# VERTICAL VILLAGE

Bold new solutions are necessary to address two urgent issues:  the severe housing shortage found NYC, and our newfound shift in office building occupancy.  The new **Vertical Village** rethinks housing and the traditional neighborhood, and will jump start a district that is struggling to compete in the current office market.

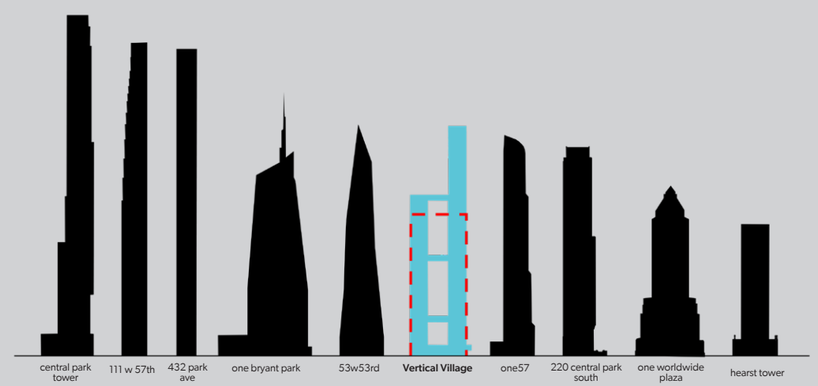
Through its scale of ambition and  pioneering approach to 21st- century living, this project will create the spark for a new neighborhood. Offering creative solutions to an aging office infrastructure, **Vertical Village** overcomes the challenges of the large dark office floor plate by ***breathing new life***  into the heart of the building.

Neighborhoods in the sky are created, offering destinations for **work, live and play** within the same building by carving out voids in the center mass of 1633 Broadway and stacking resident and public amenities up and down the building. A **place-making catalyst** to anchor a new neighborhood, 3x the site area in accessible landscape is provided.  The new Vertical Village breathes nature into a neighborhood of concrete and steel.


## REACHING SKYWARD

Manhattan's skyline continues to evolve dramatically, embracing an even greater vertical push. The Vertical Village brings residences to these new heights, establishing a vertical landmark to this neighborhood and capitalizing on amazing views north to Central Park and west to the river.

By opening up the middle of the building and relocating floor area to the top, landscaped social gardens-in-the-sky will provide unique experiences to all of the building's residents.

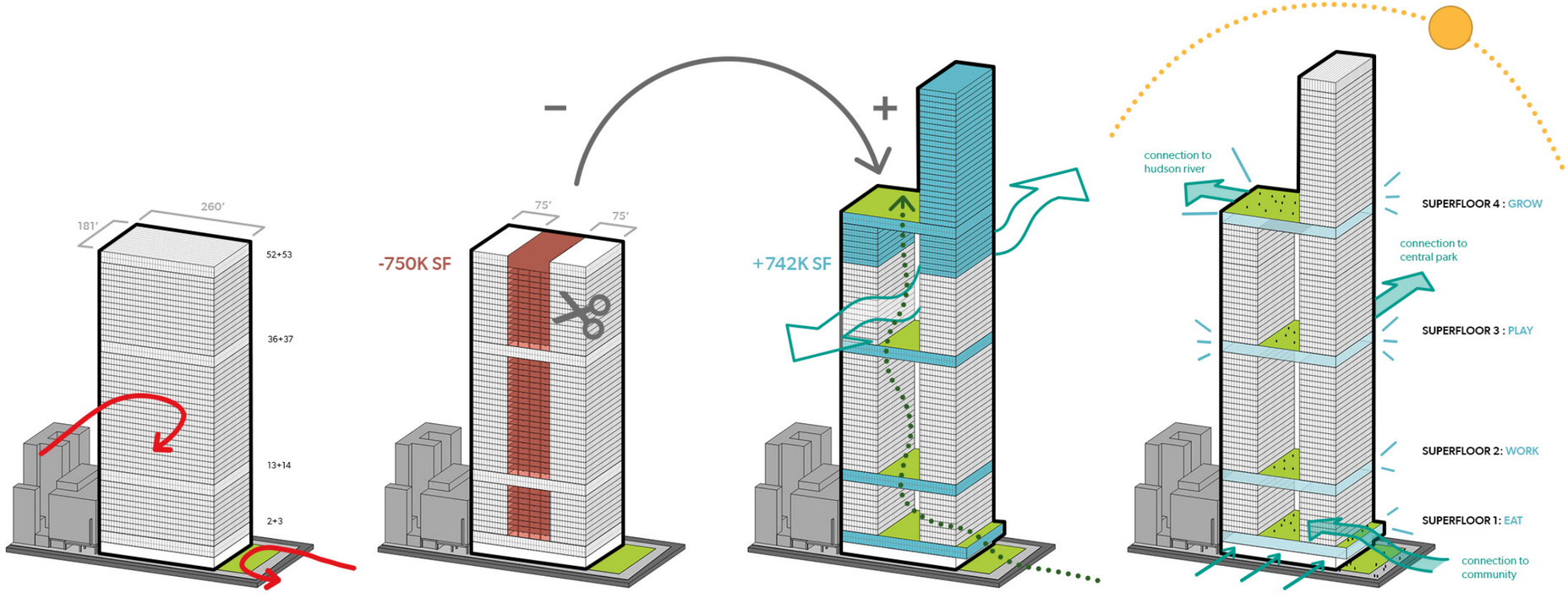



## THE NEW NORMAL

The advent of the modern office skyscraper in New York City led to a period of building during the late 1960's through the 1970's that produced a tremendous number of Seagrams-esque non-descript boxes with large floor plates and inefficient skin. These buildings proliferated the fringe of the more traditional office neighborhoods. The historical office value of these assets often made them challenging targets for reuse as residential.

We are seeing a shift, a new normal, where assets that are most challenged (due to location, floor heights, efficiency) are being targeted for **reinvention**. Traditional adaptive reuse of office-to-residential conversions focus on buildings that have narrow floor plates and access to light and air. This has typically favored older building stock. The current economic pressures on the office market and the need for housing will force more substantial transformations of properties like 1633 Broadway. This building stock, traditionally center core, and 12' floor to floor with a 20'-24' structural grid, presents a primary challenge.

How to provide enough light and air for residents? This results in a study of **subtraction** to the typical floor and **relocation** back to the rooftop.




**EXISTING**
a typical office floor plate, closed off both formally and programatically

**SUBTRACTION**
take advantage of grid, optimize two 75' residential bars, subtract mass to open up center

**ADDITION**
restack mass, take advantage of mech floors for "superfloor" amenities, open up center for nature/light/air

**ACTIVATION**
a radical new skyline identity, connection to water, park, people - full of life

## DO NOT RECYCLE - REUSE

Steel can contribute to upwards of 40% of a building's embodied carbon footprint - reusing structural steel from the existing building can lead to significant reduction of the overall carbon impact over the life-cycle of the building.

Our team has been in correspondence with Michael Samson, a UK leading expert in steel reuse within projects, mapping the carbon savings of reuse over traditional recycling.

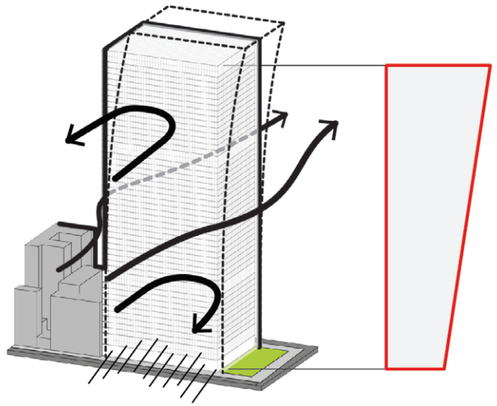
"The environmental advantages of re-using reclaimed structural steel are considerable, compared to the common practice of recycling by re-melting scrap."[1]

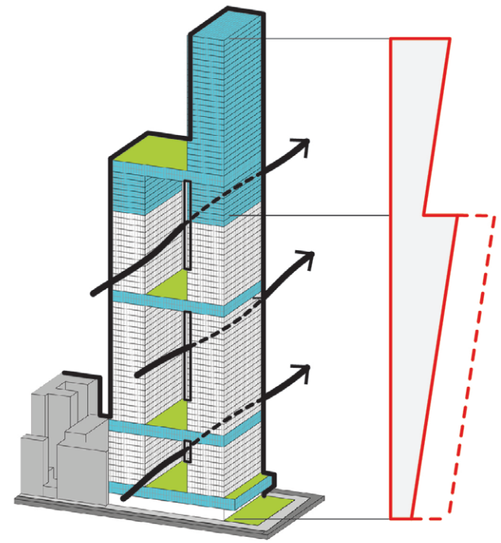
While the target of this investigation represents the banal and often dreary office tower[2], there are benefits to this type of construction. While 11'-12' floor to floor heights for today's office market is sub par, it works well and even differentiates within the housing market.

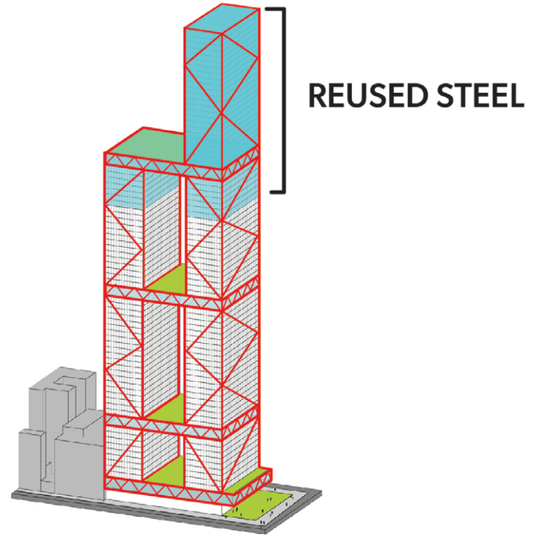
Another item that typically is seen as a negative, the consistent (often relentless) structural grid. The 24' grid is a standard in the housing market allowing for a diverse range of unit types. The consistency in the grid, typically bolted together, allows areas to be dismantled to reshape the floor plate, and re-assembled at the top of house to capture the building area. This column and girder construction lower in the building will be well suited to carrying the new loads at the top of house, when coupled with a new lateral bracing for the entire structural system.

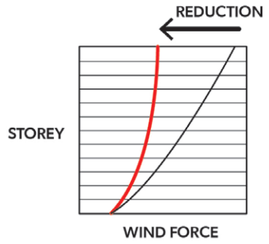
Typical reclamation has historically been used for warehouse structures that might have a short lifespan and need to be re-erected on a new site in the future. The quantity of steel represented in the 1970-1980 office stock of Manhattan is substantial enough on its own to merit the case study in reuse within the same development site where building areas are removed lower in the structure and added to the top. Where the complexities of disassembly, re-fabrication at an on site facility, to lifting and assembly of steel can outweigh the time and cost of manufacture of new steel, transportation to site and erection, in addition to the carbon savings the reuse on-site represents.

1 Michael Samson, Sustainability Manager The British Constructional Steelwork Association Limited
2 Pedersen, Martin C.,"Hate Your Soulless Office Tower? Blame the Seagram Building, Fast Company, March 13, 2015.

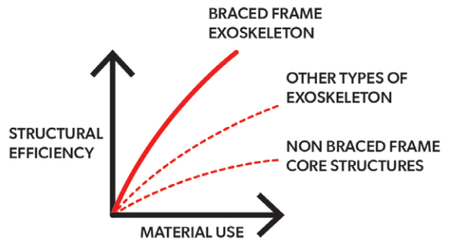




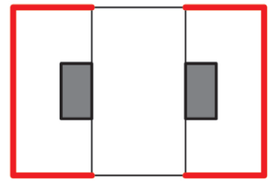



**BUILDING POROSITY = LOAD REDUCTION**




**EXOSKELTON BRACED FRAME= EFFCIENCY OF STRUCTURE & MATERIAL**



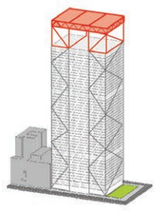
**BELT TRUSSES & OUTRIGGERS = RECLAIM EXISITNG STEEL**

**CONSTRUCTION SEQUENCE = TIME & COST SAVINGS**

BUILDING CAN REMAIN OCCUPIED → | BUILDING UNOCCUPIED | BUILDING OCCUPIED →

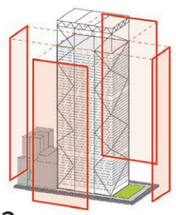
**1 INSTALL EXOSKELETON**

Construct exoskeleton structure as a braced frame. Connect to existing structure at discreet locations. Drill caissons at outside perimeter of building to receive new structure.



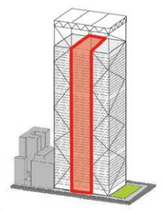
**2 BUILD TRANSFER STRUCTURE**

Construct top transfer structure as 'table top'. Transfer structure to serve as base for top tower portion and to transfer loads from center to perimeer to minimize additional strengthening/ retrofitting.



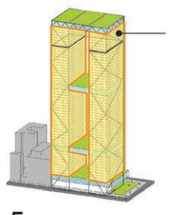
**3 REMOVE FACADE**

Demo existing facade floor by floor from top down.



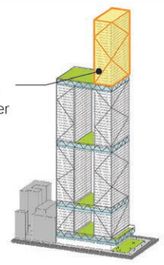
**4 SUBTRACT CENTER**

Demo existing building cores and slabs in the center of the mass from top down.



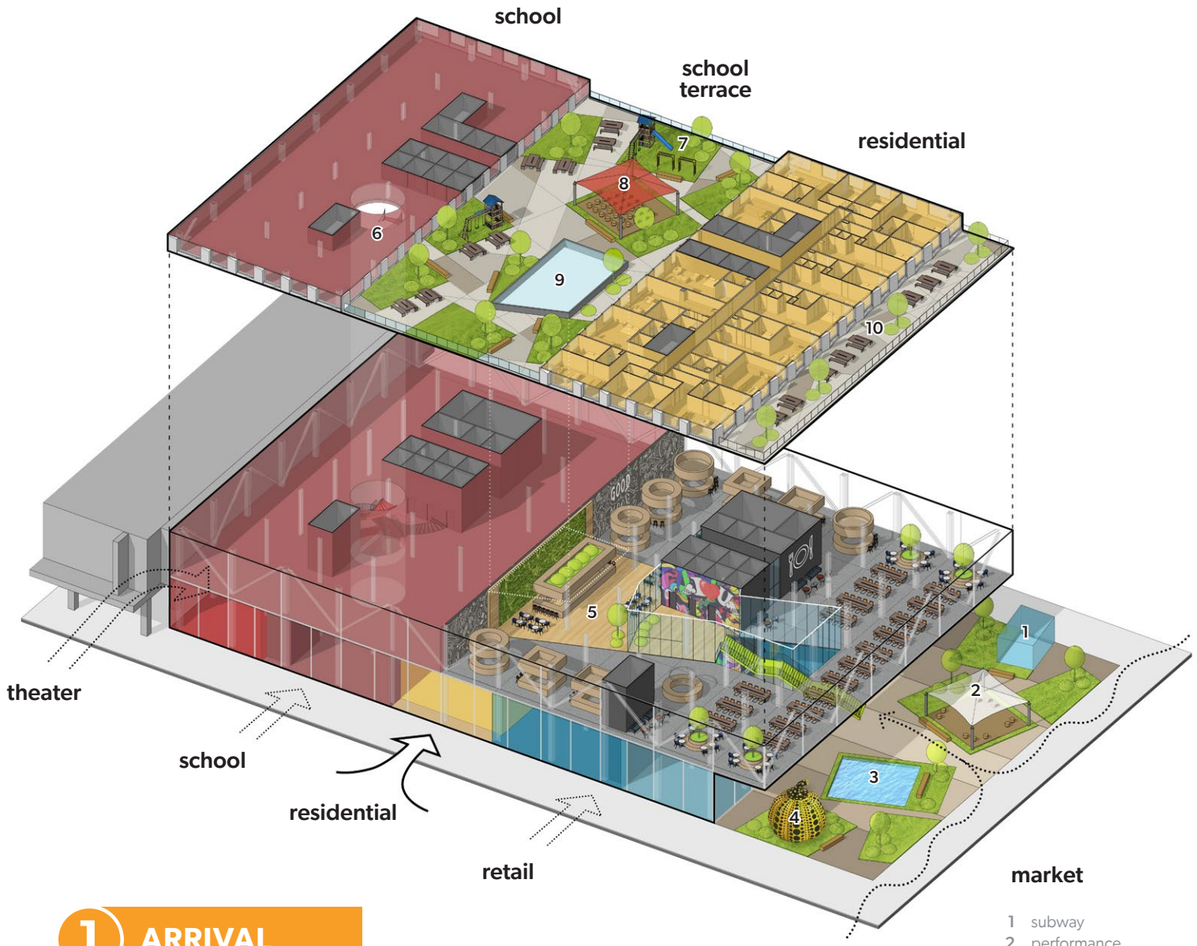
**5 RE-CLAD**

Install new unitized facade.




**6 EXPAND VERTICALLY**

Construct new vertical expansion of the East tower. Traditional steel gravity structure and exoskeleton strucure the lateral system.

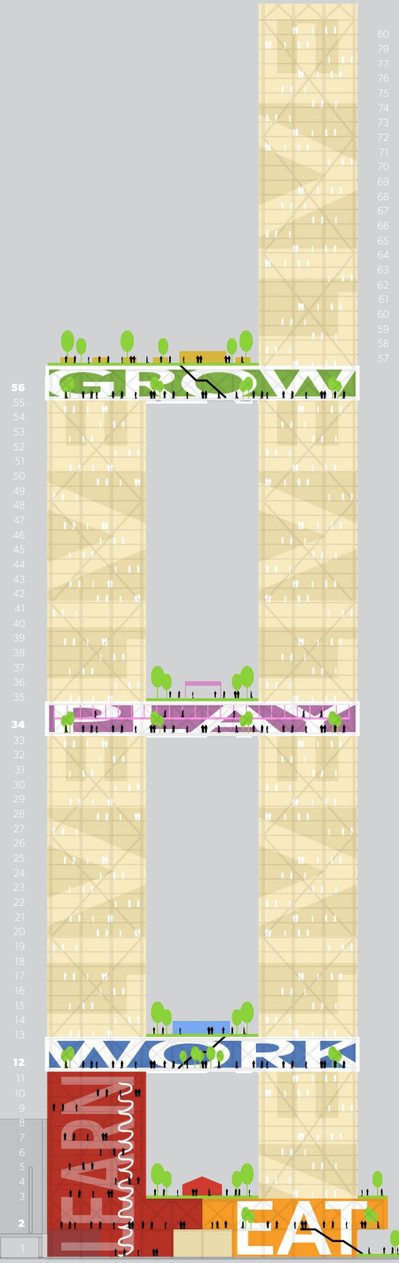

1. subway
2. performance
3. fountain
4. sculpture
5. market
6. school connection
7. playground
8. outdoor classroom
9. skylight
10. resi terrace

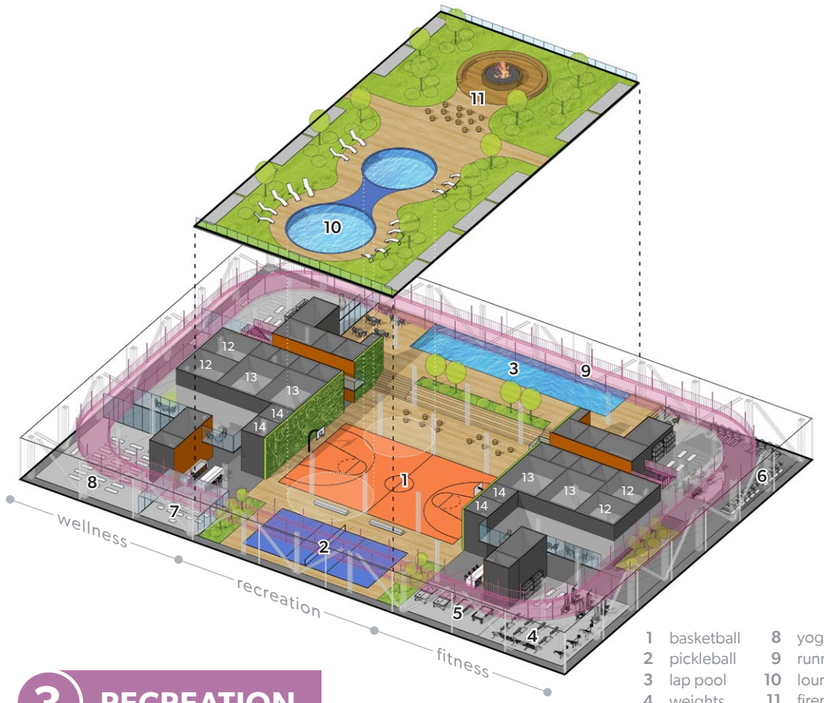
## 1 ARRIVAL

### COMING HOME

**Connect to the city.**
How a building meets the ground is critical. The current sunken plaza is disconnected. Taking cues from the existing theatre within the podium, and focusing on a vibrant mix of commercial and institutional functions at the base of the building, along with welcoming outdoor spaces, connects the residents above to the lifeblood of the city streets below. A grocery store/ market is located on the 2nd floor and gestures out to the plaza with an occupiable cantilever that connects directly to the ground with an open stair. New front doors, for the residence and the school, are located on 50th Street.

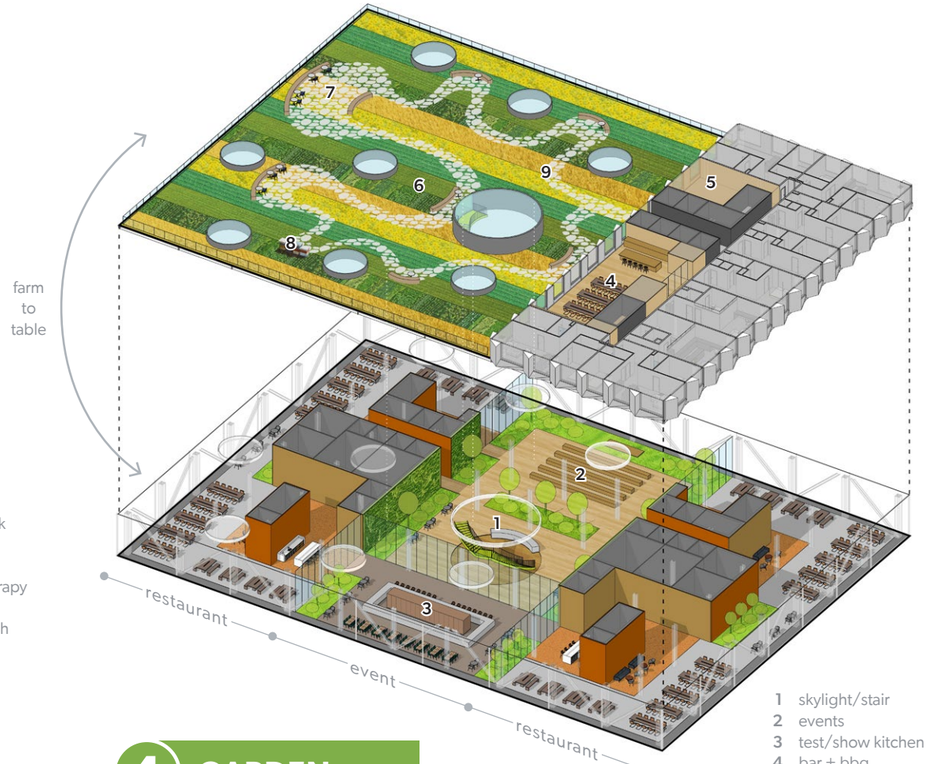
**Multi-generational living.**
The Vertical Village is intended to support the community, providing programs for school age children, mid-career professionals , and retirees. A range of residential unit types helps ensure that the building serve a diverse range of users and family types.



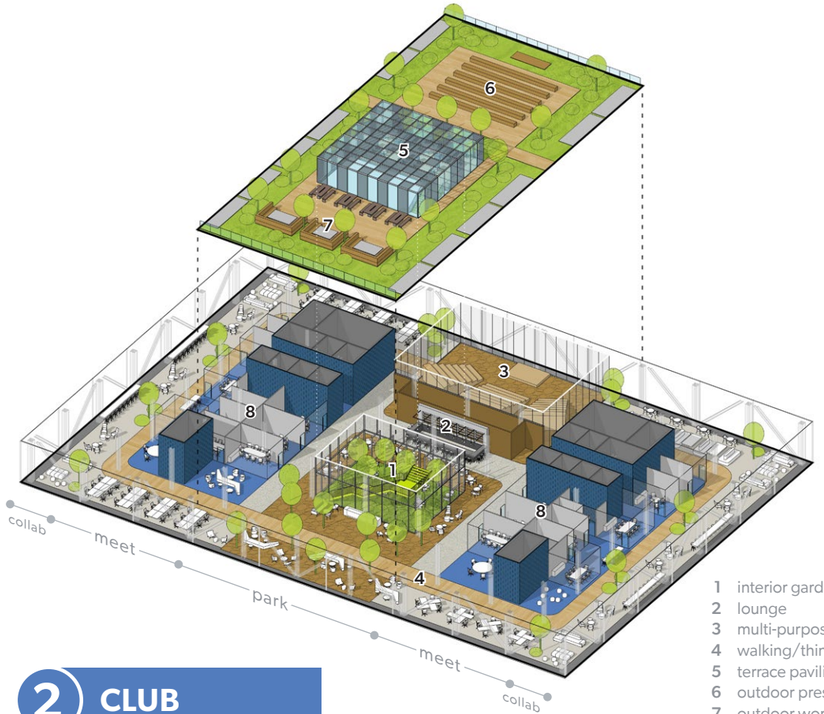

1 basketball
2 pickleball
3 lap pool
4 weights
5 games
6 cardio
7 meditation
8 yoga
9 running track
10 lounge pool
11 firepit
12 physical therapy
13 massage
14 mental health

## 3 RECREATION




1 skylight/stair
2 events
3 test/show kitchen
4 bar + bbq
5 food handling
6 garden
7 gathering
8 bee stations
9 walking path

## 4 GARDEN




1 interior garden/stair
2 lounge
3 multi-purpose
4 walking/thinking path
5 terrace pavilion
6 outdoor presentation
7 outdoor work
8 conference

## 2 CLUB

### SUPERFLOORS = SUPER LIVING | WORKING | PLAYING

The new "superfloors" occupy the building's existing mechanical floors, updated to incorporate ring trusses that provide lateral bracing for the building. In this proposal a decentralized plant supports the building, opening up these oversized volumes for collection of amenities to connect the building community.

### CLUB

Offering an alternative to the residence's home office, a working lounge is located on the 12th Floor. Occupying the entire floor, with access to natural light from above, the program accommodates a range of work styles both indoors and outdoors. At its heart is an interior garden that connect to the roof terrace above. Promoting a visual and physical connection to nature bringing health and joy to a new type of workplace connected to home.

## ALL WORK & NO PLAY...

### RECREATION

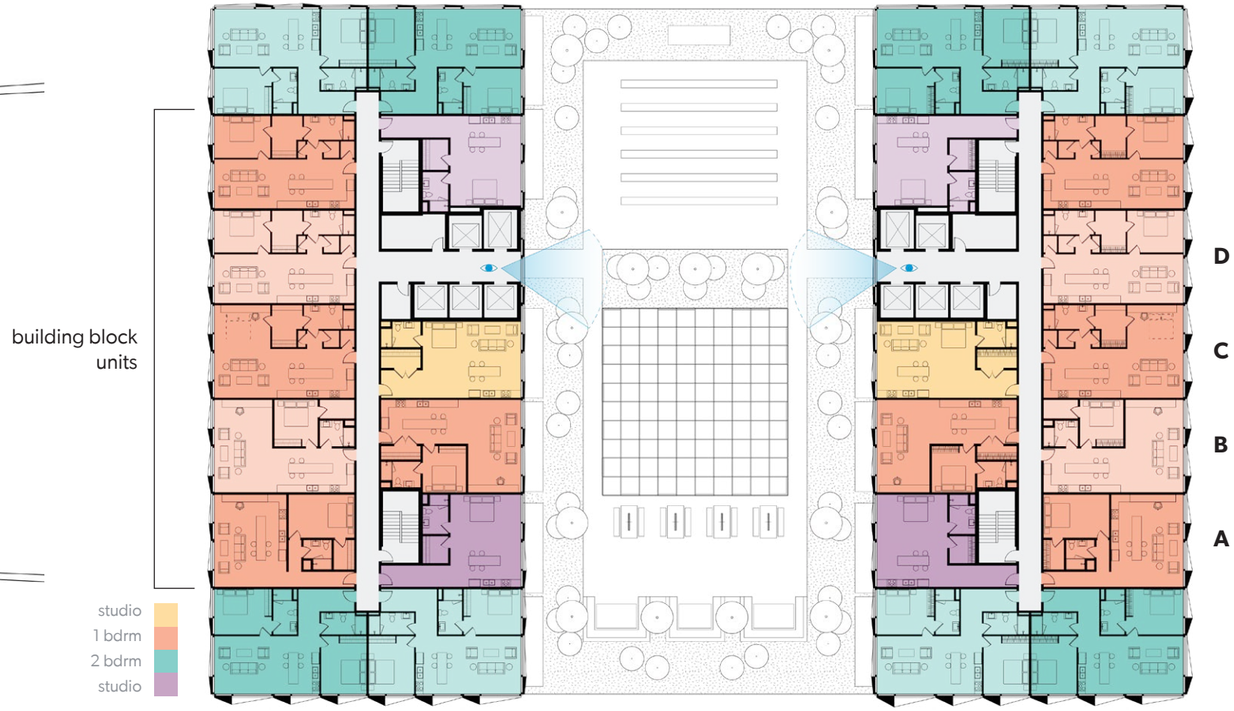
All work & no play makes for a stressful day.

With more people WFH, this demands greater building amenities to ensure time away from the home desk is well worth it. The Recreation Superfloor provides this escape with physical fitness, mental health, and well-being.

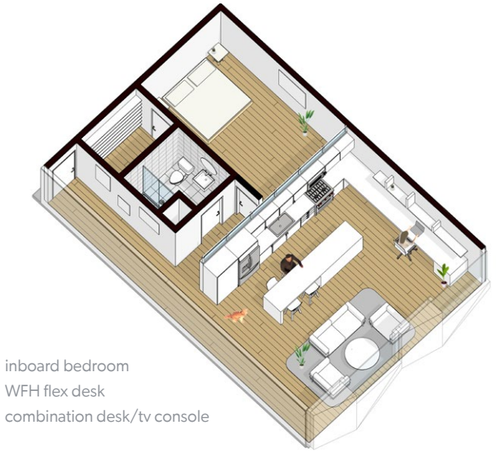
Coupled with a generous landscaped terrace and pool lounge above, the recreation superfloor intends to bring balance between the efficiency and density of residential units with access to ample open and outdoor spaces. Sport and recreation, along with spaces for yoga, meditation, and therapy, can foster a strong sense of community and care for a diverse population of residents.

## LIFE WITHIN THE VERTICAL VILLAGE

A building isn't anything without the people and life within. The Vertical Village utilizes a series of "building block" units at the periphery that are both efficient and flexible in order to reinvent the demands of a traditional 1 bedroom. The remaining units are more typical studio, 1 bed, & 2 bed options. With this blend of unit types, this village can accomodate a wide spectrum of lifestyles.




**Typical Floor Plan**

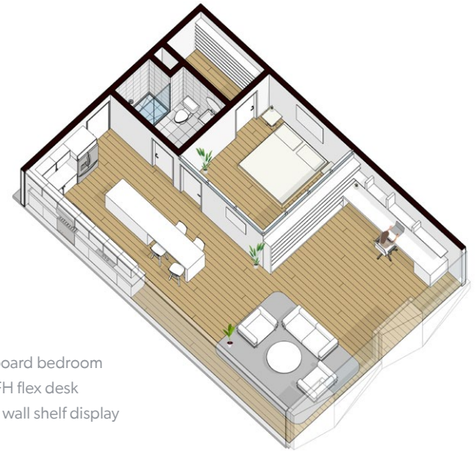


inboard bedroom
WFH flex desk
combination desk/tv console

## TENANT A - PET LOVERS

Young couple professionals, pet lovers/owners, they prefer to sleep in darkness so the clerestory bedroom is a plus, one works from home, the other heads to the office.

A typical morning is coffee and exiting through the service entry to the dog run on the GARDEN floor. Today's WFH schedule is one person at home, the other from the co-work floor. Lunch at home, together. Returning to individual workspace for the afternoon. After errands in the neighborhood and dinner out with friends, the evening ends with another dog walk and a movie in the GARDEN.



inboard bedroom
WFH flex desk
full wall shelf display

## TENANT B - THE ENTREPRENEUR

An entrepreneur in her mid 30s, with her own online business, needs a big work space. Seeking a creative community, establishing a network of business and personal contacts.

Breakfast, morning video calls from home office. Hosting a friend in the CLUB space to record a podcast on entrepreneurship. Lunch with neighbors at the food truck park downstairs. Package drop-off at the in-building package lounge. Meet a friend for coffee, both return to RECREATION for tap class. Evening video calls with overseas factory and business advisors.

convertible studio
WFH flex desk
closet/recording studio

## TENANT C - MANY HATS

A WFH tech professional, amateur Youtuber on the side, thrives in the "city that never sleeps", needs the ultimate flex space for working and entertaining.

Wakes up before sunrise, retracts the bed up to the ceiling, then situates his WFH desk. Heads to RECREATION floor for a quick morning workout. Grabs a snack at the MARKET then heads back up to his unit. Between work breaks, he jumps into his closet/Youtube studio and records coding tutorials. After work, he flips up his desk, clears out his space, and hosts friends for dinner. At the end of day, they head up to the GARDEN floor for drinks and to watch the sunset from the NY skyline.

classic bedroom
closet/crib room
open living

## TENANT D - THEATER BUFFS

Retirees, theater buffs, sold their suburban home to find a community who loves theater as much as they do, and to be close to their children and grandchildren. Love the proximity to Gershwin theater and Lincoln Center.

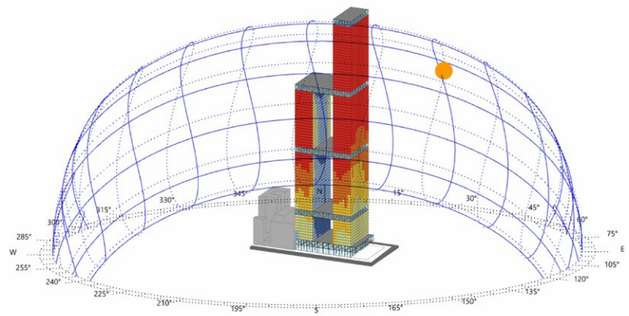
Morning coffee with walking club on the RECREATION floor. Volunteer day at the beehive on GARDEN and "foster grandparent" program at the elementary school. Back to home for lunch and a nap. Afternoon baby-sitting for grandchild, and meal preparation for family dinner with veg from this morning's community garden. An after dinner night cap with cards group on the terrace.

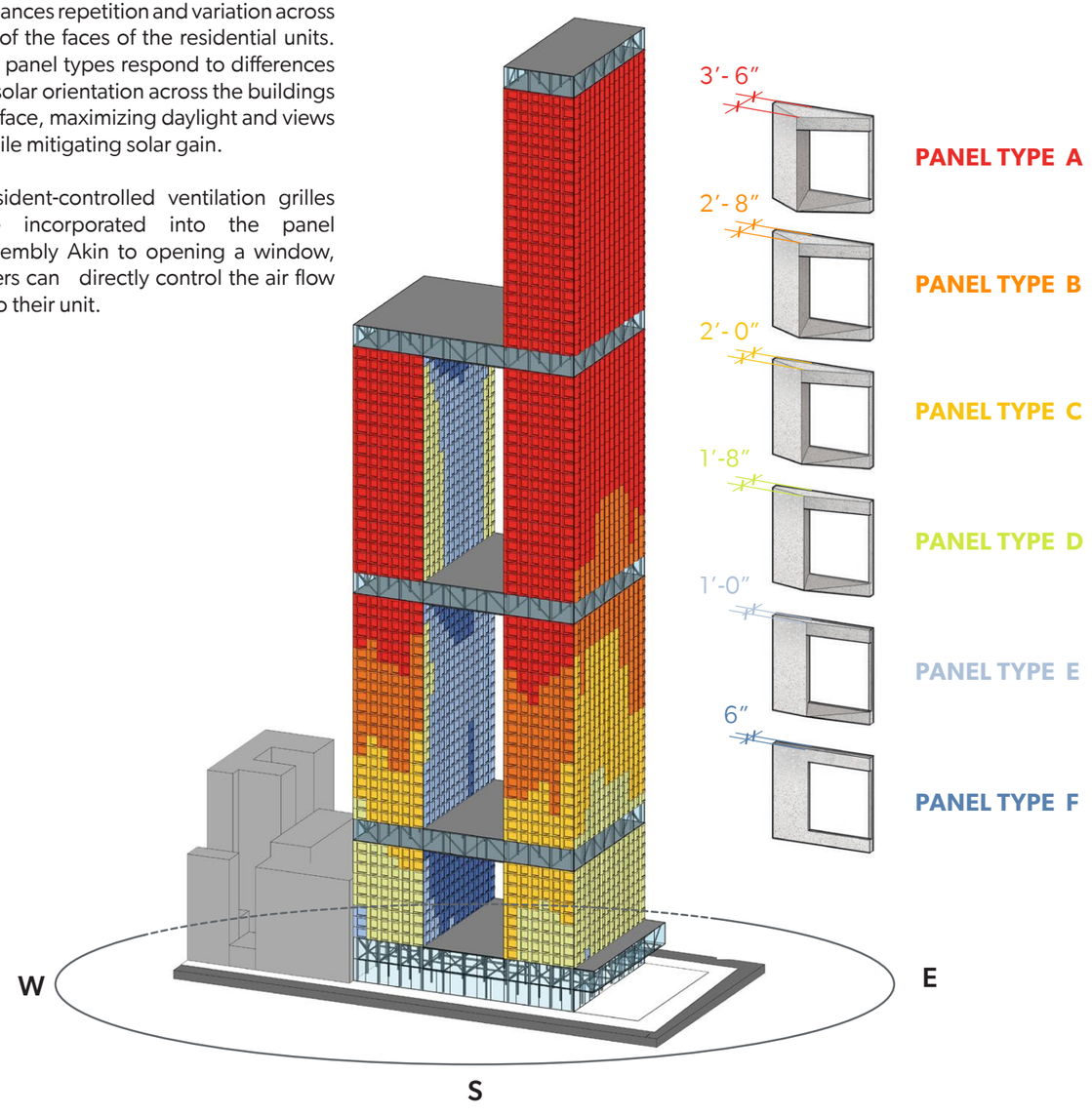
## FACADE CONCEPT

The aluminum and glass skin of 1633 Broadway is replaced with a new unitized facade system suitable for 21st century residential use. As the building's mass is reconfigured to allow a new level of connection to light, air and views, the individual facade units are fine-tuned to balance maximum health and wellness with efficiency, cost and energy consumption.

A high-performance building envelope, made of large 12'x12' cast GFRG panels, balances repetition and variation across all of the faces of the residential units. Six panel types respond to differences in solar orientation across the buildings surface, maximizing daylight and views while mitigating solar gain.

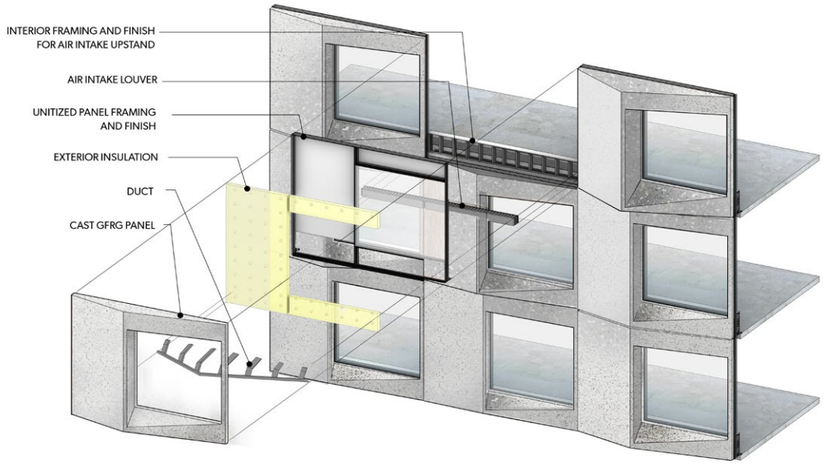
Resident-controlled ventilation grilles are incorporated into the panel assembly Akin to opening a window, users can directly control the air flow into their unit.





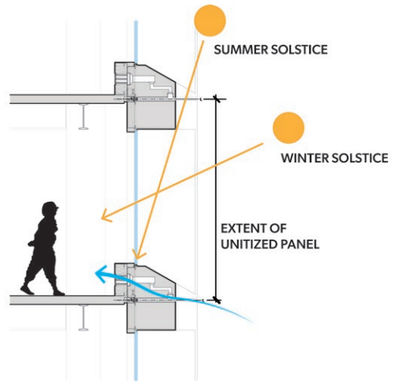

## NATURAL VENTILATION

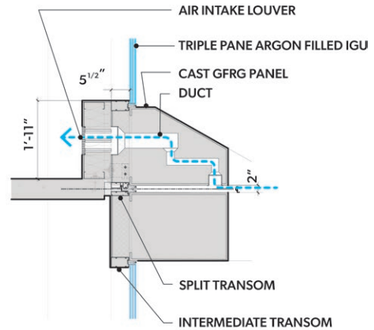
Each residential unit is provided access to occupant-controlled natural ventilation to take advantage of fresh outdoor air during times when air temperatures are appropriate.

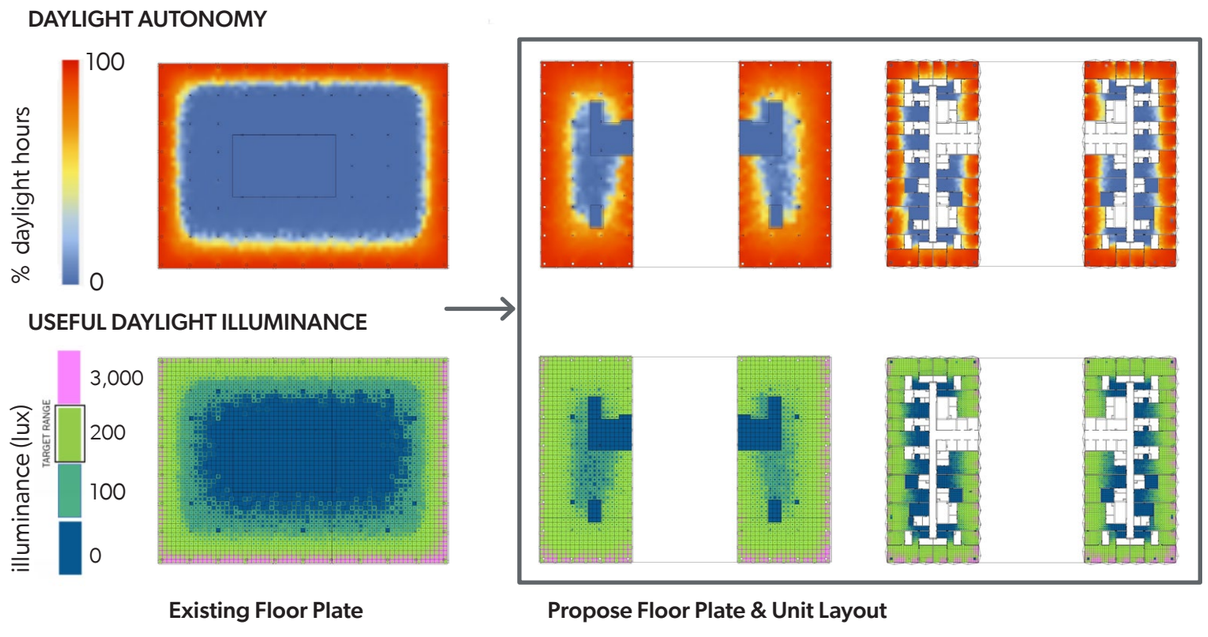



## LIGHTING

Color tunable downlighting and household lamps automatically shift to blue enriched spectra during daylight hours if electric lighting is needed and will transition to blue depleted "warm" spectra after sunset to encourage circadian entrainment in occupants. This acknowledges that residential spaces need good circadian lighting and with the technology available the spectrum can be user-controlled to make it most beneficial to health at all times. It is a user feature to control intensity as well as color temperature and can be programmed to easily follow a human-centric pattern.



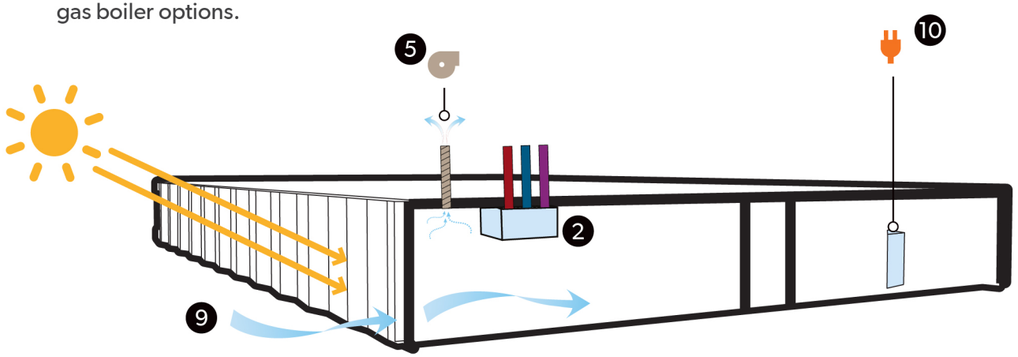



## PERFORMANCE + SUSTAINABILITY

1 Mechanical space for each tower 'block' includes dedicated outdoor air system with energy recovery for ventilation air and centralized domestic hot water plant utilizing electric water-to-water heat pumps. The centralized DHW solution provides a more efficient water heating option compared to individual unit heating and other electric or gas boiler options.

2 Residential units are served by 4-pipe fan coil units to maintain thermal comfort and supply filtered fresh air from DOAS.




3 A combination of water-cooled chillers, air-source heat pumps, and a heat recovery chiller provide hot and chilled water for efficientspace heating and cooling needs of residential and amenity spaces.

The roof area is adequate to implement equipment to meet all heating and cooling loads as well as cooling towers for heat rejection.

4 Heat is recovered from wastewater streams including showers, sinks, and laundry machines that can be used to preheat domestic hot water.

5 Exhaust fans are used to draw in outdoor air through facade openings to improve effectiveness of natural ventilation.

6 Amenity terraces allow occupants outdoor access to landscaped areas promoting connection to nature and physical activity.

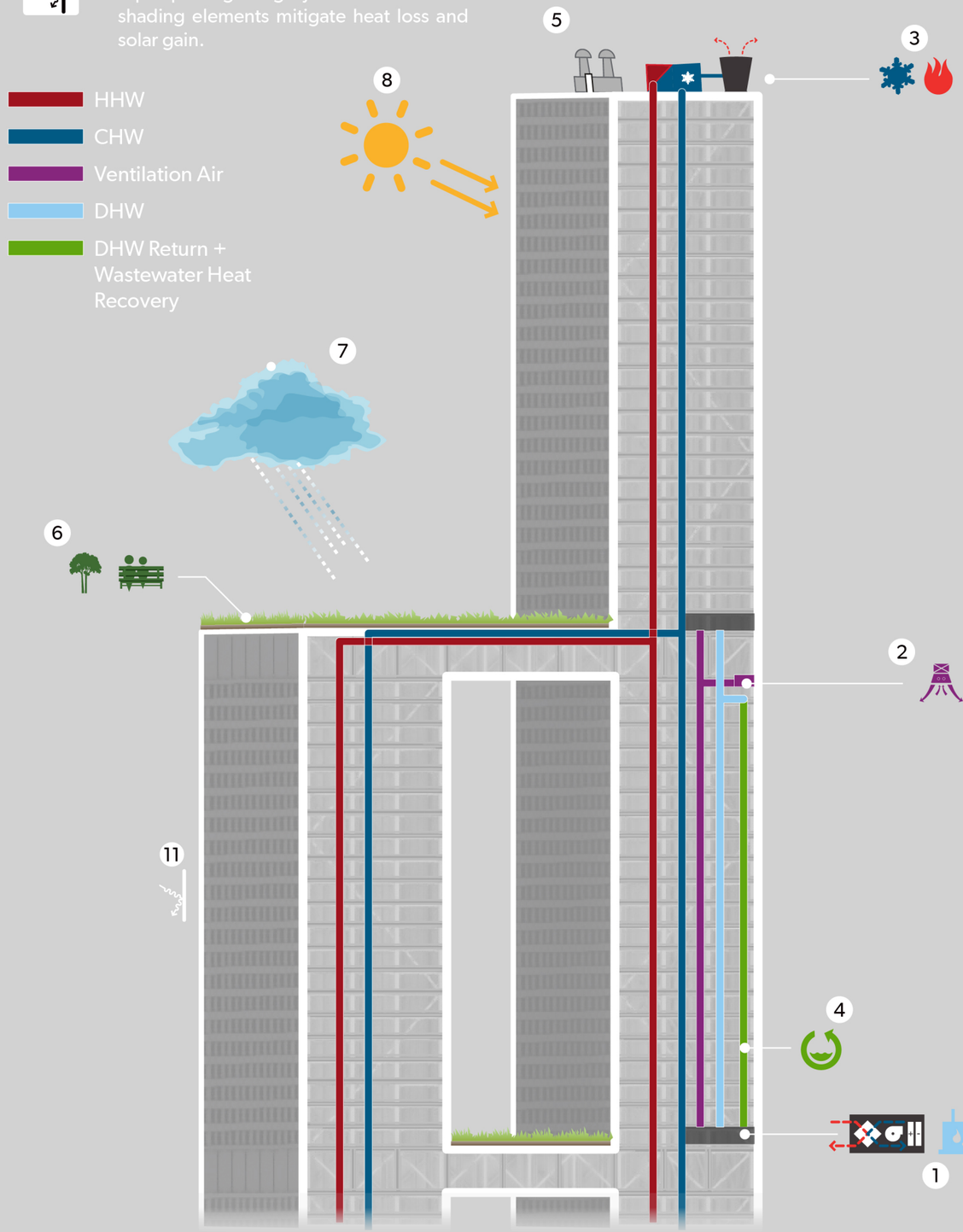
7 Stormwater collected from rooftop areas is reused for irrigation of landscaped spaces and cooling tower makeup water demand.

8 Comfortable daylight levels create inviting and warm spaces while reducing reliance on electric lighting.

9 Each residential unit is provided access to occupant-controlled natural ventilation to take advantage of fresh outdoor air when air temperatures are appropriate. Air from the exterior is brought in through intake louvers within the facade.

10 To align with reducing carbon emissions and providing a fully electric building, all kitchen appliances are electric and induction stoves are installed as a higher efficiency alternate to standard electric stoves.

11 High performance, low-e, argon-filled, triple pane glazing system and exterior shading elements mitigate heat loss and solar gain.



## THE GARDEN

Open on three sides with truly incredible views to the park, the river, and downtown, The Garden is the capstone to the outdoor green spaces stacked throughout the building. This highest superfloor terrace brings community farming to the skyline, introducing vital outdoor space for community that the neighborhood currently lacks. Sky-lit restaurants and informal eating zones, as well as community-oriented event spaces on the 56th floor below, provide a true farm-to-table connection where all residents can participate.