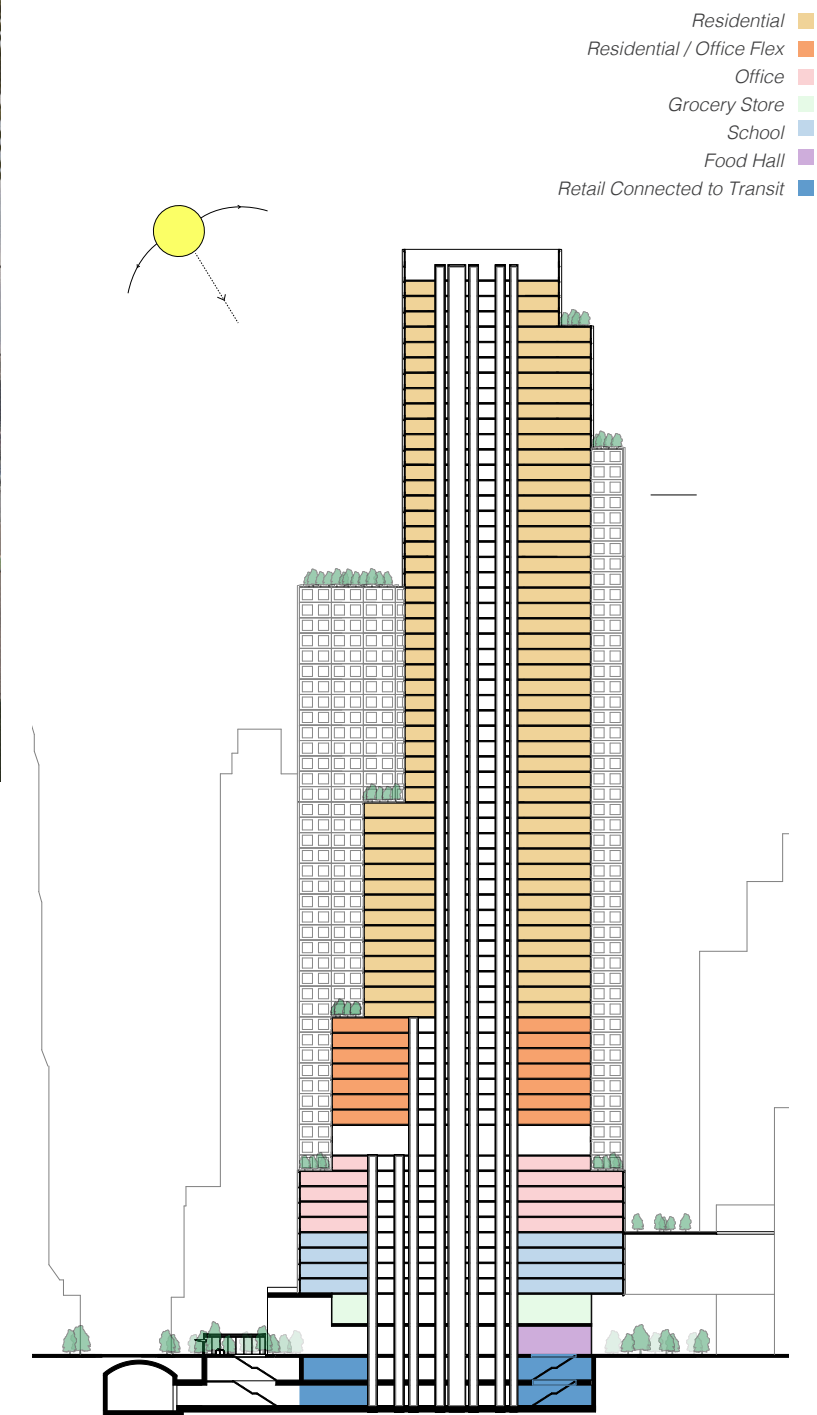
Pack 'em in style conversion
(10 Hanover Square, NY)

INITIATIVES



RE-PROGRAM <
APARTMENTS
URBAN

EAST-WEST SECTION LOOKING SOUTH



The building is situated at the intersection of Hell’s Kitchen – a predominantly residential neighborhood – to the west, New York’s Theater District to the south, the Midtown core to the east, and Central Park to the north. Like the Time Warner building – the approach is to embrace the complexity of these neighborhoods with a project that acknowledges that large sites in the center of the city can and need to address many challenges simultaneously.

The addition of nearly 1,800 units of housing will help to support local businesses, activate streets and public spaces in the evening, and in that process create/nurture the kinds of amenities that office tenants are increasingly gravitating towards. Moreover, the market rationale for additional housing is clear with median rents in Manhattan climbing well past pre-pandemic levels.

But it’s not simply enough to deliver housing production without

consideration for the quality of the housing that is produced and the experience of the public realm.

The flight to quality in the office market is a reminder that cities like New York need to continue to deliver on the quality of the experience because that’s why people and companies are here.

Our proposal is not a simple conversion of ‘office’ to ‘housing’ but a re-creation of an ambitious, dense, creative, and energetic community in a different form. This form is the new MIDTOWN GREEN, a mixed-use development including apartments with work-from-home layouts, office floors with outdoor space, community facilities, and retail, food and beverage. These uses are self-sustaining and contribute to the qualities of ambition, density, creativity, and energy that once characterized Midtown and remain as the guideposts for dreaming what it could become.

INITIATIVES

Converting extra deep Midtown office floor plates of the 1960's to one which meets the legally required access to air and light for residential units is a geometric challenge. Many conversions have been done with Financial District office buildings but they tend to have their cores on the side and shallower floor plates than the monoliths of Midtown. Those buildings are often solved with an interior courtyard meeting the minimum requirements but offering compromised unit layouts. In addition, a building such as 1633 Broadway, at over 40 stories, does not lend itself to a central courtyard.

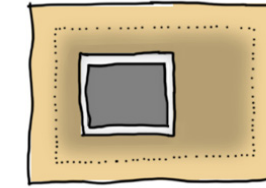
Our approach is to carve in from the outside and use the relieved structural capacity to build above. This load re-distribution approach facilitates unit layouts on the 25ft structural grid with generous yet not wasteful square footages as is found in Soho loft conversions. The apartment layouts take the NYC Dept. of Housing

Preservation & Development design guidelines as the starting point and take advantage of the existing floor area to add comfortable work/study spaces. Internal core area that is unused due to elevator decommissioning or vertical zoning is converted to bicycle and tenant storage.

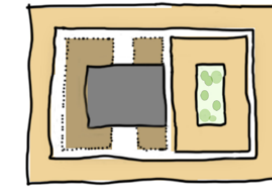
The double-height mechanical floors that are no longer needed as a result of the decentralized HVAC system are converted to amenity spaces and access to terraces which result from stepping the building back as it rises.

Lower floors are kept at their maximum possible build-outs (minimum carve-out) and are convertible between office and residential occupancies with an HVAC system that can accommodate both.

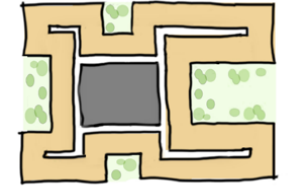
The final result is an office-to-residential conversion without wasted floor area, many desirable corner units, and much added long-term value.



Typical Midtown office floor plate



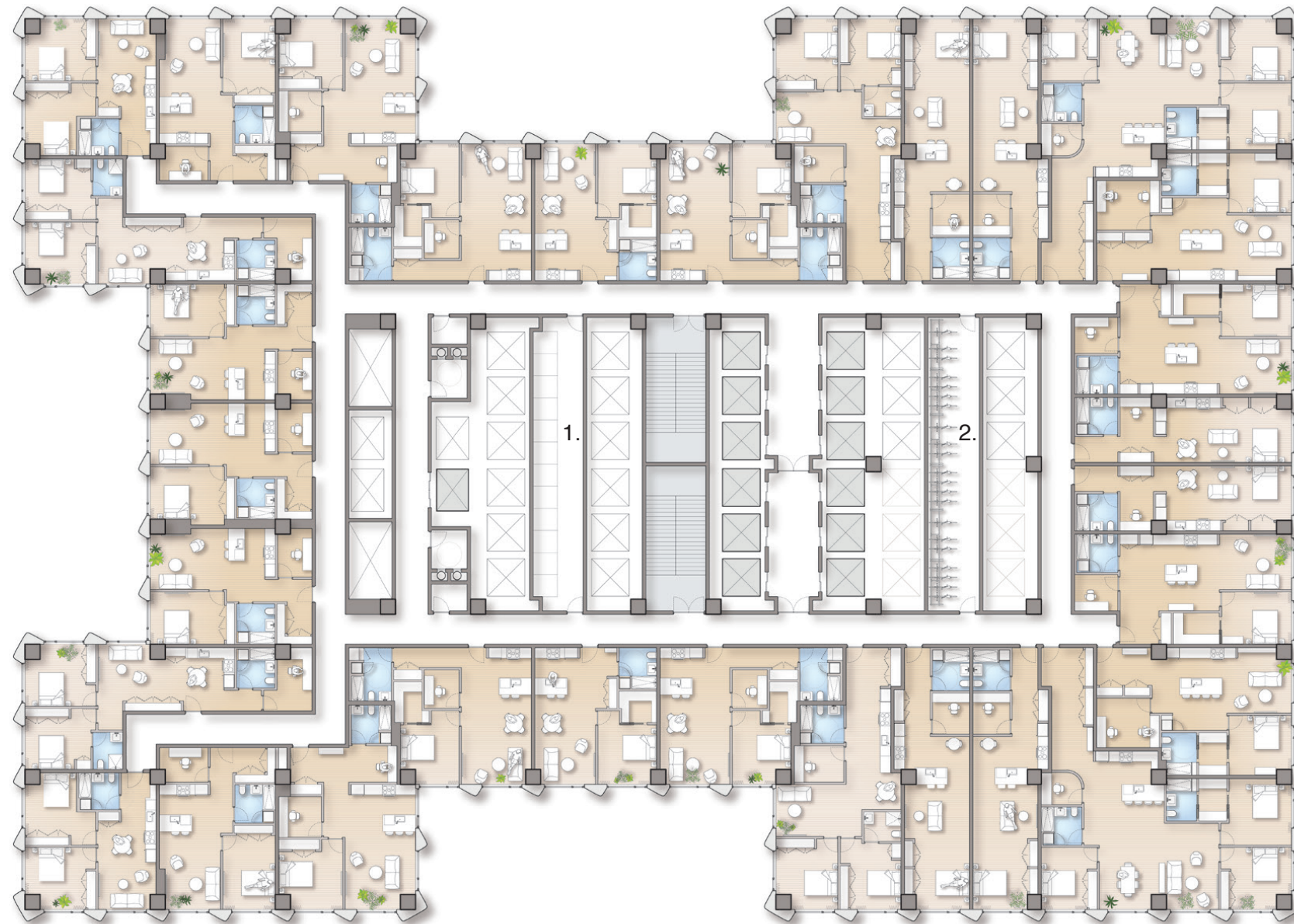
Interior courtyard scheme



Exterior courtyard and terraced scheme

RESIDENTIAL BUILDING

339 STUDIOS
723 ONE BEDROOM
330 TWO BEDROOMS
81 THREE BEDROOMS
1473 TOTAL

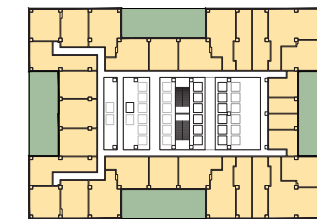


FLOORS 13-16*

Studios 6
One Bedroom 17
Two Bedrooms 6
Three Bedrooms 2
TOTAL 31

*Floors convertible to office

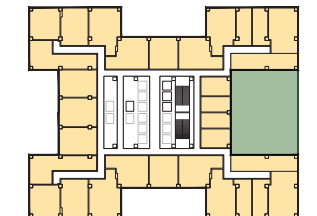
1. Residential Storage
2. Bike Storage



FLOORS 17-19

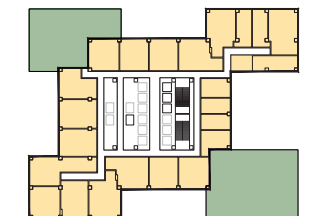
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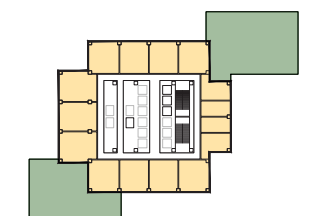
FLOORS 20-47

Studios 6
One Bedroom 15
Two Bedrooms 2
Three Bedrooms 3
TOTAL 31



FLOORS 48-55

Studios 5
One Bedroom 11
Two Bedrooms 6
Three Bedrooms 1
TOTAL 23



FLOORS 56-65

Studios 2
One Bedroom 7
Two Bedrooms 6
TOTAL 15

■ Apartments
■ Terraces

A community united by creativity, where we imagine, innovate and play.

Public space is an essential component of any urban environment and one that helps to define a community. A well-designed plaza provide opportunities for social interaction, recreation, economic development and many other forms of engagement. The theater district's new signature vertical neighborhood will have creative culture at its core, providing a space ongoing creation, expression, and dialogue from diverse voices.

Building on the legacy as the entertainment capital, we will be a part of the resurgence of the theater district for a new century. We will create new training, employment opportunities for local people, students and businesses, for example, hosting careers events to connect with the theater district and media technology community.

PRINCIPLES

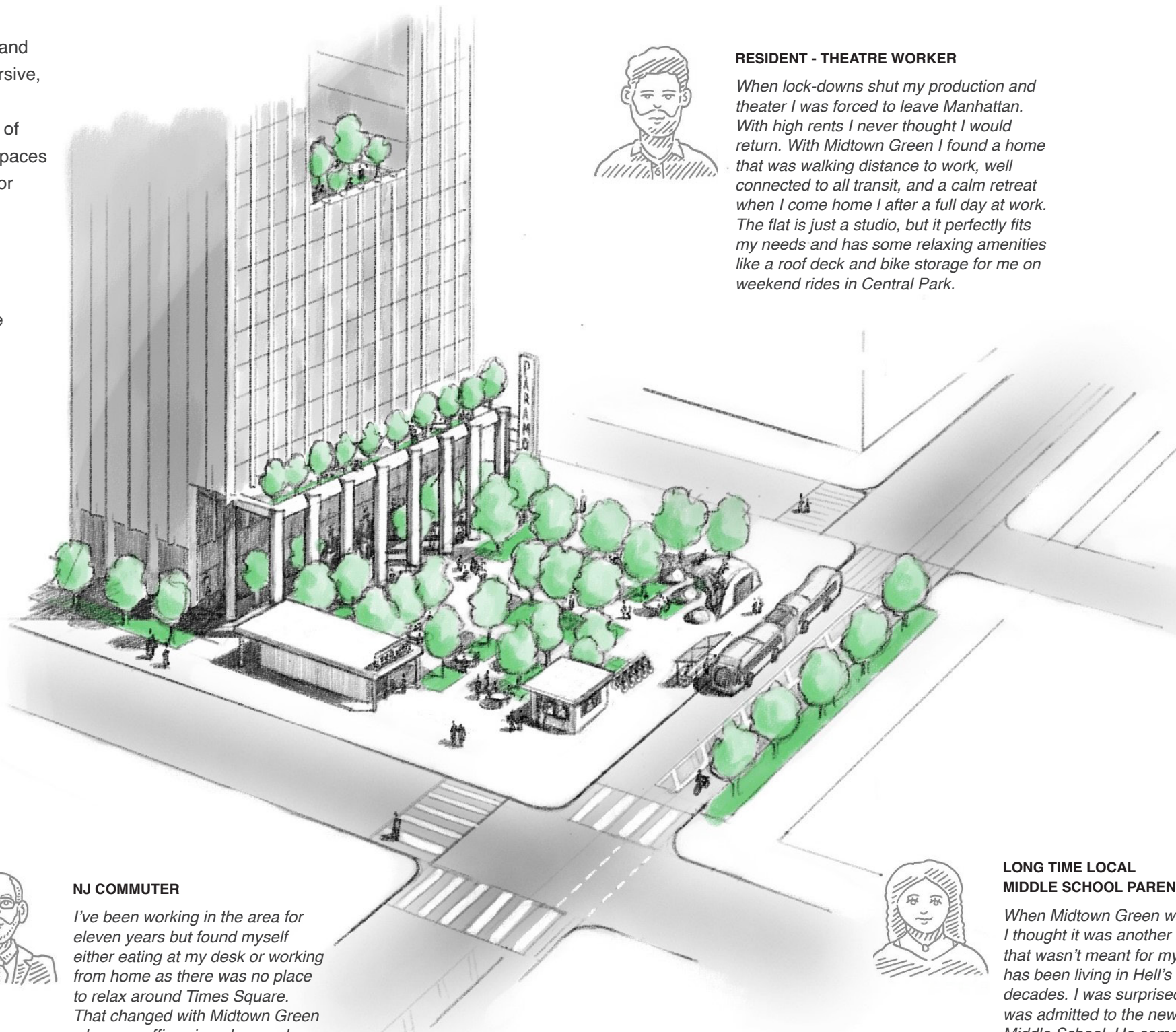
- Taking an active part in the city's civic life
- Exploring an active lifestyle in the natural environment.
- Enjoying and creating the city's popular culture.
- Testing the boundaries of play and imagination.
- Developing skills of making and creativity.
- Trialling new business ventures and collaborations.
- Accessible and available reaching to all needs.
- Flexibility to adapt for different users for different parts of the day.

PLAZA

The planned center for the neighborhood and greenway. Where artists can create immersive, multi-sensory installations using flexible infrastructure. The plan supports a variety of retail, office, production, and community spaces within its ground floors through flexible floor plates that connect directly to the street to create a larger, livelier public realm.

ALLEY

An intimate covered alley on the west side of the building providing opportunities for spontaneous and planned performances. The north and south sides of the building would be filled with shops, pop-up booths, maker spaces, cultural installations.



RESIDENT - THEATRE WORKER

When lock-downs shut my production and theater I was forced to leave Manhattan. With high rents I never thought I would return. With Midtown Green I found a home that was walking distance to work, well connected to all transit, and a calm retreat when I come home I after a full day at work. The flat is just a studio, but it perfectly fits my needs and has some relaxing amenities like a roof deck and bike storage for me on weekend rides in Central Park.



NJ COMMUTER

I've been working in the area for eleven years but found myself either eating at my desk or working from home as there was no place to relax around Times Square. That changed with Midtown Green when my office signed a new lease in the building. Our staff comes into the office more often as we all enjoy the Food Hall and sign up for some of the preview performances in the plaza after work.



LONG TIME LOCAL MIDDLE SCHOOL PARENT

When Midtown Green was announced I thought it was another new building that wasn't meant for my family who has been living in Hell's Kitchen for decades. I was surprised when my son was admitted to the new Theater Arts Middle School. He comes home inspired as they work closely with professional mentors and Broadway productions. We now have an easy walk to school, and I can attend their outdoor pop up performances after I pick up groceries.

URBAN FEATURES

RETRACTABLE FACADES

Facades that fold up similar to a simple garage door — one of several outdoor comfort tools — would open during the summer months but close during rain and snow.

RETAIL, FOOD, AND BEVERAGE

Local retail and restaurants play an essential role in the street life of a community, satisfying basic needs, offering outlets for creativity (artisan crafts), and facilitating connections (community board meetings). Options can range from innovative seasonal curb stalls to restaurant and clothing stores to commissary spaces.

PERFORMANCE AND PRODUCTION

Rehearsal space has a vital role in the modern theater arts economy. Studios, workshops, design services, and other forms of light production would animate studios throughout, with opportunities to educate the public.

OFFICE SPACE

The building is designed to offer a variety of professional spaces, including co-working stations for individuals and offices for businesses. Co-working stations could be permanent or operate during certain hours that might convert restaurants and bars into workspaces before the evening rush.

SOCIAL INFRASTRUCTURE SPACE

Community spaces would provide health and well-being services and programming, which would become a hub for the community, arts, and cultural gatherings. These spaces would exist to nurture the interactions that forge a healthy, vibrant, and engaged community.

SLOW ZONE

Times Square is known for being at the peak pace of the city, but the plaza would feature a designated slow zone in which the vehicles, cyclists, and pedestrians all share space while traveling at low speeds. Limited service / bus access would be available modeled on shared plazas from Amsterdam (Dam Square) and Nice, France (Place Massena), this zone would ensure connectivity across the site while still allowing for a safe, vibrant plaza.

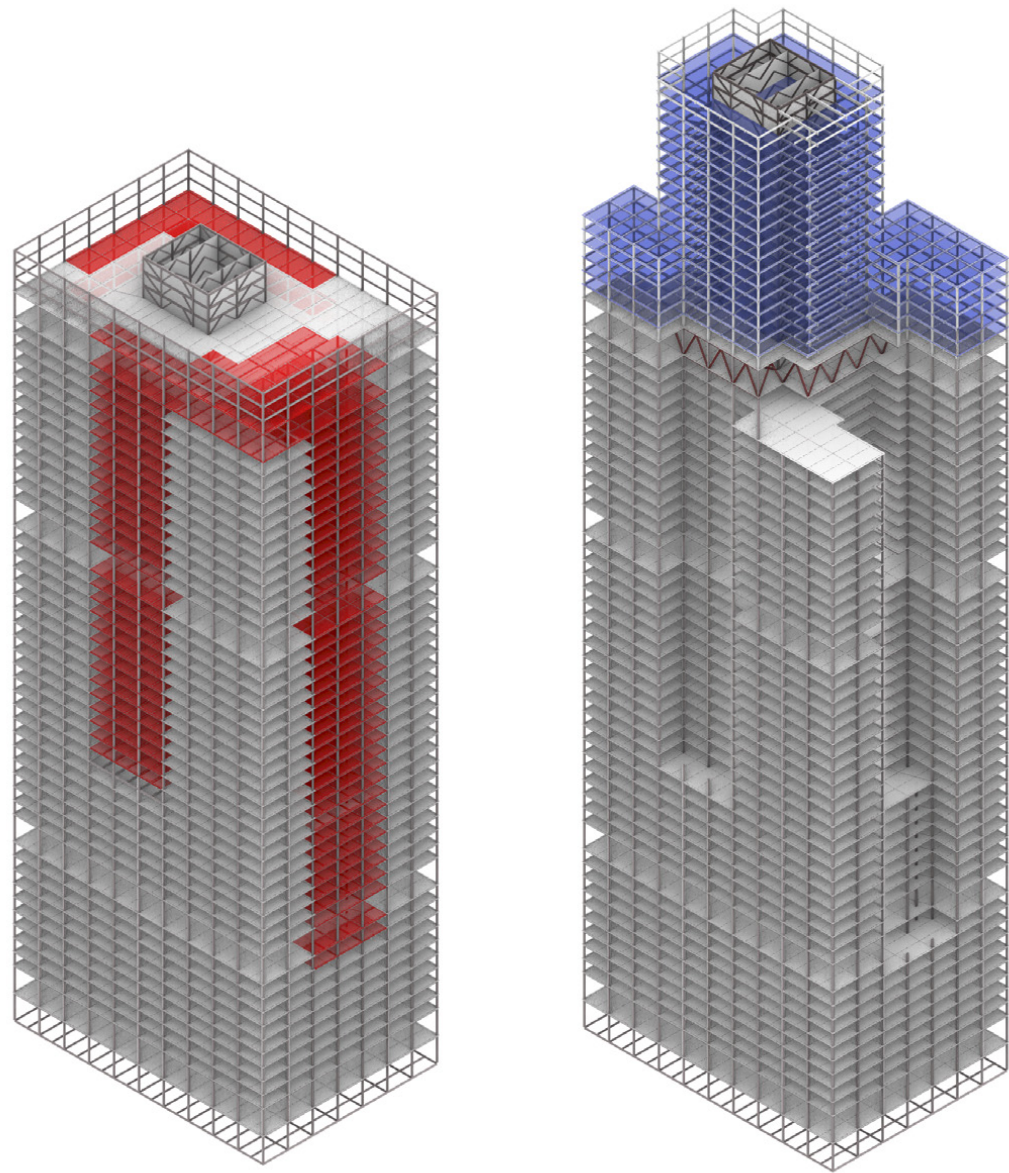
TREE CLUSTERS AND COVER

The rich tree canopy clustered around the plaza would provide protection from winds sweeping in creating opportunities for pockets usable green space.



The existing structure for 1633 Broadway consists of concrete slab on metal deck supported by steel beams spanning to steel columns which are founded on bedrock. A steel braced frame system surrounding the central elevator cores provides lateral stability for the tower and resistance against wind and seismic loads. Columns are

spaced around the perimeter of the building on a 25ft column grid and the lease span between the core and façade has an intermediate line of internal columns which limits beam spans to roughly 25ft.



PROPOSED DEMOLITION

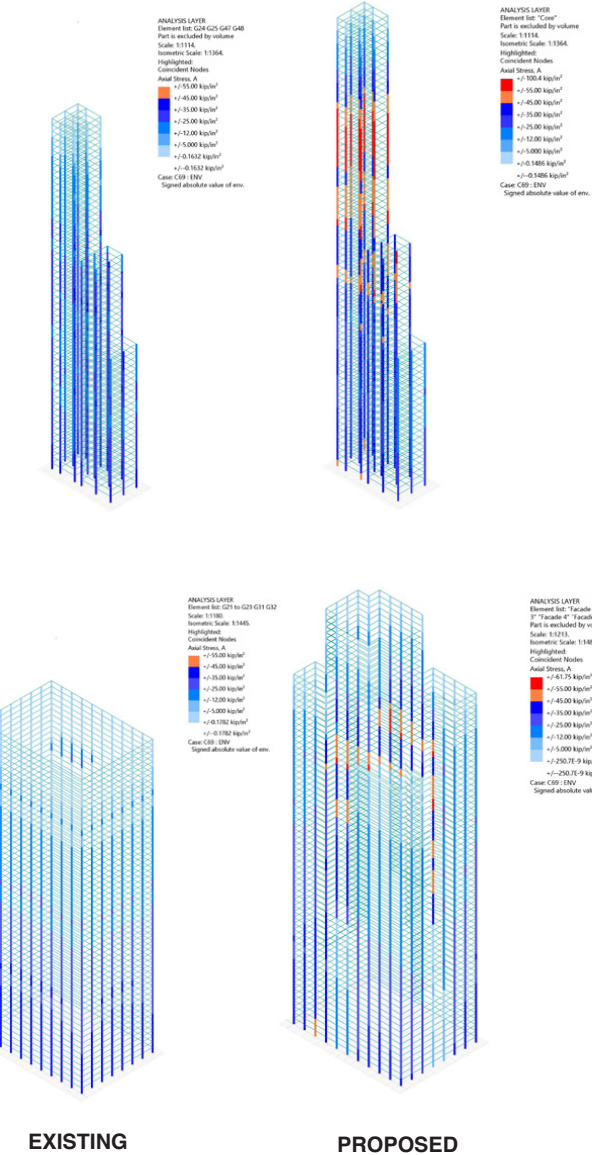
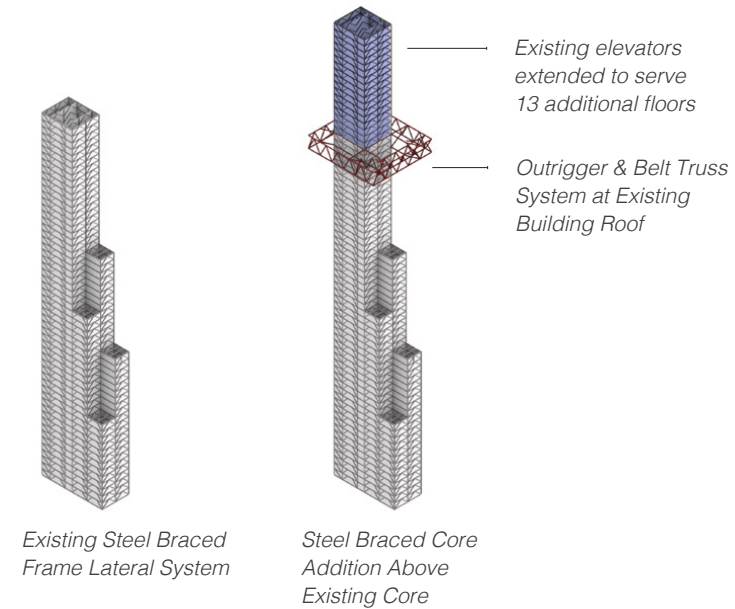
Selective demolition ~350,000 sf of existing floor area. Recycle steel, concrete.

PROPOSED CONSTRUCTION

Rebuild new area on top of building to replace demolished area. Support massing predominately on columns with spare capacity.

SELECTIVE MASSING ADJUSTMENTS

The internal columns allow for a relatively easy modification of the floor plate where recesses can be created by selective demolition of each floor to create a floor plan where market rate apartment layouts can reach legal light and air. The area cut out of each lower-level floor can be replaced with new floors at the top of the building if the new floors are supported on the columns which have been relieved of load from the recess cut outs.



LATERAL SYSTEM UPGRADES

The additional wind load forces due to the heightened building can be resisted by the existing lateral system through the addition of outrigger and belt trusses at existing building roof level to engage the perimeter system more efficiently into the resistance of lateral loads. This arrangement of new structure minimizes need for local strengthening of columns within the existing tower to support the additional floors and resist the increased wind loads.

LATERAL SYSTEM UPGRADES

Existing core columns are assumed to be 50ksi steel and were likely originally sized to meet overall wind deflection criteria and therefore had spare axial carrying capacity at the base of the tower. Our analysis of the existing building and proposed modifications indicate that a zone towards the top of the building would have likely had lighter core columns and would require strengthening as indicated in the diagrams.

GRAVITY SYSTEM UPGRADES

Gravity loads are generally balanced on the tower gravity columns through concentrating the overbuild massing on the interior tower columns which have spare capacity from the selective demolition of lower floor plates. Minimal gravity column strengthening is expected.

- Column reinforcement required
- Column reinforcement likely required

EXISTING SYSTEM

The existing HVAC system is likely original to the initial building construction and is designed around an office occupancy with large floor plates. It comprises a water cooled chilled water plant with open circuit rooftop cooling towers. Variable Air Volume (VAV) air handling units are located on plant floors at intervals across the height of the building.

We anticipate that the heating is provided by the district steam network with heating exchangers in the basement along with the chiller plant. Chilled water and heating hot water risers serve the VAV units throughout the building.

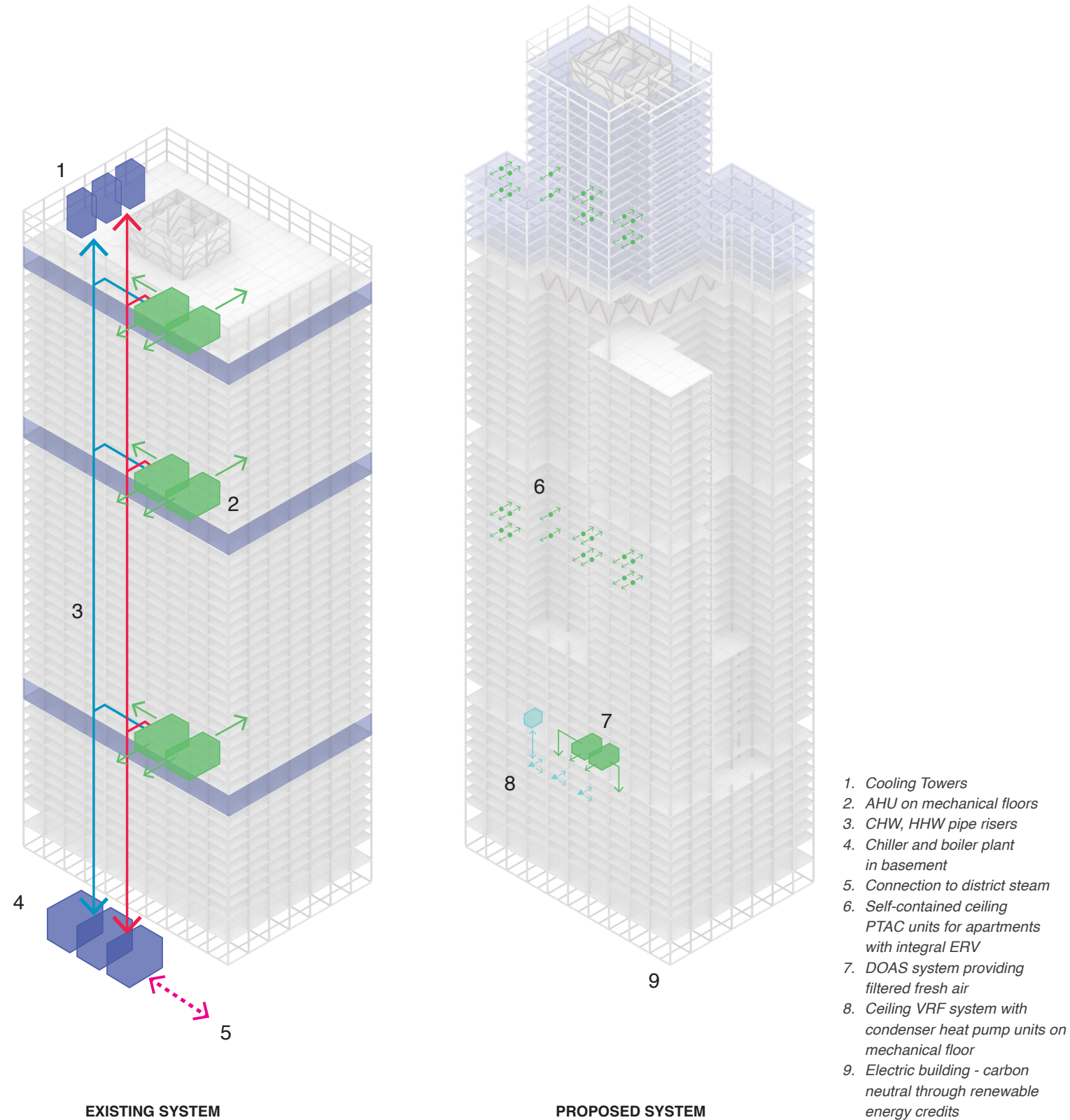
It is unlikely that the plant efficiency meets current code minimums and is not suitable for a residential application. Additionally it is anticipated that the system is at or near the end of its useful life.

PROPOSED SYSTEM

For the new residential units we propose to use a heat pump based mechanical system. Throughout the majority of the building, local heat pump units with an EER (energy efficiency ratio) of close to 14 and a heating efficiency between 3 and 5 COP (coefficient of performance). These packaged ceiling ducted units (PTAC) also comprise a high efficiency energy recovery ventilator providing dedicated fresh air to each apartment. These units minimize embodied carbon within the HVAC system.

For the lower floors which could be office or converted to apartments, we propose a local ducted VRF (variable refrigerant flow) system with condensers located on a mechanical floor. Additionally a DOAS (Dedicated Outdoor Air System) comprising a total energy wheel and heat pump cooling/heating coils will provide filtered fresh air to each space.

The renovated building would also be disconnected from the district steam system and fully electrified to achieve carbon neutrality through purchasing renewable energy credits.



SUSTAINABILITY STRATEGY

Sustainability is fundamentally embedded in the project, from the reuse of most of the existing building to upgrading and electrifying outdated operational and systems. This proposal goes farther by integrating holistic sustainability strategies into the design. Sustainability here consists of five categories: Energy and Emissions, Embodied Carbon, Water, Indoor Environmental Quality, and Site and Landscape.

The project will include all-electric, energy efficient systems, a high-performance façade with integrated shading elements, material re-use and low carbon new structural components. Water will be conserved through low flow plumbing fixtures, potential water reuse between use types, and stormwater management. The project will promote wellness through healthier materials, views to the city, and an optimized floor plate that affords optimal daylighting and potential for natural ventilation. The unique step back design offers multiple outdoor landscaped spaces, providing opportunities for native plant selections, pollinator garden species, and access to the outdoors for occupants deep in the heart of the city.

Living and working at Midtown Green will incorporate the best the city has to offer in terms of location and transit access, bringing a density back to midtown where existing services already exist. With the effective interventions, this proposal will bring a holistic sustainability and wellness vision to the office to residential typology.



Post-war office buildings are poorly equipped to handle the rigorous requirements of a modern building envelope system. The existing curtain wall must be upgraded to conform with modern energy codes, increased loading, and stringent fire and life safety requirements. Likewise, the envelope system should have a minimal impact in terms of waste, embodied carbon footprint, and negative occupant health factors.

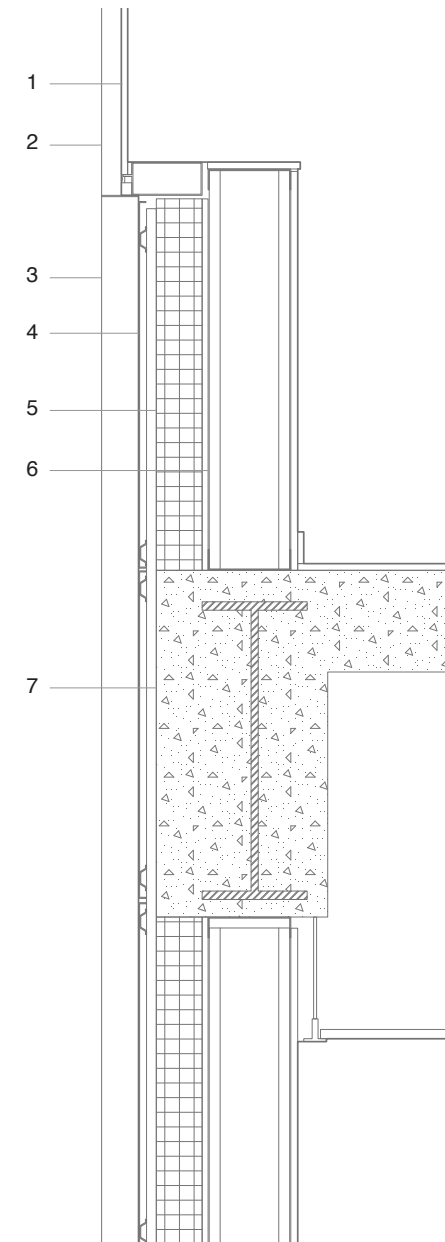
This upgrade necessitates a modern air and vapor barrier system with a pressure equalized cavity, thermally broken cladding and extrusions, multi-glazed and laminated glass units and zero opportunities for fire to spread through combustible materials.

We selected a pre-fabricated, unitized curtain wall system comprised of high performance, triple-glazing and heavily insulated, opaque GFRC spandrel panels to marry thermal performance requirements with the realities of facade construction in dense urban environments in heating dominated climates.

To account for the human factor, operable penetrations in the building envelope will allow for circulation of occupants into the tiered gardens, and for circulation of air into the dwelling units.

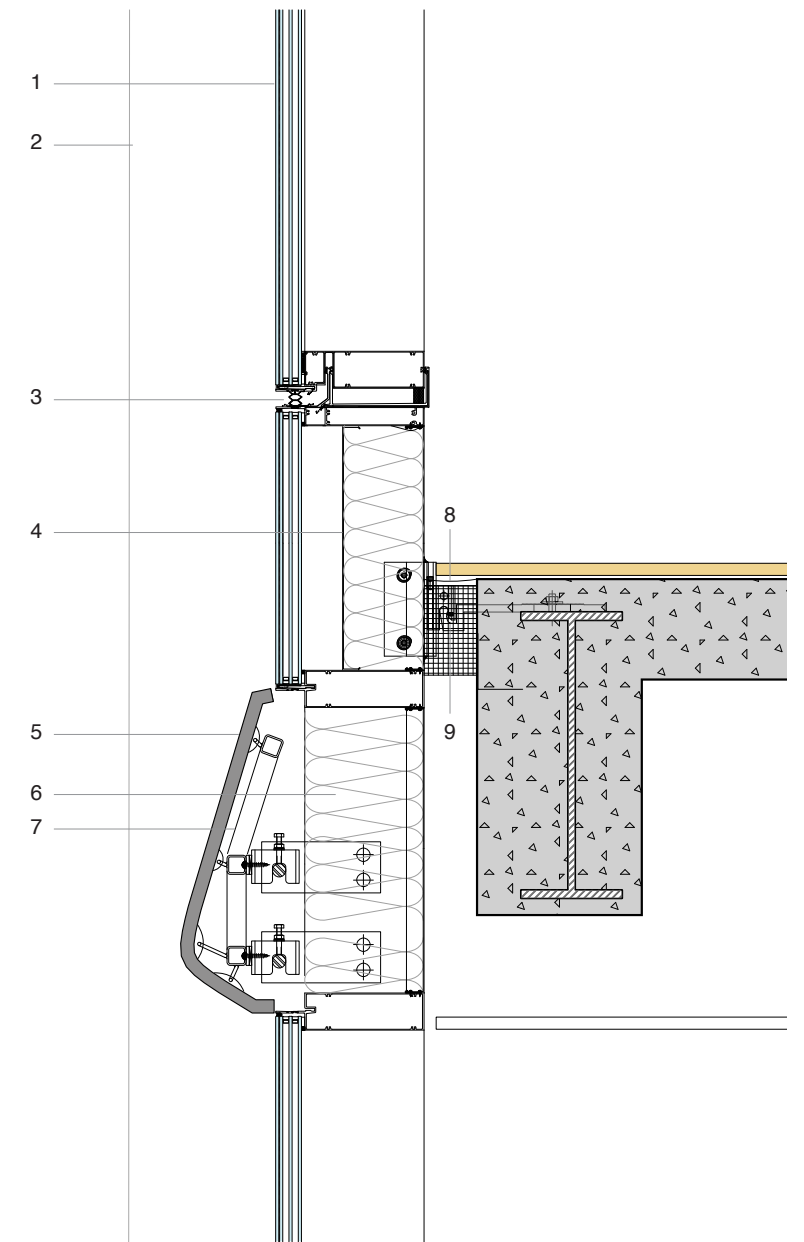
The pre-fabricated unitized curtain wall minimizes waste and embodied carbon by facilitating a streamlined process from cradle to construction. The arrangement of glazing units also enables a substantially more efficient window to wall ratio of 40%-60%. Combined with a vastly improved thermal and air barrier, the higher proportion of insulated wall will allow the envelope to conform with the most rigorous energy efficiency standards, opening opportunities for green financing through advanced building standards.

By outperforming the Stretch Energy Code, the building envelope system is optimized to be flexible, to remain resilient and to mitigate risk in a rapidly changing world.



EXISTING SYSTEM

1. Single-glazed window unit
2. Aluminum window wall extrusion
3. Decorative aluminum mullion
4. Metal rainscreen cladding
5. Spandrel insulation infill between framing
6. Exterior sheathing
7. Reinforced concrete slab edge and perimeter beam



PROPOSED SYSTEM

1. Triple-glazed window unit
2. GFRC rainscreen clad mullion
3. Aluminum curtain wall stack joint with pressure equalized cavity
4. Insulated shadow box spandrel
5. GFRC rainscreen cladding
6. Insulated shadow box spandrel with thermally broken penetrations
7. HSS substructure for GFRC cladding support
8. Fire safing and smoke seal
9. Hook-on bracket

MIDTOWN GREEN

1473 Residential units

186K Sq. ft. of office

250K Sq. ft. of flexible office/residential

74K Sq. ft. of retail and food

57K Sq. ft. of added public space

35K Sq. ft. of elevated terraces

152K Sq. ft. of community facilities

2.2M Sq. ft. GFA

Office to residential conversions will be increasingly considered as office leases begin to expire and tenants leave Class B and C buildings for newer class A buildings. As these projects become more and more viable, care must be taken towards the entire urban sphere: the quality of life for each building including access to green space, access to community facilities such as schools, daycare, senior living, and healthcare, and yes, a place to work.

MIDTOWN GREEN envisions a world where the heart of our cities are occupied by their residents - and a more vibrant, more sustainable future.

